2025 Environmental Protection Report

B-REP-07000-00019

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2025 ENVIRONMENTAL PROTECTION REPORT

B-REP-07000-00019

Rev 000

May 1, 2026

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ABSTRACT OF PRESENT REVISION:

Initial Issue

INDIGENOUS LAND ACKNOWLEDGEMENT

The Bruce Power site is located within the Saugeen Ojibway Nation Territory, the shared treaty and traditional Territory of the Chippewas of Saugeen First Nation and the Chippewas of Nawash Unceded First Nation (Neyaashiinigmiing).

Bruce Power is dedicated to honouring Indigenous history and culture and is committed to moving forward in the spirit of reconciliation and respect with the Indigenous communities we work with. We are committed to strong and respectful relationships with the Saugeen Ojibway Nation, the Métis Nation of Ontario (Region 7), and Historic Saugeen Métis.

EXECUTIVE SUMMARY

The purpose of this report is to meet regulatory requirements for environmental protection as outlined in Condition 3.3 of the Bruce A and B Power Reactor Operating Licence [R-1] and the Canadian Nuclear Safety Commission Regulatory Document REGDOC-3.1.1 Reporting Requirements for Nuclear Power Plants [R-2].

The International Organization for Standardization (ISO) 14001, Environmental Management Systems Standard, provides a framework for organizations to improve their environmental performance and protect the environment. Bruce Power has implemented and maintained alignment with ISO 14001 for 19 years, and successfully completed a surveillance audit in 2025, with the next re-certification audit planned for 2026. More details are described in Section 10.0.

The Canadian Standards Association (CSA) N288 series of Standards and Guidelines provide overall direction on environmental management and protection for nuclear facilities, and several are required by the operating licence for the facility. Bruce Power has implemented these standards as per the requirements of the Licence Condition Handbook [R-3].

Site Description

Bruce Power has safely operated the Bruce Power site (referred to herein as the “Site”) located near Tiverton, Ontario since May 2001. The Site is situated on the east shore of Lake Huron within the Municipality of Kincardine (formerly the Township of Bruce), approximately 18 kilometres north of the Town of Kincardine. It includes Bruce Nuclear Generating Station A (Bruce A) and Bruce Nuclear Generating Station B (Bruce B), which each consist of four Canada Deuterium Uranium (CANDU) reactors, as well as ancillary facilities. Two reactors (Unit 3 and 4) are undergoing Major Component Replacements (MCR), with Unit 3 expected to return to service in summer 2026 and Unit 4 in 2027. Additional reactors (Units 5, 7, and 8) are planned to start MCR projects within the next six years.

Environmental Protection

Bruce Power’s Environmental Protection Program is built upon an integrated monitoring approach designed to evaluate environmental impact, verify environmental protection, and continuously improve performance through engagement with Indigenous Nations and Communities. Indigenous knowledge is incorporated into our monitoring and risk assessment programs, and the Environmental Protection Program is continuously improved by driving strategic research and innovation with industry and community collaborations. Environmental safety and responsibility are woven into all aspects of the company’s nuclear safety culture, and Bruce Power commits to meet or exceed all relevant legal and voluntary environmental requirements. The company holds itself accountable to prevent pollution through strong management of emissions, effluents, and waste, and implements robust spill mitigation measures to provide effective containment and control of contaminants.

High Gizzard Shad Impingement Event, Winter 2025

During the winter of 2025, Bruce Power experienced an unprecedented episodic event involving elevated impingement of Gizzard Shad at both Bruce A and Bruce B. The event occurred between late January and April 2025 and was associated with environmental conditions that included prolonged cold temperatures, supercooled nearshore waters, and an elevated Gizzard Shad population. Upon experiencing the unusual gizzard shad impingement – an unanticipated environmental condition that exceeded the station's existing prevention capacity – Bruce Power acted immediately to stabilize the plant and protect reactor safety, implemented mitigation to remove fish and prevent further ingress, and reported transparently to Fisheries and Oceans Canada, the CNSC and local Indigenous communities.

A root-cause investigation and gap analysis was completed and Bruce Power is executing strengthened prevention, detection, and response measures – enhanced physical barriers and deterrents, improved inspection routines, and expanded real-time monitoring capability – to reduce the likelihood of recurrence and improve readiness for episodic events. Bruce Power is continuing to work with regulators and Indigenous Nations and Communities, including SON, to incorporate learning and improve long-term monitoring and mitigation in a way that protects Lake Huron and sustains confidence in our operations. Throughout the event, Bruce Power maintained ongoing engagement with Indigenous Nations and Communities, including the Saugeen Ojibway Nation (SON), Historic Saugeen Métis, Métis Nation of Ontario Region 7, and Chippewas of Kettle and Stony Point First Nation. Short-term mitigation actions and longer-term research initiatives were developed collaboratively, informed in part by SON's review of the event.

The event was environmentally driven and occurred outside of normal operations. Population-level risk considerations, including a review of available literature on the characteristics of Gizzard Shad and their natural annual mortality rates, indicate episodic events involving high impingement of Gizzard Shad are unlikely to cause population-level effects in Lake Huron. Ongoing mitigation enhancements, monitoring, and research will continue to inform future risk management and will be incorporated into the 2027 Environmental Risk Assessment.

Community Investment and Sustainability

Social responsibility and environmental stewardship are core to Bruce Power's operations and long-term success. In 2025, Bruce Power invested more than $3 million in local communities and environmental initiatives that support sustainability, environmental conservation, community development, and Indigenous engagement and partnerships. These investments were delivered through five funding streams: Community Investment, Environment and Sustainability, Indigenous Community Investment, Gifts in Kind, and Tripartite partnerships.

Through the Environment & Sustainability Fund, Bruce Power continued to support projects related to environmental conservation and restoration, climate change mitigation and resilience, energy efficiency and emissions reductions, and environmental education and research. Priority was given to projects and initiatives in Bruce, Grey, and Huron counties, reflecting Bruce Power's commitment to local communities. Support was provided to initiatives that focused on shoreline and habitat protections, environmental monitoring programs, fisheries and habitat restoration, environmental education and ecotourism, and efforts to advance electric vehicle adoption.

Bruce Power's commitment to biodiversity and conservation was further recognized through its Wildlife Habitat Council Gold Certification, confirmed through 2027. This certification reflects ongoing investments in onsite monitoring, habitat management, species protection, and environmental education, and reinforced Bruce Power's leadership in environmental stewardship.

Bruce Power continues to leverage green financing to support life-extension activities in non-greenhouse gas emitting electricity production. In December 2025, Bruce Power issued $950 million in green bonds, bringing the year-to-date total issuance to $3.3 billion. These investments support provincial and federal emissions-reduction objectives and ensure the long-term reliability of Ontario's clean electricity supply.

Dose to Public

Each year Bruce Power gathers information to calculate the radiological dose to representative persons living near the Site. This includes meteorological data, analysis of local environmental media and Site radiological emissions and effluents that include all utilities near or within the Bruce Power Site boundary. Following the methodology outlined in CSA N288.1 and using a site-specific environmental transfer model, a dose is calculated for each representative person at three age classes – adult, child and infant. A representative person is determined using the lifestyle characteristics identified in the Site Specific Survey and is defined as an individual who receives a dose that is representative of the most highly exposed individuals in the population. The most limiting result, or highest calculated dose, is used as the annual dose to public and is published annually in this report.

For the thirty-forth consecutive year, Bruce Power's contribution to the annual dose of a member of the public is less than the lower threshold for significance (less than 10 microsieverts per year) and is considered *de minimus*. The maximum dose associated with Bruce Power operations in 2025 was obtained for the Bruce Subsistence Farmer (BSF3) Child who received 3.9 microsieverts per year. All other representative persons have a lower dose. This maximum dose is a small fraction of a percent of the legal limit of 1,000 microsieverts per year.

Representative Person	Committed Effective Dose	Percentage of Legal Limit
BSF3 Child	3.9 microsieverts per year	0.39%

Emissions and Effluent Monitoring

The effluent monitoring program includes both radiological and conventional and is aligned with CSA standard N288.5-11, Effluent monitoring programs at Class I nuclear facilities and uranium mines and mills [R-4]. Results of the Effluent Monitoring program demonstrate that all conventional and radiological effluents (waterborne and airborne) are, and continue to be, well below regulatory limits.

Radiological Emissions and Effluent Monitoring

In 2025, all radiological releases continued to remain well below the Derived Release Limits. Bruce Power has several engineered barriers in place, where possible, to minimize radionuclides released to the environment and keep airborne emissions and waterborne effluent as low as reasonably achievable. These barriers, in addition to systematic monitoring, trending and investigation of emissions and effluent that are above normal levels, assists Bruce Power in minimizing releases and ensuring they remain well below regulatory limits.

Conventional Emissions and Effluent Monitoring

Air emissions and water effluents are controlled to meet regulatory requirements and to minimize impacts to protect the natural environment. Emissions and effluents are discharged according to specific licenses, permits, and regulations under (but not limited to) the *Environmental Protection Act* [R-5] and the *Ontario Water Resources Act* [R-6]. Bruce Power performs extensive modelling and monitoring of its emissions and effluent to ensure that controlled discharges are monitored according to requirements and releases occur within acceptable limits and environmental impacts are minimized.

Environmental Monitoring

The environmental monitoring program is designed to meet the requirements of CSA N288.4-10 [R-7]. This consists of both the radiological environmental monitoring program, which is used to characterize the annual dose to public, and the non-radiological (conventional) environmental monitoring program. Together, ongoing environmental monitoring and assessment activities verify that emissions and effluents from site operations have a minimal impact on the surrounding environment.

Bruce Power appreciates the support of the local residents, businesses, and communities surrounding the Bruce Power site who voluntarily take part in the environmental monitoring programs. Results from air monitoring equipment placed throughout the communities, along with local sample results from milk, fish, honey, eggs, beef, poultry, grains, fruits, vegetables, animal feed, and water, help confirm the result for a representative dose to public.

Radiological Environmental Monitoring

The Radiological Environmental Monitoring program establishes a database of radiological activity measured in the environment near Bruce Power and determines the contribution of overall radiation dose to members of the public. The radiological environmental monitoring data implicitly reflects the cumulative impact of releases from all licensed facilities on the Bruce Power site as well as facilities within or adjacent to the site boundary that are owned or operated by other parties. The program involves the annual collection and analysis of environmental media for radionuclides specific to nuclear power generation. The program design is informed by a radionuclide and exposure pathways analysis, and monitoring locations are selected to be representative of radionuclide exposure to local residents and visitors and based on practical considerations such as availability of samples and participation of local residents and farmers. Sampling locations are grouped by proximity to site, including ‘indicator’, ‘area near’ and ‘area far’ locations. Radionuclide concentrations typically decrease with distance from site and all levels result in a *de minimus* dose.

In 2025, as stated above, the maximum dose associated with Bruce Power operations was obtained for the Subsistence Farmer BSF3 Child who received 3.9 microsieverts per year which is less than the lower threshold for significance (less than 10 microsieverts per year), and significantly lower than natural background in Canada (1,800 microsieverts per year).

Bruce Power regularly collects samples of pelagic (whitefish) and benthic (suckers) fish in the near shore by Bruce Power and farther afield at a control location and measures for tritium oxide, organically bound tritium, carbon-14 and CANDU related gamma emitters. Whitefish samples were not available in 2025 for analysis. However, measured radionuclide concentrations in suckers caught in 2025, as well as all fish caught in previous years, are consistently near background levels and well below the CNSC reference levels, indicating that there is no risk to members of the public or the environment from consuming fish caught near Bruce Power.

Bruce Power completed a Local Population Survey within 10 kilometres of the site, confirming that local habits and lifestyle characteristics remain consistent with the 2016 survey. The results were used to refine representative person characteristics in the 2025 public dose calculations and will inform the 2027 Environmental Risk Assessment.

Conventional Environmental Monitoring

The Conventional Environmental Monitoring Program collects information about non-radiological contaminants, physical stressors, and biological effects in the environment around Bruce Power. This data is analyzed every five years through an Environmental Risk Assessment process to determine potential impacts on both human and non-human biota. Bruce Power has a strong water quality monitoring program that continues to verify that effluent and emissions, as well as physical stressors imposed by facility operations, have little-to-no effect on the surrounding waterbody, and that Bruce Power has effective containment and effluent control measures in place. Fish impingement and entrainment losses in 2025 were higher than prior years and remained well below the maximum loss permitted in Bruce Power's *Fisheries Act* Authorization. Fish offsetting activities continued as planned in 2025, with monitoring in the Saugeen River in the vicinity of the former Truax Dam as per Bruce Power's Offsetting Plan. This year's results continue to show a positive net balance between fish productivity in the Saugeen River versus losses at Bruce A and Bruce B through impingement and entrainment. Results of thermal monitoring in Lake Huron in 2025 are being used for ongoing verification of the thermal risk assessment to address both the Ministry of Environment, Conservation and Parks environmental compliance approval conditions and analysis for the Environmental Risk Assessment. Long term biological effects monitoring of local wildlife populations continues to demonstrate diverse and abundant communities of amphibians, reptiles, birds, waterfowl, and fish.

Groundwater Protection

The Bruce Power Groundwater Protection Program is aligned with CSA N288.7-15, Groundwater Protection Programs at Class 1 Nuclear Facilities and Uranium Mines and Mills. The program is designed to achieve the overall groundwater protection goal to protect the quality and quantity of groundwater by minimizing the interactions of Bruce Power activities with the environment. The groundwater goals are achieved through the setting of objectives which form the basis of program performance monitoring. Performance against program objectives is evaluated at least annually which allows for identification of gaps and opportunities to drive continuous program improvements.

The results of the 2025 Groundwater Monitoring program demonstrate that groundwater quality on the Bruce Power site is within historical trend. There were no observations of unforeseen conditions which would represent potential adverse impacts to human health or the environment.

Environmental Risk Assessment

An Environmental Risk Assessment was prepared in 2022 following the guidance of CSA N288.6-12 which defines an Environmental Risk Assessment as a systematic process used to identify, quantify, and characterize the risk posed by contaminants and physical stressors in the environment on biological receptors (human and non-human biota), including the magnitude and extent of the potential effects associated with a facility [R-8]. The Environmental Risk Assessment demonstrates that the operation of the Bruce Power Site has not resulted in adverse effects on human health of nearby residents or visitors due to exposure to radiological or conventional substances and physical stressors. The Environmental Risk Assessment determined there is a low risk to some cold and cool water fish in the local area due to exposure to thermal effluent (warmer water). All other risks associated with exposure to physical stressors were assessed as negligible. Risks to ecological receptors due to exposure to radiological substance were assessed as negligible. Risks to ecological receptors from exposure to non-radiological (conventional) substances were limited to specific areas on site and are detailed in Section 7.0. Where risks have the potential to be elevated, follow-up monitoring at specific locations was recommended. This monitoring is ongoing and evaluation of these specific risks will occur in the next Environmental Risk Assessment, which will be submitted in June of 2027.

The results of the 2022 Environmental Risk Assessment were shared with the Saugeen Ojibway Nation, Métis Nation of Ontario (Region 7), and Historic Saugeen Métis prior to the submission of the Environmental Risk Assessment to the CNSC. Based on review of concerns raised by Indigenous Nations and Communities that are specific to the Bruce Power site, all technical considerations within the construct of the CSA N288.6 framework have been considered.

Following the episodic event of high impingement of adult Gizzard Shad during the winter of 2025, a gap analysis was prepared at the request of CNSC [R-9]. The gap analysis reviewed available literature on the characteristics of Gizzard Shad such as natural annual mortality rates and demonstrated that episodic events involving high impingement of Gizzard Shad are unlikely to cause population-level effects in Lake Huron. The 2027 ERA will reassess the overall risks associated with impingement and entrainment of all fish species, including adult Gizzard Shad.

Waste Management

Bruce Power complies with all waste regulations and requirements of the relevant federal, provincial, and municipal authorities. Further, Bruce Power has taken an active role for many years to reduce all forms of waste: from an environmental and financial standpoint waste reduction is good for our company and the community in which we reside. Our philosophy employs a whole life-cycle approach in that we reduce waste at the consumer level, generate less waste at the company level, find opportunities to reuse products (on-site, off-site donations, or auction), and implement recycling programs that are available in the ever-changing recycling market. Regardless of its end point, each waste stream generated at Bruce Power is processed and disposed of in a safe and environmentally responsible manner.

CONCLUSION

In conclusion, the 2025 Environmental Protection Report for Bruce Power demonstrates the effectiveness of the company's commitment to environmental safety, regulatory compliance, and community engagement. The report highlights Bruce Power's fulfillment of regulatory requirements, continuous improvement in environmental protection measures, and significant investments in community and sustainability initiatives. With strong monitoring programs, effective waste management, and proactive risk assessments, Bruce Power ensures minimal environmental impact while supporting sustainability goals. The company's dedication to transparency, innovation, and collaboration with communities further underscores its role as a responsible and forward-thinking energy provider.

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1.0 INTRODUCTION

1.1 Purpose

The purpose of this report is to fulfill regulatory requirements on environmental protection in accordance with Licence Condition 3.3 of the Bruce A and Bruce B Power Reactor Operating Licence Bruce Nuclear Generating Stations A and B 18.04/2028 [R-1] and the Canadian Nuclear Safety Commission (CNSC) Regulatory Document REGDOC-3.1.1, Reporting Requirements for Nuclear Power Plants, Section 3.6 [R-2].

1.2 Regulatory Requirements

1.2.1 Licence Requirements

Bruce A and B Power Reactor Operating Licence [R-1] and the associated Licence Condition Handbook [R-3] contains Section 3.3, Reporting Requirements that require Bruce Power to notify and report in accordance with CNSC regulatory document REGDOC-3.1.1, version 3 [R-2]. Environmental Protection is one safety control area which covers programs that identify, control, and monitor all releases of radiological, non-radiological and hazardous substances, and monitors the effects on the environment from the operation of facilities or as the result of licensed activities.

Bruce Power experienced an unprecedented episodic event involving elevated impingement of Gizzard Shad at both Bruce A and Bruce B in the winter of 2025 that was reported to the CNSC and Fisheries and Oceans Canada in accordance with REGDOC-3.1.1. This event is discussed further in this report in Sections 5.2.2, 5.2.2.1, 5.2.2.2, and 7.4

The environmental protection report is submitted annually to the CNSC and contains information as required by REGDOC-3.1.1, version 3 Section 3.6 [R-2] posted publicly at, brucepower.com/resources/publications.

Federal and Provincial regulations require licencees to monitor and report on the characteristics of airborne and waterborne effluent and emissions. Licencees are required to comply with any statutes, regulations, licences, or permits that govern the operation of the nuclear facility or licenced activity. The release of hazardous substances is regulated by both the Ontario Ministry of the Environment, Conservation and Parks, and Environment and Climate Change Canada through various acts and regulations, as well as by the Canadian Nuclear Safety Commission.

The Licensee may be required to submit annual reports to other government departments regarding their environmental protection program, which include the results of effluent, emission, and environmental monitoring programs. Licensees may send a copy of such reports to the CNSC to demonstrate compliance with the CNSC's requirement for oversight of the Bruce Power environmental monitoring program.

1.2.2 Environmental Protection Program

Bruce Power’s Environmental Protection Program is founded on an integrated monitoring approach aimed at evaluating environmental impact, verifying environmental protection, and driving continuous improvement. This is achieved by engaging with local Indigenous Nations and Communities, incorporating Indigenous knowledge into our monitoring and risk assessment programs, and pursuing strategic research and innovation in collaboration with industry and community partners.

Environmental safety and pollution protection are integral to the company’s nuclear safety culture, and Bruce Power is committed to meeting or exceeding all relevant legal and voluntary environmental requirements. The company holds itself accountable for pollution protection by effectively managing emissions, effluents, and waste, and by implementing robust spill mitigation measures to ensure effective containment and control of contaminants. To demonstrate environmental protection, Bruce Power conducts extensive monitoring and modeling of both radiological and conventional contaminants. Bruce Power complies with Federal Regulations, programs, and standards which protect human health and the environment under the *Nuclear Safety and Control Act* [R-10]. The key elements are listed below:

- The *General Nuclear Safety and Control Regulations* [R-11] require every licensee to take all reasonable precautions to protect the environment and to control release of radioactive nuclear substances or hazardous substances within the site of the licensed activity and into the environment as a result of the licenced activity.
- The *Class 1 Nuclear Facilities Regulations* [R-12] set out environmental protection requirements that must be met.
- The *Radiation Protection Regulations* [R-13] prescribe radiation dose limits for the general public of 1 mSv (1000 μSv) per calendar year.
- Power Reactor Operating Licence 18.04/2028, Nuclear Reactor Operating Licence Bruce Nuclear Generating Stations A and B [R-1].

When considering relicensing, the CNSC is obligated under the Nuclear Safety and Control Act [R-10] to assess whether an applicant will make adequate provisions for environmental protection and the health and safety of people, as outlined in REGDOC-2.9.1, Environmental Protection Policies, Programs and Procedures [R-14] . Consequently, the CSA N288 standards are implemented through the requirements set out in the Licence Condition Handbook [R-3].

REGDOC-2.9.1 [R-14] outlines the requirements for an environmental protection program that aligns with the International Organization for Standardization (ISO) 14001, Environmental Management System [R-15]. At Bruce Power, these requirements are documented in BP-PROG-00.02, Environmental Management, and are implemented through a set of internal standards and procedures.

1.2.2.1 Canadian Standards Association N288 Series

The Canadian Standards Association (CSA) N288 standards are part of a series of guidelines and standards on environmental management of nuclear facilities. Bruce Power strives to be industry best and implement newer versions of the CSA N288 series of environmental standards as they become available.

Bruce Power has implemented the following CSA standards that are relevant to the CNSC's regulatory framework for environmental compliance:

- CSA N288.1-20, Guidelines for modelling radionuclide environmental transport, fate, and exposure associated with the normal operation of nuclear facilities [R-16];
- CSA N288.4-10, Environmental Monitoring Program at Class 1 nuclear facilities and uranium mines and mills [R-7];
- CSA N288.5-11, Effluent monitoring programs at Class 1 nuclear facilities and uranium mines and mills [R-17];
- CSA N288.6-12, Environmental Risk Assessments at Class 1 nuclear facilities and uranium mines and mills [R-18]; and
- CSA N288.7-15, Groundwater Protection Programs at Class 1 nuclear facilities and uranium mines and mills [R-19].
- CSA N288.8-17, Establishing and implementing action levels for releases to the environment from nuclear facilities [R-20].

Bruce Power is proactively implementing CSA N288.0-22, Environmental management of nuclear facilities: Common requirements of the CSA N288 series of standards [R-21] by the end of 2026. This standard is required to be implemented when moving to the new versions (2022 onwards) of the CSA N288 standards.

1.2.2.2 Environmental Management System (ISO 14001 Standard)

International Organization for Standardization (ISO) 14001 [R-22] specifies the requirements for an environmental management system that an organization can use to enhance its environmental performance. The standard is used to manage environmental responsibilities in a systematic manner that contributes to environmental sustainability and ensures environmental protection.

In 2023, Bruce Power had a successful re-registration audit to confirm that Bruce Power operates an environmental management system compliant with the requirements of ISO 14001:2015 [R-22]. The certification is valid for three years (2023-2026) and will be recertified in the fall of 2026.

The Bruce Power Environmental Management Program is defined in BP-PROG-00.02, Environmental Management [R-23] and utilizes the ISO 14001 Environmental Management System standard as a framework to ensure environmental protection, meet environmental compliance obligations, and enhance environmental performance.

The environmental management system serves as the management tool for integrating pollution prevention, changing environmental conditions (climate change), sustainability and environmental protection measures in a documented, managed and auditable process. The environmental management system at Bruce Power is integrated within the Bruce Power Management System, which is implemented in accordance with CSA N286-12, Management System Requirements for Nuclear Facilities standard [R-24].

Environment and Sustainability Policy

The Environment & Sustainability Policy (2026) describes sustainability principles, addresses strategic research and innovation efforts, and demonstrates our commitment to meeting or exceeding requirements. This Policy establishes guiding principles and environmental expectations for employees and those working on behalf of Bruce Power. The Environmental Policy reflects Bruce Power's dedication to environmental protection and states that you can count on Bruce Power to:

- Ingrain a healthy safety culture which promotes the four pillars of nuclear safety – Reactor, Radiological, Environmental, and Industrial;
- Commit to excellence by meeting or exceeding all relevant legal and voluntary environmental and social requirements to which Bruce Power subscribes;
- Focus on continuous improvement by adopting applicable industry best practices and requirements of ISO 14001;
- Prevent pollution by responsibly managing emissions, effluents, and waste, and implementing best practices for spill mitigation measures;
- Understand our environmental impact and verify environmental protection through monitoring the environment, collaborating with industry and the community, and driving related strategic research and innovation;
- Continuously monitor, assess, and mitigate Bruce Power's interactions with Lake Huron and its surrounding watershed by effectively managing water taking activities and reducing thermal discharge impacts, incorporating input from Saugeen Ojibway Nation and other Indigenous communities;
- Work with Saugeen Ojibway Nation and other Indigenous communities to continuously improve our understanding and integration of Indigenous Knowledge for improved environmental protection;

- Uphold trust with Saugeen Ojibway Nation, Indigenous communities, and other partners and interested parties through open and transparent communication on environmental interests and sustainability commitments;

- Promote environmental stewardship and awareness at work, in the community, and across Ontario;

- Support partners, communities, and organizations to drive innovative projects aimed at protecting and restoring ecosystems, offsetting environmental impacts, and strengthening sustainability in a real and tangible way;

- Ensure our business decisions uphold sustainability principles by conserving energy, prioritizing the reduction and diversion of waste, and integrating product lifecycle considerations in our Supply Chain; and

- Champion climate action as we continue refurbishments and incremental output projects to power Ontario forward with reliable, non-carbon emitting energy, and through net greenhouse gas reduction efforts.

2.0 BACKGROUND

2.1 Bruce Nuclear Site

Bruce Power has safely operated the Bruce Power site (the “Site”) located near Tiverton, Ontario since May 2001. The Site is located on the eastern shore of Lake Huron within the Municipality of Kincardine (formerly the Township of Bruce), approximately 18 kilometres north of the Town of Kincardine. The Municipality also encompasses the communities of Inverhuron and Tiverton. The region is a well-known tourist destination, with numerous cottages and holiday parks that attract visitors from across Ontario, Canada and the United States. The next closest municipality is the Town of Saugeen Shores – home to Southampton and Port Elgin – located roughly 25 kilometres northeast of the Site.

The Site includes Bruce Nuclear Generating Station A (Bruce A) and Bruce Nuclear Generating Station B (Bruce B), each consisting of four CANDU reactors, as well as ancillary facilities. The broader Bruce Nuclear Site contains lands occupied by Ontario Power Generation, Canadian Nuclear Laboratories Douglas Point, and Hydro One.

In total, the Bruce Power site has eight nuclear reactors and is undertaking a Major Component Replacement project to refurbish Units 3 through 8. The project started with the refurbishment of Unit 6 in 2020 and is scheduled for completion with Unit 8 in 2034.

2.1.1 Life Extension Program and Major Component Replacement

Bruce Power is investing in the long-term future of Ontario's clean energy supply through its Life Extension Program and Major Component Replacement (MCR) projects. These initiatives, launched following a 2015 agreement with the Independent Electricity System Operator, will allow the company's eight nuclear units to operate safely and reliably through 2064 and beyond, supporting growing electricity needs while producing life-saving medical isotopes.

The Life Extension Program began in 2016 and focuses on upgrading aging equipment during routine maintenance periods. As part of this work, Bruce Power's MCR project – underway since 2020 – is replacing major reactor components in Units 3 to 8, such as steam generators and pressure tubes.

Environmental protection remains a top priority. Bruce Power has maintained strong environmental performance over the first six years of these projects. Environmental specialists remain involved at every stage, from planning through execution, to ensure that all project activities are carried out responsibly.

Completed in 2023, the Unit 6 refurbishment returned the unit to service with minimal environmental impact. Work on Units 3 and 4 is progressing safely, with planning already underway for future refurbishment activities.

Through careful planning, strong oversight, and a commitment to continuous improvement, Bruce Power is ensuring that its refurbishment projects support clean energy, protect the environment, and contribute to Ontario's long-term energy security.

2.1.2 Bruce C Project

With electricity demand in Ontario expected to grow rapidly in the coming decades, Bruce Power is beginning the long-term planning required to advance new nuclear generation on the Site. The Bruce C Project is creating the option to build up to 4,800 MW of new nuclear capacity on the existing Bruce Power site. A federal integrated Impact Assessment process is underway, led by the Impact Assessment Agency of Canada and the CNSC, to evaluate the potential environmental, economic, social and health impacts of a new nuclear build. If the Government of Canada determines that the project is of public interest, then a licensing decision for a Licence to Prepare Site will be made as part of the integrated process.

Engaging with local Indigenous Nations and Communities, municipalities and the public is a critical part of the process. More information can be found at: engage.brucepower.com/brucec

2.1.3 Ontario Power Generation Land and Facilities

The Western Waste Management Facility was established in 1974 and is owned and operated by Ontario Power Generation. It is located centrally on the Bruce site and is licensed by the CNSC for the management of radioactive waste. The facility is approximately 19-hectares and consists of low and intermediate level waste storage and used fuel dry storage areas.

The Western Waste Management Facility provides safe material handling (receipt, transfers, and retrieval), processing, and storage of radioactive materials produced at nuclear generating stations and other facilities currently or previously operated by Ontario Power Generation or its predecessor, Ontario Hydro. This facility also provides safe storage of Bruce Power's used fuel in dry storage containers until it can be transported to an alternative long term used fuel storage or disposal facility. The used fuel dry storage areas are security protected areas that consist of a dry storage container processing building and used fuel storage buildings.

The low and intermediate level waste portion of the facility consists of various structures such as an amenities building, waste volume reduction building, transportation package maintenance building, low level and intermediate level waste storage buildings, quadricells, in-ground containers, trenches, and tile holes.

2.1.3.1 Ontario Power Generation Western Waste Management Facility Environmental Assessment

The Ontario Power Generation Western Waste Management Facility operates under a Waste Facility Operating Licence (WFOL-W4-314.00 2027) [R-25] and monitors emissions in accordance with CSA N288.5 [R-4]. The effluent monitoring program ensures emissions are maintained well below the Derived Release Limits established in the Licence Condition Handbook (LCH-W4-314.00 2027) [R-26] and provides for early detection of potential adverse trends. The effluent monitoring results are reported annually to the CNSC by Ontario Power Generation. The effluent monitoring program is reviewed and updated as necessary to ensure it is inclusive of changing site conditions (e.g., expansions and aging management), historic performance, updated standards and industry best practices.

The efficacy of the effluent monitoring program is also assessed by the Western Waste Management Facility specific Environmental Risk Assessment process and the Environmental Monitoring Program. The Environmental Risk Assessment and Environmental Monitoring Program are completed in accordance with CSA N288.6 and N288.4 [R-7][R-27]. The Environmental Risk Assessment is updated at a minimum of once every five years and the Environmental Monitoring Program is reviewed annually.

The most recent Western Waste Management Facility Environmental Risk Assessment update was completed in 2021 with the next update scheduled for 2026 [R-28]. The conclusions of the Environmental Risk Assessment and the Environmental Monitoring Program indicate that there are no adverse effects to human health or to the local community level ecology from the operation of the Western Waste Management Facility [R-29]. The Environmental Risk Assessment and Annual Environmental Monitoring Program reports are available to the public on Ontario Power Generation's website [R-30].

2.1.4 Canadian Nuclear Laboratories Lands and Facilities

The Douglas Point Waste Facility is operated by Canadian Nuclear Laboratories and is located on the Bruce Nuclear Power Development Site. Douglas Point, which operated between 1966 and 1984, was the prototype commercial-scale Canada Deuterium Uranium (CANDU) nuclear power plant. With full operation commencing in 1968, the Douglas Point Generating Station supplied 220 Megawatts to the Ontario grid for 16 years.

Eventually a decision was made to shut down Douglas Point rather than refurbish the pressure tubes, which would be required for continued operation. While the Douglas Point facility structures remain in place today, the reactor has been permanently shut down since 1984. Used fuel from the reactor is stored in dry storage modules at the facility. Decommissioning of the Douglas Point Facility is progressing with a 2070 timeline for completion. The decommissioning plans for the coming years include the dismantling of non-nuclear buildings and nuclear support buildings. The reactor and its building are anticipated to be decommissioned after 2030.

In 2020, the facility was in Phase 2 of decommissioning, known as “Storage with Surveillance”. In 2021, the CNSC amended the decommissioning licence to allow Canadian Nuclear Laboratories to begin Phase 3 of the five-phase process of decommissioning activities [R-31]. More information can be found on the Canadian Nuclear Laboratories website at:
cnl.ca/environmental-stewardship/decommissioning-the-douglas-point-prototype-reactor/.

2.1.5 Hydro One Lands and Facilities

Hydro One owns and operates a number of assets within the Site. These include, but are not limited to, office and workshops for maintenance, switchyards at Bruce A and Bruce B, switching stations and transformer stations, and transmission corridors.

2.2 Nuclear Processing Facilities Near Site

2.2.1 Kinectrics’ Ontario Nuclear Services Facility

Kinectrics’ Ontario Nuclear Services Facility is located in Tiverton, Ontario, approximately 3 kilometres from the Bruce Site. The site has an approximate footprint of 25,600 square metres and houses one building with an approximate footprint of 3,440 square metres. The facility functions as a radioactive workspace to decontaminate and refurbish large nuclear reactor tools and equipment used during reactor maintenance activities during outages.

Kinectrics carries out effluent monitoring activities on both airborne tritium releases through exhaust stacks and on liquid releases to sewer, following Kinectrics' effluent monitoring procedures. Specifically:

- Kinectrics' Waste Nuclear Substance Licence requires releases to air to be monitored for tritium only at Kinectrics' Ontario Nuclear Services Facility, since particulates are caught in pre-filters and High Efficiency Particulate Air filters prior to exhaust. Tritium releases through exhaust stacks are continuously sampled, and analysis of the samples is conducted weekly. All releases are maintained below the Waste Nuclear Substance Licence limits [R-32].
- Liquid waste is collected in drums and returned to the client for disposal.

2.2.2 Laurentis' Western Clean-Energy Sorting and Recycling Facility

The Western Clean-Energy Sorting and Recycling Facility is owned by Laurentis Energy Partners, a subsidiary of Ontario Power Generation, and is located near Tiverton, Ontario, approximately 3 kilometres from the Bruce Power Site. The site has a footprint of approximately 13,200 square metres and houses one building with an approximate footprint of 3,800 square metres. The facility function is the sorting and segregation of Utilities' Low Level Radioactive Waste for the purposes of volume reduction. All radioactive waste received at the facility is subject to waste acceptance screening, to ensure only low level radioactive waste is accepted.

EnergySolutions carries out effluent monitoring of the high efficiency particulate air filtered, facility stack exhausts, as per their Waste Nuclear Substance License requirements. Contaminants in the stack emissions consist of tritium only since particulates are caught in pre-filters and high efficiency particulate air filters prior to exhaust. Tritium releases through exhaust stacks are continuously sampled, and analysis of the samples is conducted bi-weekly. There is no liquid effluent release from the facility.

2.3 Canadian Nuclear Safety Commission, Independent Environmental Monitoring Program

The Independent Environmental Monitoring Program is a CNSC environmental sampling initiative designed to provide additional confidence that public health and the environment in areas around licensed nuclear facilities are protected. It is separate from, but complementary to, the CNSC's ongoing compliance verification program. The Independent Environmental Monitoring Program involves taking samples from publicly accessible areas around the facilities. CNSC staff collect the samples and send them to CNSC's state-of-the-art laboratory for testing and analysis. [R-33]

Since the implementation of the Independent Environmental Monitoring Program, the area outside of the Bruce Nuclear Generating Station perimeter was sampled in 2013, 2015, 2016, 2019, 2022, and 2025. The results for 2025 are not yet available. The sampling plans focus on measuring concentrations of contaminants in the environment at publicly accessible locations such as parks, residential communities and beaches, and in areas of interest identified in

Environmental Risk Assessments. Samples of air, water, soil, sediment, sand, vegetation, and some local food may be taken. [R-33]

The CNSC has also conducted a large study to look at radiation exposure and the incidence of cancer around Ontario nuclear generating sites, including the Bruce Power site. This study concluded that doses to the public were well below levels of natural background radiation and that people who live near nuclear generating sites have no excess cancer risk and are as healthy as the rest of Canada's general population [R-34].

2.3.1 2022 Independent Environmental Monitoring Program Results

Although the Independent Environmental Monitoring Program was carried out in the Bruce area in 2025, the results were not available at the time of writing this report. Therefore, the results from 2022 are discussed as a point of comparison to Bruce Power's Environmental Monitoring Program results.

The 2022 Independent Environmental Monitoring Program sampling plan for the Bruce A and B nuclear generating stations site focused on radiological and hazardous substances. A site-specific sampling plan was developed based on the licensee's approved environmental monitoring program and the CNSC's regulatory experience with the site. The CNSC endeavors to incorporate traditional Indigenous land use, values and knowledge by engaging with Indigenous Nations and Communities on the sampling plan.

In advance of the 2022 sampling campaign, Indigenous Nations and Communities near the facility were invited to review the plan and provide input on species of interest, valued components, and potential sampling locations where traditional practices and activities may take place. In addition, representatives joined the field team to participate in sampling and learn about the equipment and procedures used. Continuing the work completed during the 2019 Bruce Power site Independent Environmental Monitoring Program, plantain, eastern white cedar, cat tails (roots and leaves/flowers), and balsam fir were sampled again at the same locations as in 2019. Milkweed and creeping juniper were added to the sample plan for 2022 at the request of the Saugeen Ojibway Nation. Community members also provided samples of whitefish and trout from Lake Huron.

In July 2022, the CNSC collected air, water, soil, sand, sediment, vegetation, and food samples in publicly accessible areas outside the facility perimeter. The levels of radiological and hazardous substances measured in air, water, soil, sediment, vegetation, food were below available guidelines and the CNSC screening levels. These screening levels are based on conservative assumptions about the exposure that would result in a dose of 0.1 millisieverts per year (one-tenth of the regulatory public dose limit of 1 millisieverts per year).

Measurements conducted by the Independent Environmental Monitoring Program to date have consistently found levels of radioactivity in the environment to be low, and well within the range of natural background radiation levels. As a result, no effects on human health are expected.

2.3.2 Independent Environmental Monitoring Program Conclusions

Independent Environmental Monitoring Program results from 2013, 2015, 2016, 2019, and 2022 are consistent with the results submitted by Bruce Power and Ontario Power Generation, supporting the assessment that the licensee's environmental protection program is effective. The results add to the body of evidence that people and the environment in the vicinity of the Bruce A and B nuclear generating stations site are protected and that there are no anticipated health impacts from the operation of the facilities on the site.

2.4 Local Indigenous Nations and Communities

The Bruce Power site is located within the Saugeen Ojibway Nation (SON) Territory, the shared treaty and traditional Territory of the Chippewas of Saugeen First Nation and Chippewas of Nawash Unceded First Nation (Neyaashiinigmiing).

SON has asserted and proven Aboriginal and Treaty rights throughout its Traditional Territory and continues to rely on this Territory for its economic, cultural, and spiritual survival. As noted in the decision of R. v. Jones and Nadjiwon [R-35], the Saugeen Ojibway Nation hold a priority interest in commercial fisheries within their traditional waters both as an incident of aboriginal title and as a treaty right and the courts recognized that the Saugeen Ojibway people have a constitutional priority to the resource and a right to participate in it's management. SON asserts its Aboriginal and Treaty rights, entitle its members to be sustained by the lands, waters and resources of their Territory. Aligning with the United Nations Declaration on the Rights of Indigenous Peoples, SON has the right to protect and preserve its Territory to ensure that it will be able to sustain its future generations. SON asserts that its rights include, but are not limited to: be a distinct people; maintain language, culture and way of life; be sustained by the lands, waters and resources within their Territory; exclusive use and occupation of their communal lands; continued use of all their Territory to harvest for sustenance, and for cultural and livelihood purposes; involvement in decisions that will affect their Territory; and protecting SON way of life as stewards of their Territory for generations to come.

Two individual Métis communities, the Métis Nation of Ontario (Region 7) and the Historic Saugeen Métis (HSM), are also located close to the Bruce Power site.

As shared on the MNO website, in 1993, the Métis Nation of Ontario (MNO) (Region 7) was established through the will of Métis people and Métis communities coming together throughout Ontario to create a Métis-specific governance structure. Prior to 1993, Métis had been involved in pan-Indigenous lobby groups and organizations. Bruce Power engages with MNO Region 7. The Métis are a distinct Indigenous people with a unique history, culture, language, and way of life. The Métis Nation is comprised of descendants of people born of relations between First Nations women and European men [R-36].

The Historic Saugeen Métis (HSM), according to their website are, "….*a culturally distinct Indigenous population, the HSM have maintained a continuous presence along the Saugeen-Bruce Peninsula, the Lake Huron shoreline, and its associated watersheds, engaging in fishing, hunting, trapping, and harvesting activities since at least the 1820s"* [R-37].

Bruce Power is dedicated to honoring Indigenous history and culture and is committed to moving forward in the spirit of reconciliation and respect with the Indigenous Nations and communities we work with. We are committed to strong and respectful relationships with the Saugeen Ojibway Nation (SON), the Métis Nation of Ontario (Region 7), and Historic Saugeen Métis (HSM).

2.5 Bruce Power's Community Engagement

2.5.1 Community Investment and Sustainability

Social responsibility is a core value at Bruce Power. In 2025, Bruce Power advanced this commitment by investing more than $3 million in local communities and environment protection initiatives that support long-term sustainability. Bruce Power's contributions focused on initiatives that support health and wellness, youth development, minimizing environmental impacts, community engagement, and Indigenous youth development, as well as cultural, recreational, and educational programming.

These investments were delivered through five funding streams: Community Investment and Sponsorship, Environment and Sustainability, Indigenous Community Investment, Gifts in Kind, and Tripartite.

Bruce Power's Environment and Sustainability Fund supported environment and sustainability-related projects and initiatives. Established in 2015, the fund seeks opportunities to partner with organizations on initiatives related to:

- Environmental conservation and restoration,
- Energy efficiency and carbon emission reduction,
- Climate change mitigation and resilience, and/or
- Environmental education, awareness, and research.

Initiatives local to Bruce, Grey, and Huron counties are prioritized for funding, due to their proximity to the Bruce Power site. In 2025, the Environment and Sustainability Fund supported a range of environmental initiatives, including but not limited to:

- **Bruce County Museum & Cultural Centre**: This partnership supported the delivery of Earth Week educational programming through the Bruce County Museum & Cultural Centre. Free webinars were offered to students and members of the community, featuring presentations from local experts on a range of environmental topics. The 'Our

Power, Our Planet' program included recorded presentations from the Lake Huron Coastal Centre, the Nuclear Innovation Institute, and Grey Sauble Conservation, expanding access to environmental education across the region.

- **The Nature Conservancy of Canada**: Bruce Power's funding supported the protection of approximately one kilometre of shoreline as part of a 29-hectare conservation project near Tobermory, in an area known as China Cove. The project contributed to the conservation of ecologically significant habitats, including ancient alvars, intact forests, and wetlands that support species at risk, including Hill's thistle and the midland painted turtle.

- **Huron Fringe Birding Festival**: Support for this initiative contributed to environmental education and ecotourism in Bruce and Grey counties. The festival offered a range of guided outings and events that promote awareness of birds, birding, and natural systems in Ontario. Environmental monitoring data collected during the festival was submitted to the eBird database, supporting broader efforts to track bird abundance, distribution, and conservation status.

Bruce Power prioritizes environmental protection and conservation. In 2025, Bruce Power received confirmation that its site was Certified Gold by the Wildlife Habitat Council, powered by Tandem Global, through 2027. This certification reflects work completed through the Wildlife Habitat Council recertification submission prepared in 2024, which focused on strengthening both the number and quality of projects included.

The submission featured projects focused on onsite monitoring, conservation, and education and engagement, including species monitoring on the Bruce Power site, phragmites control and small fish communities monitoring in Baie du Doré, water temperature monitoring and redd surveys in Bothwell's Creek, and redd surveys in Stream C. Building on the success of this submission, Bruce Power received the 2025 "Other Species" Project Award in recognition of conservation activities associated with redd surveys conducted in Stream C.

As a leading producer of non-carbon emitting electricity for Ontario, Bruce Power continues to offer Clean Energy Credits to help Ontario-based corporate electricity customers reach their environmental and sustainability goals. A Clean Energy Credit (or "CEC") is an electronic certificate that businesses can purchase from Ontario clean energy generators, including nuclear operators, to offset Scope 2 electricity emissions to achieve voluntary environmental targets. Bruce Power generates credits through incremental nuclear output from Project 2030 and the Life-Extension Program. Each unit of CEC represents 1 megawatt-hour of clean energy and is intended to be exclusively purchased and claimed (or retired) by a load customer within Ontario, thereby maintaining the environmental attributes within the province.

For more information on Bruce Power's approach to carbon offsets and Clean Energy Credits (CEC), please see our policy at brucepower.com/what-we-do/a-cleaner-tomorrow/carbon-offset-credit-policy/, which outlines the principles guiding their use as part of our greenhouse gas reduction efforts. The policy is designed to enhance transparency, credibility, and environmental integrity, while prioritizing environmental and community benefits beyond the price of offsets and credits.

Bruce Power employs green financing initiatives to support eligible investments associated with life-extension activities and increasing electricity output of Bruce A and Bruce B Units 1-8. These investments support provincial and federal greenhouse gas reduction objectives through the continued production of non-greenhouse gas electricity.

In December 2025, Bruce Power issued $950 million in green bonds to continue to power Ontario forward through operations and projects that drive the economy. To date, Bruce Power has issued $3.3 billion in green bonds since the inaugural issuance in 2021. Bruce Power's Green Bond Reports, available on the Bruce Power website, brucepower.com/green-financing-framework/, provide information on the allocation and impact of green bond proceeds. The next Green Bond Report will be released in June 2026.

In 2023, Bruce Power published an updated Green Financing Framework that will guide future issuance of green bonds for eligible investments. These investments will continue to optimize our assets. One example of this is our Project 2030 initiative, which focuses on continued asset optimization, innovations, and leveraging new technology to increase the site net peak output to more than 7,000 megawatts by the early 2030s. With the updated Green Financing Framework, Bruce Power will be able to include new nuclear technologies as eligible green expenditure, highlighting our commitment to aligning with Canada's climate and environmental priorities while prioritizing nuclear as a vital part of Canada's clean energy future. The updated framework received a Second Party Opinion of "Medium Green" under the Shades of Green analytical approach from leading provider S&P Global Ratings.

Additional information on the company's Sustainability Program is available in Bruce Power's 2025 Sustainability Report on the website at brucepower.com/resources/publications/. The report highlights Bruce Power's approach to sustainability, including its ongoing commitment to community involvement, improving environmental performance through incorporation of Indigenous Knowledge and strategic research and collaboration, and driving economic development. The Sustainability Report provides material disclosure on sustainability commitments and performance across Bruce Power's business. The most recent report highlights performance for the 2024 reporting period and the next report, including 2025 performance, will be published in June 2026.

3.0 DOSE TO PUBLIC

Canadians are regularly exposed to ionizing radiation as part of their everyday lives [R-38] [R-39] [R-40]. This is partly due to exposure to naturally occurring cosmic radiation from the sun and stars and from terrestrial radiation from radioactive materials (e.g., uranium, thorium, and radium) that naturally exist in soil and rocks. Radon is a naturally occurring radioactive gas that is produced by the earth's crust and is present in the air. A variety of foods contain natural sources of radiation including potatoes, carrots, bananas, milk and red meats. The effective dose from natural radiation in Canada is estimated to be 1,800 microsieverts per year [R-41]. Other locations in the world have higher exposure rates, for example, the Kerala Coast in India has an annual effective dose of 12,500 microsieverts per year [R-41].

In addition to these sources, human activities also contribute to overall radiation exposure, such as air travel, smoking and medical or clinical services such as x-ray machines and CT scanners. For example, a cross country flight (20 microsieverts), tobacco and smoke detectors (100 microsieverts), a dental (5 microsieverts) or chest (100 microsieverts) x-ray, or a CT scan (7,000 microsieverts) adds to a person’s overall radiation dose [R-39].

Living near a nuclear power plant also contributes to annual dose as radionuclides associated with CANDU reactors are released to the environment as part of normal operation. These discharges to air and water are heavily regulated in Canada and limits are imposed to ensure levels are safe to workers, the public and the environment. The annual dose limit for a member of the public is 1,000 microsieverts per year [R-42]. As part of the regulatory requirements, Bruce Power must calculate and report its contribution to radiological exposure dose to members of the public on an annual basis.

The annual doses are calculated using the computer software IMPACT following the methodology described in CSA N288.1 [R-16]. The approach uses a radionuclide transport and exposure pathways model that incorporates concentrations of radionuclides measured in environmental media, human characteristics specific to local behaviors and lifestyles, site specific meteorological data, as well as facility characteristics and radiological release information. The details are described in the sections below, however the overall outcome for 2025 is provided here.

For the thirty-fourth consecutive year, Bruce Power’s contribution to the annual dose of a member of the public is less than the lower threshold for significance (<10 microsieverts per year or <1% of the legal dose limit) and is considered *de minimus* [R-43]. The representative person’s dose associated with Bruce Power operations in 2025, who is calculated to have the maximum, is the BSF3 Child who received 3.9 microsieverts per year (Table 1). All other representative persons have a lower dose. This maximum dose is a fraction of a percent of the legal dose limit of 1,000 microsieverts per year.

Table 1 – 2025 Maximum Representative Person's Dose

Maximum Representative Person	Committed Effective Dose	Percentage of Legal Limit
BSF3 Child	3.9 microsieverts per year	0.39%

The contribution of each radionuclide or radionuclide group to the 2025 radiological dose for the maximally exposed representative person is shown in Table 2 and Figure 1. Consistent with previous years, most of the radiological dose is from two radionuclides (carbon-14 = 84%, tritium oxide = 14%). Exposure pathways to these radionuclides are predominantly ingestion of local food sources, including fish, agricultural and animal products.

Table 2 – 2025 Radiological Dose by Contaminant for Representative Persons Group BSF3 Child

	Carbon-14	Cobalt-60	Cesium-134	Cesium-137	Tritium Oxide	Iodine, mixed fission products	Noble Gases	Total
Dose (microsieverts)	3.3	<0.1	<0.1	<0.1	0.5	<0.1	0.1	3.9
Percentage	85%	0%	0%	1%	13%	0%	1%	100%

Note:

1. BSF3 is Subsistence Farmer 3.
2. Tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce, and animal products.

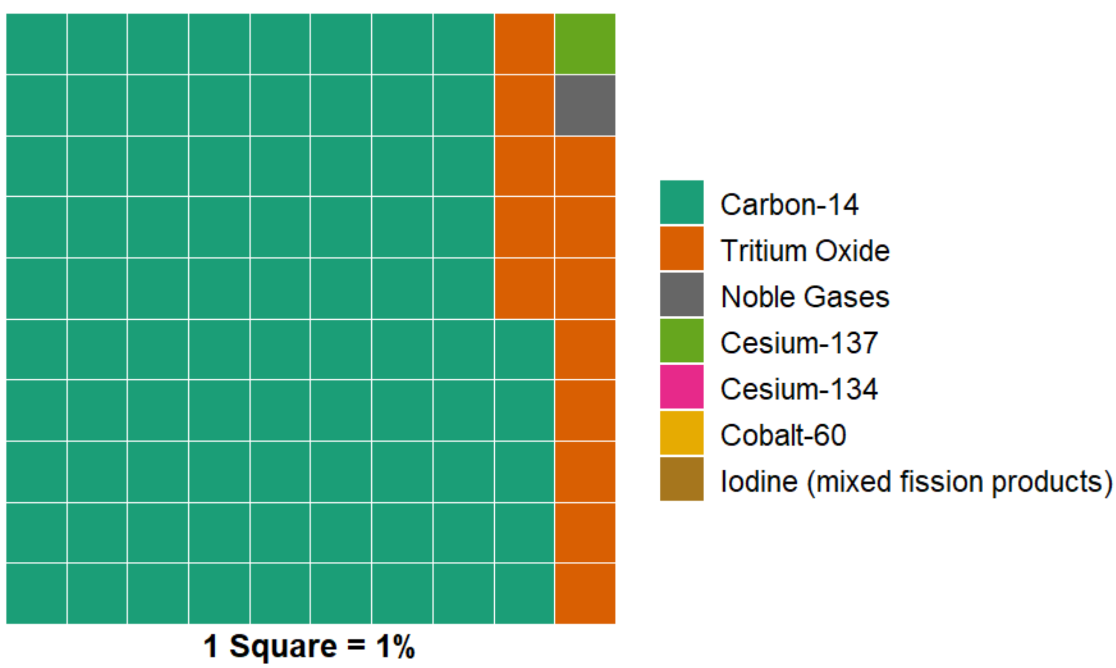


Figure 1 – 2025 Radiological Dose by Contaminant for Representative Persons Group BSF3 Child

3.1 Historical Dose to Public

The additional contribution to the annual radiation dose to members of the public from Bruce Power Site activities has been below the level of significance (less than 10 microsieverts per year) for 34 consecutive years. The annual maximum dose for the last ten years is shown in Figure 2. Although the annual value fluctuates based on operational or maintenance activities that occur, the outcome is only a small fraction of a percent of the legal limit of 1,000 microsieverts per year. Furthermore, these values are negligible compared to the annual dose experienced from natural radiation in Canada (1,800 microsieverts per year) [R-41]. The calculation of public dose demonstrates that the radiological releases from the Bruce Power Site have an extremely small impact on public dose.

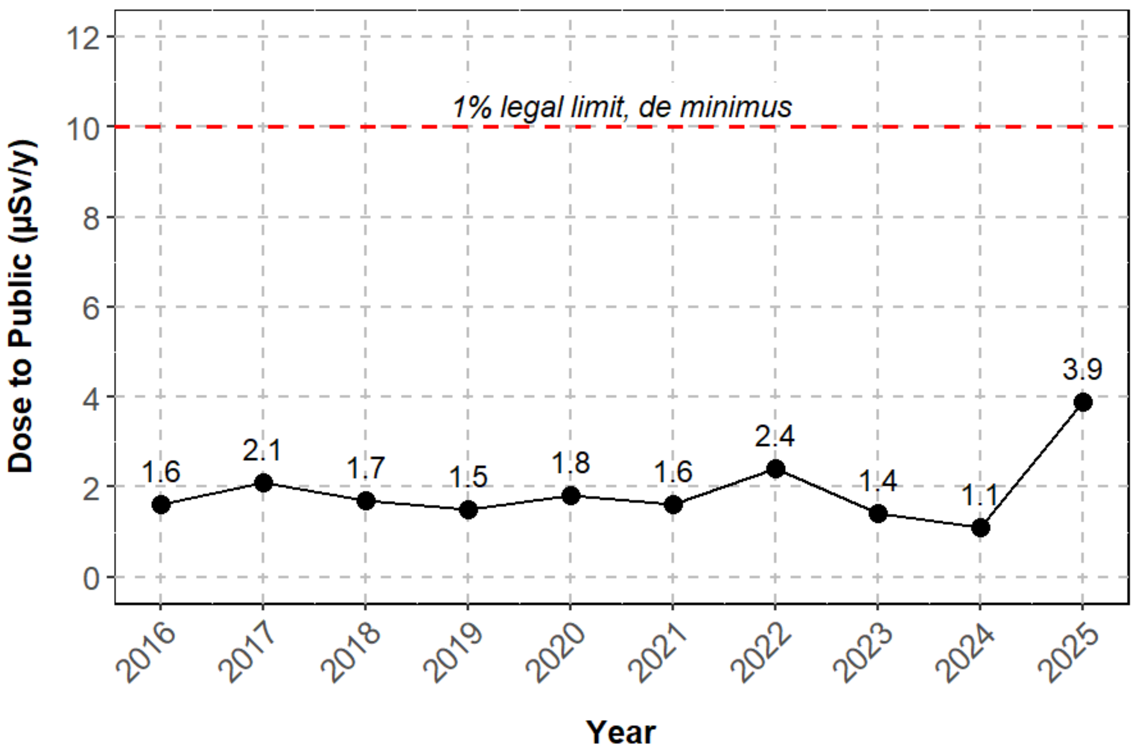


Figure 2 – Historical Dose to Public Over Time.
(The dose limit for members of the public is 1000 microsieverts per year; values below the red dashed line are considered negligible.)

3.2 2025 Dose to Public

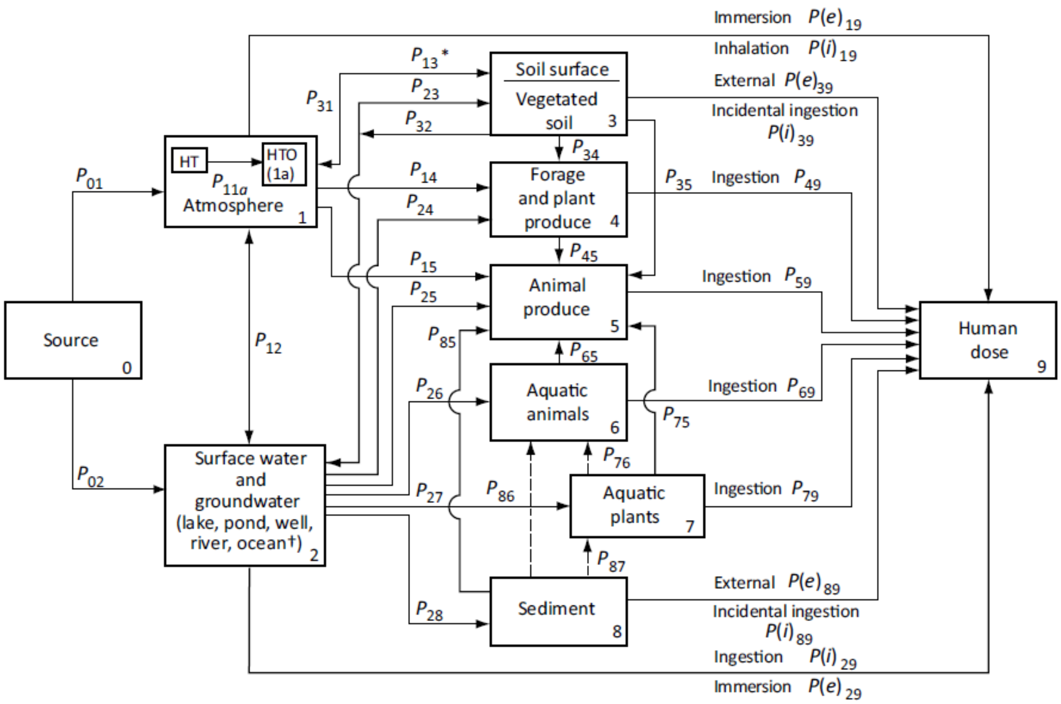
3.2.1 Methodology

Living near the Bruce Power Site results in an additional radiation dose to members of the public due to radiological releases to the environment as part of normal operation. The additional contribution to a person's overall dose is calculated each year and provided in this report.

The following information is required for calculating the public dose:

- Annual radiological airborne emission and waterborne effluent data from all licensed activities on or adjacent to the Bruce Power Site (Section 4.1)
- Annual Radiological Environmental Monitoring data (Section 5.1)
- Annual meteorological data (Section 3.2.2)
- Characteristics of the Representative Persons (Section 3.2.4)

The methodology used to calculate annual public dose from normal operations at CANDU nuclear power stations is described in CSA N288.1 [R-16]. A radionuclide transport and exposure pathways model is used which relies on an array of mathematical equations that describe the transfer of radioactive materials through the environment, as depicted in Figure 3 [R-16]. This pathways model may be likened to a food web that is specific to the local area and population. For example, one pathway could be of a radiological contaminant (e.g., tritiated water) released to the air that is deposited on a field and taken up by the plants. Dairy cattle may eat these plants, which may impact the cow's milk that is ingested by a child. These elaborate networks are set up in computer software called IMPACT, which is the acronym for Integrated Model for the Probabilistic Assessment of Contaminant Transport. IMPACT is a customizable tool that allows the user to assess the transport and fate of a contaminant through a user-specified environment. All of these exposure pathways are summed together in order to quantify the overall human exposure (i.e., dose). CSA N288.1 provides the transport and exposure factors for each step, as well as default values for human and site characteristics, which are refined for the local area based on the Site Specific Survey and annual meteorological data [R-16].



* *Includes transfer factors P_{13area}, P_{13mass}, and P_{13spw}.*
† *For ocean water, pathways P_{23}, P_{24}, P_{25}, and $P(i)_{29}$ are not used.*

Notes:

1) *The broken lines represent pathways that are not explicitly considered in the model or are considered only in special circumstances.*
2) *Factors include multiple transfers where appropriate.*

Figure 3 – Environmental Transfer Model (Extracted from Canadian Standards Association N288.1)

Measured concentrations of radionuclides in environmental media such as air, water and food are used in calculating dose. The data is verified, and the background is subtracted before being entered into the IMPACT model by a third party independent contractor. All data undergoes a quality assurance and quality control review prior to the dose calculation. For some radionuclide and media combinations, concentrations are below the limit of detection of the measuring equipment and thus may inhibit the ability to measure the desired radionuclide. In cases where monitoring data are not available for a particular exposure media, the available environmental monitoring data are used to calculate or define the missing radionuclide concentrations in the intermediate media as far along the exposure pathway (i.e., food chain) as possible. If no data is available for any media along a specified exposure pathway, transport modelling and emissions or effluent data are used to define the radionuclide concentrations in the exposure media.

The exposure pathways used in the model for each of the radionuclides that contribute significantly to dose, based on sample medium, are shown in Table 3. The dose contributions from each of these exposure pathways are summed to give a total overall dose for each of the representative persons and age groups (i.e., infant, child, and adult). These three age groups are used to refine exposure based on diet and lifestyle differences. The maximum result is taken as the "dose to public" for the year, with all others having a lower dose. As per the *Radiation Protection Regulations SOR/2000-203*, the public radiation dose limit for a year is 1000 microsieverts (100 millirem) [R-42].

Table 3 – Radionuclides Measured as Part of Radiological Environmental Monitoring

Radionuclide	Sample Medium	Exposure Pathway
Tritium oxide	Air	Inhalation (includes skin absorption)
Tritium oxide	Water (drinking water, surface water, well water, precipitation)	Ingestion
Tritium oxide	Plants (fruits, vegetables, grains)	Ingestion
Tritium oxide	Animals (meat, milk, honey)	Ingestion
Tritium oxide	Fish	Ingestion
Carbon-14	Air	Inhalation, External
Carbon-14	Plants (fruits, vegetables, grains)	Ingestion
Carbon-14	Animals (meat, milk, honey, eggs)	Ingestion
Carbon-14	Fish	Ingestion
Gamma	Air	Inhalation, External
Gamma	Water (surface water)	Ingestion
Gamma	Animals (meat, honey)	Ingestion
Gamma	Fish	Ingestion
Gamma	Sediment	External
Gamma	Soil	External
Gross Beta	Water (drinking water, surface water, well water, precipitation)	Ingestion
Iodine-131	Site emissions	Air inhalation, Air external Terrestrial animals (ingestion)
Iodine-131	Milk	Ingestion
Noble Gases	Air	Air External
Organic bound tritium	Fish	Ingestion

There are uncertainties inherent in radiological effluent and emissions monitoring, radiological environmental monitoring, and the dose estimates derived from them. The uncertainty of Bruce Power radiological releases has been estimated, and minimum uncertainties have been characterized as a percentage of weekly airborne emissions or per-batch or monthly waterborne effluents, as applicable. These estimates exclude analysis uncertainties which vary with each measurement. Uncertainty estimates vary for each stack and radionuclide but are generally about 5 to 25% for stacks that contribute most significantly to total airborne emissions. The uncertainty estimates for radiological liquid effluents range from about 5 to 50% for each active liquid waste batch release of tritium and gross gamma respectively, and around 5 to 15% for monthly releases of carbon-14 and gross alpha. Regardless of the uncertainty associated with radiological effluent and emissions reporting the annual totals are well below all licensed release limits (i.e., Derived Release Limits).

The uncertainties in radiological effluent and emissions reporting have a limited effect on uncertainties in the dose results. Data from the Radiological Environmental Monitoring Program is used wherever available to provide actual concentrations of radionuclides in environmental media, which reduces the dependence on effluent and emissions data and its associated uncertainty. This approach is in alignment with recommendations of CSA N288.4 to use measured versus modelled concentrations where possible to achieve more precise dose estimates [R-7]. The uncertainties associated with radiological environmental monitoring data are dependent on each specific analysis method and measurement result.

The overall uncertainties associated with public dose estimates have been characterized by a Conexus (previously CANDU Owners Group) study [R-44]. This study concluded that dose estimates based on environmental measures for important exposure pathways, such as Bruce Power’s annual dose calculation, tend to have uncertainties on the order of ± 30%. Adding this level of uncertainty to the limiting dose to public still results in an annual dose value that is below 1% of the legal dose limit and is negligible (*de minimus*).

3.2.1.1 2025 Dose Calculations

For 2025, the basic set-up of the IMPACT model, in terms of transfer parameters and environmental variables, is identical to that used in 2024, as well as in the most recent Environmental Risk Assessment and Derived Release Limit updates. The general physiological characteristics of the representative persons (e.g., inhalation rates, water ingestion rates, food intake rates) were the mean values taken from CSA N288.1 [R-16].

The fractions of ingested food that originate from local sources (e.g., backyard gardens or local farm markets) are based on the results of the most recent Site-Specific Survey (Section 3.2.3). The net percentage contribution of each specific food type (e.g., fruits or beef) to each major category of consumption (i.e., total plant product or animal product) is based on both the local fraction and the generic intake rates. The percentage of food intake from local sources and rates of intake used are provided in APPENDIX A.

The radiological emissions and effluents that were directly considered in the dose calculation process include tritium oxide, carbon-14, noble gases, and radio-iodines. For the purpose of public dose calculations, it is assumed that iodine emissions are in the form of mixed fission products, assumed to be present in a ratio associated with a state of secular equilibrium (i.e., other radionuclides from iodine-131 to iodine-135 are assumed to be present). The dose calculation process assumes that all iodine is iodine-131 for longer duration pathways (i.e., anything related to sediment or soil partitioning, or bio-uptake), but for shorter duration pathways (i.e., air inhalation or immersion, lake water immersion or ingestion) the full release is equivalent to iodine-mixed fission products. In modeling the environmental transport and partitioning of radio-iodines, there is assumed to be no isotopic discrimination, and that iodine-mixed fission products behave the same as iodine-131.

In 2018, it was decided *a priori* to assume that all reported beta/gamma emissions and effluents were cobalt-60, consistent with the approach applied in the Environmental Risk Assessment [R-8]. This assumption has been shown to be conservative, very likely over-stating the actual dose that could be associated with Bruce Power emissions and effluents. It should be noted that doses for cesium-134 and cesium-137 are still calculated where direct environmental measures of those radionuclides are available through the Radiological Environmental Monitoring Program. For alpha emitters, it has been determined in past analysis, including the most recent Environmental Risk Assessment, that alpha emitters are released at rates which lead to public doses that are negligible. For this reason, alpha emissions and effluents are not included in the dose calculation process.

Since 2018, when Radiological Environmental Monitoring data included values that were less than the associated detection limit or critical level, those values were taken as reported. For example, in the calculation of local or background averages where some measured values were reported as less than the critical level or the detection limit, the uncensored analytical results were used in the calculation. The implications of this approach to the reported doses are very minor, and typically conservative.

For 2025 dose calculations [R-45], the following conservative measures were taken to address unavailable data or measured values being lower than background:

- No milk sample data was available for locations BDF12, BDF13 and BDF14. The average results for the milk samples collected from the nearest dairy farm to these locations, that is closer to the sources of emissions (i.e., BDF15), were applied for these locations.
- For the new representative dairy farm location BDF18, there were no available milk samples. This location is significantly closer to the Bruce Power site than the other dairy farms, therefore instead of applying the average of samples at the nearest dairy farm location, the concentration of radionuclides in milk were modelled using measured and modelled air concentrations and IMPACTs environmental transport model.

- For deep residential wells, the activity level of tritium oxide in all samples collected in 2025 was reported to be less than the critical level. In this specific case, the critical level itself was assigned, with adjustment for background, as the representative value for tritium oxide in all deep residential wells. The public dose associated with tritium oxide in deep residential wells is in the order of 0.01 microsieverts per year or less.

- The activity level of carbon-14 in local samples of fish was frequently lower than the corresponding activity in background samples. To quantify the carbon-14 activity in this media, the environmental transport models in IMPACT were invoked and carbon-14 in fish were calculated based on effluent data. As this approach typically overestimates dose and carbon-14 levels strongly influence calculated doses, an additional sensitivity case was included to evaluate doses using measured carbon-14 concentrations in near-field fish samples. This sensitivity analysis was conducted to better understand the contribution of this exposure pathway and is discussed in Section 3.2.5.1.

- In the case of cobalt-60 in sediment, activity in all local samples was less than background and below the critical level. To avoid being overconservative, a value equivalent to the average critical level was used, instead of assigning a zero value and invoking the transport models.

- At the time of the 2025 public dose calculations, 2025 emissions and effluent data for the Douglas Point Waste Management Facility were unavailable; therefore, 2024 data were used. This substitution is expected to have a negligible impact on the 2025 dose results, as releases from this facility are minimal relative to Bruce A and Bruce B, and most of the calculated dose is based on environmental monitoring data that inherently reflects all emission and effluent sources.

3.2.2 Meteorological Data

Meteorological data are used to calculate doses to the public resulting from operations at the Bruce Power site. Specifically, processed meteorological data in the format of Triple Joint Frequencies are required as inputs to the IMPACT computer code. The approach used by Bruce Power meets the requirements described in Clause 6.1.4 of CSA N288.1 [R-16].

Bruce Power operates two meteorological towers: a 50-metre on-site tower and a 10-metre off-site tower, both installed in 1990 to provide representative measurements of local atmospheric conditions and to improve transport modelling of emissions inland. Between 2015 and 2020, instrumentation and data-logging issues resulted in gaps in data retention. To be suitable for the calculation of Triple Joint Frequencies, annual meteorological datasets must be at least 90% complete, in accordance with Clause 4.3.2.6 of CSA N288.2 [R-46].

Both meteorological towers were upgraded in 2020 to improve data availability and equipment was replaced with battery back-up and upgraded dataloggers and software. Since these upgrades, meteorological data has been collecting consistently, resolving the data availability issues experienced prior to 2020.

As part of the upgrade project, the preventive maintenance program for the new instrumentation – including calibration requirements – was not fully implemented. The manufacturer recommends calibration of the wind monitors every three to four years; however, calibration was not completed until August 2025, exceeding the recommended interval. Subsequent calibration checks identified that the wind direction measurements in several wind sectors were outside of specifications and did not meet the accuracy criteria defined in CSA N288.2:19 [R-46]. While the impact of these deviations on public dose calculations is negligible because dose assessments rely primarily on environmental monitoring data, it was determined that the affected meteorological data should not be used for dispersion modelling. CSA N288.1:20 recommends that the most recent three to five years of data and that site-specific data be used where available [R-16]. Accordingly, the three-year average dataset from 2021 to 2023 was used to calculate the Triple Joint Frequencies applied in the 2025 public dose calculations.

The Triple Joint Frequencies calculated from the 2021-2023 results for the 10-metre elevation at the 50-metre tower is provided in APPENDIX B.

Although the 2025 meteorological data were not used for dose calculations, the data were reviewed for completeness in accordance with applicable requirements [R-47]. Availability results for both meteorological towers in 2025 are summarized in Table 4. A short gap occurred between December 27 and December 29, 2025, due to freezing rain and adverse weather conditions. In addition, some datasets with zero wind speed were identified during screening. While these data represent valid calm conditions, they cannot be used in air dispersion modelling and were therefore conservatively treated as missing data, consistent with Clause B.2.5 of CSA N288.2:19 [R-46].

Table 4 – Summary of Data Availability for 2025

Data Source	Available Records	Total Records Planned	Record Availability (%)
10-metre Tower	8718	8760	99.5
50-metre Tower	8340	8760	95.2

The data availability in the 2025 raw meteorological data met the 90% data availability requirement.

3.2.3 Site Survey

The Site Specific Survey Report includes a collection of information on the local population and the environment surrounding Bruce Power. The report is used to support a number of site programs, such as the Radiological Emissions and Effluent Monitoring Program and calculation of Derived Release Limits, the Radiological Environmental Monitoring Program and calculation of dose to public and human risk, Emergency Preparedness, Safety Reports and licence renewal. The Site Specific Survey is typically updated every five years to reflect recent changes to the area surrounding the Bruce Power site.

The survey report includes meteorology, land usage, population distribution, water usage, agriculture, recreational activities and food sources in the area. In addition, information on daycare centres, before and after school programs, long term care homes, school boards, and recreational parks located within 20 kilometres of the Bruce Power site are documented. The diet and lifestyle data collected is used to identify groups of people with similar characteristics to develop or refine the “representative persons” (see Section 3.2.4). These unique groups are used for dose to public calculations and derived release limits in accordance with CSA N288.1 [R-16].

The Site Specific Survey Report was updated in 2025 and included a Local Population Survey of residents within 10 kilometres of the Bruce Power site. Conducted in July through September, the survey collected information on outdoor activities, food and water sources, dietary habits, and recreational uses of local areas. The results were used to refine representative person characteristics for the Bruce Power site, ensuring that assessments reflect local population conditions.

The 2025 survey results were generally consistent with previous findings, with minor changes to local food fractions. Local milk consumption for farm residents doubled, while egg consumption decreased slightly for both farm and non-farm residents. Most local food fractions for dairy farm residents and outdoor time for all residents increased compared to the 2016 survey. Based on the results, two additional households were added to the Bruce area representative person list (Section 3.2.4).

3.2.4 Representative Persons

Doses received by individual members of the public as a result of a given radionuclide release vary depending on factors such as proximity to the release, dietary and behavioral habits, age and metabolism, and variations in the environment [R-16]. A homogenous group of individuals with the same exposure factors may be grouped together, where the individual that receives the highest dose within that group is considered the representative person of that group. Each representative person is broken down into three age classes (i.e., infant, child, adult) in order to account for different diets, breathing rates and dose coefficients.

The Site Specific Survey Report provides the information needed to refine the standard human characteristics specified in CSA N288.1 [R-16] to include local environmental and lifestyle information. This includes details like where people live in relation to Bruce Power, where a person's drinking water comes from, how much local food a person consumes and how much time is spent outdoors.

The following categories of representative persons have been identified based on distinct lifestyle and proximity to the Site:

- **Non-farm resident** – The non-farm resident is considered the typical, full-time resident in the area surrounding the Site. They get a large portion of their food from grocery stores.
- **Farm resident** – The farm resident is more likely to consume their own crop or livestock but still use grocery stores for a portion of their food intake.
- **Subsistence farm resident** – The subsistence farm resident gets a larger portion of their food, milk and water from local sources, and over half of their diet is self-produced.
- **Dairy farm resident** – The dairy farm resident is assumed to consume some fresh milk from their own farm and a slightly higher fraction of locally grown produce and livestock.
- **Bruce Eco Industrial Park worker** – For consistency with previous studies, the Bruce Eco Industrial Park worker is referred to as a Bruce Energy Centre worker, which corresponds to the former name of the facility. The assessment for a Bruce Energy Centre worker represents occupational exposures at a location near the facility. It is assumed that the Bruce Energy Centre worker does not also live at one of the other selected receptor locations, i.e., the Bruce Energy Centre worker dose is independent of the other representative person doses.
- **Hunter/Fisher** – The hunter/fisher resident represents individuals who may catch and consume wild game and fish in significantly greater quantities than other residents. They are assumed to obtain all of their fish and wild game from local sources and consume greater quantities of these foods than the average Canadian diet. For other food categories, some is sourced locally while the remainder is from grocery stores. The characteristics of this resident have been developed based on surveys of the Saugeen Ojibway Nation, Historic Saugeen Métis, and the Métis Nation of Ontario (Region 7) undertaken from 2019 to 2021.

Based on the outcomes of the 2026 Site Specific Survey (Section 3.2.3), two new representative persons were added, and one representative person was relocated and renamed.

- BDF18 represents a new location that indicated that they produced dairy during the 2025 Local Population Survey. This location was previously considered as a farm (non-dairy) location. The residence is located in a wind sector that was not bounded by the other BDF representative persons.

- BF26 is a new farm location producing meat rabbits, a variety of livestock not captured by other representative persons.

- BDF1 has moved locations since the previous Site Specific Survey report; the new location is listed as BDF17.

There are a total of 21 representative persons for the Bruce Site, each comprised of an adult (16 to 70 years old), child (6 to 15 years old), and infant (0 to 5 years old) [R-16], except for the Bruce Eco Industrial park worker, who is assumed to be an adult. All representative persons were chosen based on proximity to the Site (i.e., all locations are within 15 kilometres of the Site), with the exception of the hunter/fisher resident, who is located approximately 20 kilometres north of the site. A description of the representative persons by group name is provided in Table 5 and the locations are shown on Figure 4.

Table 5 – Description of Representative Persons

Group Name	General Characteristics and Location of Group
BR1	Non-farm resident, lakeshore at Scott Point (Located to the northeast of Bruce A at a distance of approximately 2 kilometres and northeast of Bruce B at a distance of approximately 5 kilometres)
BR17	Non-farm resident, inland (Located to the southeast of Bruce A at a distance of approximately 4 kilometres and east of Bruce B at a distance of approximately 5 kilometres)
BR25	Non-farm resident, inland (Located to the south of Bruce A at a distance of approximately 5 kilometres and to the southeast of Bruce B at a distance of approximately 4 kilometres)
BR27	Non-farm resident, inland, trailer park (Located to the south of Bruce A at a distance of approximately 5 kilometres and to the southeast of Bruce B at a distance of approximately 3 kilometres)
BR32	Non-farm resident, lakeshore (Located to the south of Bruce A in Inverhuron at a distance of approximately 6 kilometres and to the south of Bruce B in Inverhuron at a distance of approximately 3 kilometres)
BR48	Non-farm resident, inland (Located to the southeast of Bruce A near Baie du Doré at a distance of approximately 2 kilometres and to the east of Bruce B near Baie du Doré at a distance of approximately 3 kilometres)
BF8	Agricultural, farm resident (Located to the south of Bruce A at a distance of approximately 8 kilometres and to the southeast of Bruce B at a distance of approximately 7 kilometres)

Group Name	General Characteristics and Location of Group
BF14	Agricultural, farm resident (Located to the south of Bruce A at a distance of approximately 5 kilometres and to the southeast of Bruce B at a distance of approximately 3 kilometres)
BF16	Agricultural, farm resident (Located to the southeast of Bruce A at a distance of approximately 7 kilometres and to the east of Bruce B at a distance of approximately 8 kilometres)
BF26	Agricultural, farm resident (Located to the south of Bruce A at a distance of approximately 8 kilometres and to the southeast of Bruce B at a distance of approximately 7 kilometres)
BSF2	Agricultural, subsistence farm resident (Located to the southeast of Bruce A at a distance of approximately 9 kilometres and to the southeast of Bruce B at a distance of approximately 9 kilometres)
BSF3	Agricultural, subsistence farm resident (Located to the southeast of Bruce A at a distance of approximately 8 kilometres and to the southeast of Bruce B at a distance of approximately 8 kilometres)
BHF1	Generic hunter/fisher resident (Located approximately 20 kilometres north of the Site in Southampton)
BDF9	Agricultural, dairy farm resident (Located to the southeast of Bruce A at a distance of approximately 13 kilometres and to the southeast of Bruce B at a distance of approximately 12 kilometres)
BDF12	Agricultural, dairy farm resident (Located to the east of Bruce A at a distance of approximately 13 kilometres and to the northeast of Bruce B at a distance of approximately 15 kilometres)
BDF13	Agricultural, dairy farm resident (Located to the southeast of Bruce A at a distance of approximately 13 kilometres and to the southeast of Bruce B at a distance of approximately 12 kilometres)
BDF14	Agricultural, dairy farm resident (Located to the southeast of Bruce A at a distance of approximately 14 kilometres and to the southeast of Bruce B at a distance of approximately 13 kilometres)
BDF15	Agricultural, dairy farm resident (Located to the southeast of Bruce A at a distance of approximately 13 kilometres and to the southeast of Bruce B at a distance of approximately 12 kilometres)
BDF17	Agricultural, dairy farm resident (Located to the northeast of Bruce A at a distance of approximately 13 kilometres and to the northeast of Bruce B at a distance of approximately 16 kilometres)
BDF18	Agricultural, dairy farm resident (Located to the east of Bruce A at a distance of approximately 4 kilometres and to the northeast of Bruce B at a distance of approximately 7 kilometres)
BEC	Worker in Bruce Energy Centre (Located to the southeast of Bruce A at a distance of approximately 4 kilometres and to the east of Bruce B at a distance of approximately 4 kilometres)

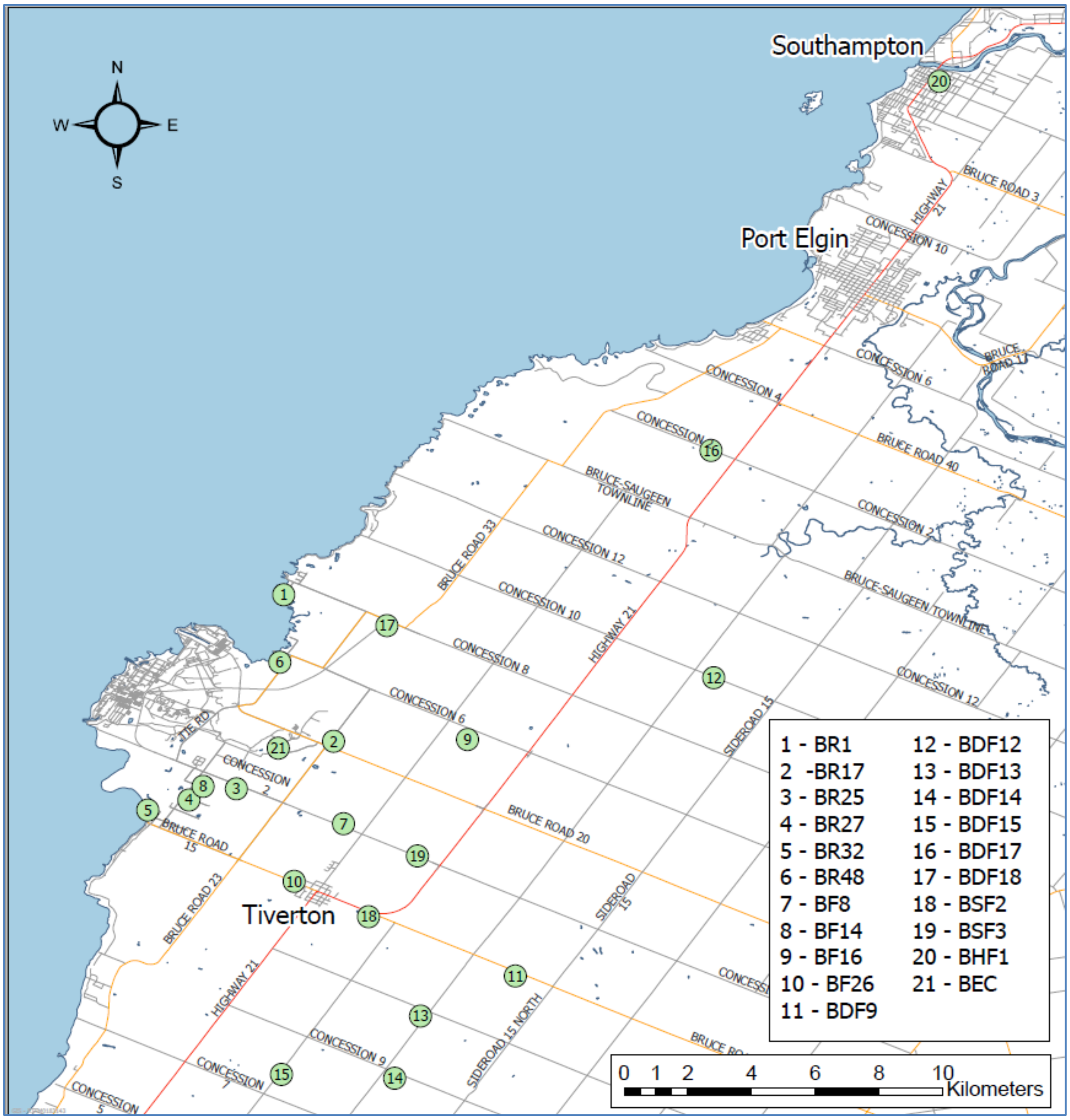


Figure 4 – Representative Person Locations

3.2.5 Dose Results and Interpretation

In 2025, the highest amount of radiation received by any member of the public was for a child in the ‘subsistence farmer’ category (a representative person group that relies heavily on locally grown food and water). The estimated exposure for this child was 3.9 microsieverts per year [R-45]. To put this in context, the public safety limit is 1,000 microsieverts per year, so this amount is far below what is considered harmful [R-42].

Although the 2025 value is more than three times higher than the amount estimated for the same group in 2024, the overall level is still very low and well within safety limits. This group usually has the highest estimated exposure because they eat and drink more food and water that comes from the local area.

In 2025, all ages of subsistence farmer representative person groups had estimated doses between 2.9 and 3.9 microsieverts per year, with an average of about 3.5 microsieverts per year. On average, this was about twice as high as the exposure estimated for all other groups combined, whose average was 1.8 microsieverts per year.

For other groups:

- People living on or near farms or dairy farms had estimated doses ranging from 1.1 to 3.8 microsieverts per year.
- People living in the area but not involved in farming had doses between 1.1 and 2.5 microsieverts per year.
- People who hunt or fish locally had the lowest exposure, between 0.4 and 0.6 microsieverts per year.

With the exception of people at the Bruce Energy Centre, the hunter-fisher group was the only group with estimated doses below 1 microsievert per year.

When looking at all 21 representative person groups together, the average exposure in 2025 was 1.9 microsieverts per year, which is still very low. Annual doses calculated for 2025 for all representative groups and age classes are provided in APPENDIX C [R-45].

Most of the radiation exposure for subsistence farmers (about 90–95%) comes from eating local food, including locally caught fish. This is because this group depends more heavily on food from the surrounding area. Food also makes up a large share of exposure for other farming groups, including 78% for farm residents and 86% for dairy farm residents. For people who do not live on farms, food accounts for about two-thirds of their total exposure. Overall, when all groups are combined, food consumption accounted for about 79% of total exposure in 2025, compared with 52% in 2024.

Other than eating locally grown food, the only other meaningful source of radiation exposure comes from breathing air that contains small amounts of radioactive material. This includes both inhaling the air and being surrounded by it outdoors. For people who live on farms (farmers, dairy farmers, and subsistence farmers), exposure from the air makes up about 14% of their total radiation dose. For people living in residential areas who are not farming, air-related exposure is higher, making up about 29% of their total dose. When looking at all representative person groups together, exposure related to releases into the air, which includes eating locally grown food, accounts for about 58% of the total public dose in 2025. This is much lower than in 2024, when air-related exposure accounted for over 90% of the total dose.

For the individual who received the highest estimated dose in 2025 (a child in a subsistence farmer category), almost all of the radiation exposure came from two types of radioactive materials:

- Carbon-14, which contributed about 85% of the total dose
- Tritium, mainly in the form found in water, which contributed about 13%

Together, carbon-14 and tritium account for about 92% of the total radiation dose when averaging across all 21 representative groups. This pattern is not unusual and has been seen consistently over the past 20 years.

Other radioactive materials, such as noble gases, contribute only a small amount. Noble gases are the only other group that regularly contributes more than 1% of total exposure. All remaining radionuclides combined make up only about 8% of the total public dose on average.

From 2024 to 2025, all representative persons experienced an increase in total dose, with an overall average increase of about 160%. The increase in public doses is associated almost entirely with increases in dose from carbon-14, which were associated with atypical levels of carbon-14 released to the environment in 2025 (see Section 4.1 for more information).

Across all groups, the dose contribution of carbon-14 has increased from 30% to 65% of total dose. For the most exposed group (subsistence farmers), carbon-14 increased from about 50% to 85%. The dose from eating locally caught fish also increased significantly, rising from about 5% to over 30% of total dose on average, and to over 45% for subsistence farmers. Almost all of the fish related dose (over 99%) was due to carbon-14.

However, measurements of carbon-14 in local fish in 2025 were actually lower than provincial background, indicating a near-zero presence of carbon-14 associated with Bruce Power waterborne effluents. Because of this, the environmental transport models were used to conservatively calculate carbon-14 in local fish on the basis of measured facility effluents. These modeled values are about 10 times higher than what was measured, and likely over-estimating public doses by more than 1 microsievert per year. A sensitivity analysis was completed using measured carbon-14 in near field fish to demonstrate this conservatism in Section 3.2.5.1.

Overall, despite the influence of atypical carbon-14 releases in 2025, the calculation of public dose demonstrates that the radiological emissions and effluents from Bruce Power facilities have an extremely small public dose impact. The maximum public dose associated with Bruce Power operations in 2025 (i.e., 3.9 microsieverts per year for the subsistence farmer BSF3 child) is still only a fraction of a percent of the legal limit (i.e., 1,000 microsieverts per year) [R-42] and of the average Canadian background dose (i.e., 1,800 microsieverts per year) [R-41]. It is also well below the *de minimus* threshold of 10 microsieverts per year and is considered negligible [R-43].

3.2.5.1 Special Sensitivity Case – Dose using Measured Carbon-14 in Fish for 2025

In 2025, carbon-14 concentrations measured in local fish were lower than provincial background levels. In such cases, the dose assessment defaults to using modelled fish concentrations derived from facility effluent data rather than measured values. As noted in Section 3.2.5, this approach is conservative and tends to overestimate dose.

To better understand the impact of using measured versus modelled carbon-14 concentrations in fish, an additional dose calculation was performed assuming the 2025 fish samples were representative of local conditions. The carbon-14 concentration was set to 228 becquerel carbon-14 per kilogram of carbon, corresponding to the average concentration measured in near-field fish samples in 2025, with no background subtraction. All other model parameters were unchanged, and the environmental transport model was rerun. The results for key receptors (BSF3, BHF1, and BDF18) from this sensitivity case are included in APPENDIX C.

Using measured fish concentrations resulted in an approximate 50% reduction in the average dose, decreasing from 1.9 to 1.3 microsieverts per year. The contribution from fish consumption also decreased substantially, from about 40% to approximately 5% of the total dose on average, consistent with trends observed in previous years. Under this scenario, the total dose to the subsistence farmer BSF3 child was calculated to be 2.3 microsieverts per year, representing a 73% reduction compared to the dose derived using the modelled fish concentration approach (3.9 microsieverts per year).

Overall, this sensitivity analysis demonstrates that when measured carbon-14 concentrations in fish are representative of local conditions, the use of modelled values is conservative and can substantially overestimate both total dose and the contribution from fish consumption, while still confirming that doses to members of the public remain very low.

4.0 EMISSIONS AND EFFLUENT MONITORING

Bruce Power's emissions and effluent monitoring programs are a core component of the Environmental Protection Program and are designed to verify that releases from site operations are effectively controlled and protective of human health and the environment. These programs provide systematic, ongoing oversight of radiological and conventional contaminants released to air, water, and land, and confirm that all discharges remain well within regulatory limits.

Emissions and effluent monitoring is conducted in accordance with applicable regulatory requirements, including Canadian Nuclear Safety Commission (CNSC) licence conditions, CSA N288 standards, and provincial Environmental Compliance Approvals. Monitoring results are used to demonstrate compliance, support environmental risk assessments and dose calculations, identify emerging trends, and drive continuous improvement in pollution prevention and environmental performance.

The results presented in this section demonstrate that emissions and effluents from Bruce Power operations in 2025 were effectively managed, remained well below applicable limits, and had minimal impact on the surrounding environment.

The key goal of the emissions and effluent monitoring program is to:

- Ensure that physical stressors and radiological and conventional contaminants released through controlled pathways or spills do not cause undue risk to living organisms.

This is achieved by fulfilling key program objectives:

- Demonstrate compliance with limits on the concentration/activity of radiological and hazardous contaminants and intensity of physical stressors in the environment and/or their effect on the environment;
- Provide data to verify predictions, refine models, and/or reduce uncertainty in predictions as required for the Environmental Risk Assessment [R-8], and incorporate any recommendations into the program design; and,
- Maintain transparency and trust and demonstrate due diligence and meet stakeholder commitment.

4.1 Radiological Emissions and Effluent Monitoring Programs

Bruce Power monitors its radiological airborne emissions and waterborne effluent to ensure that releases are occurring within acceptable limits and remain as low as reasonably achievable taking social and economic factors into consideration. Radiological emissions and effluent monitoring data are reported to the CNSC quarterly and are compared to internal administrative levels in addition to reportable regulatory levels and limits. If abnormal conditions are identified, investigations are undertaken, and appropriate corrective actions are applied.

Radiological emissions and effluent monitoring results feed into the larger Environmental Protection framework to ensure the public and the environment are protected at all times. Data from the radiological emissions and effluent monitoring program are utilized in conjunction with Radiological Environmental Monitoring measurements to support radiation dose assessments and complete a comprehensive Environmental Risk Assessment in accordance with CSA N288.6 [R-18].

As demonstrated throughout this report, the 2025 radiological emissions and effluent monitoring program is effective as the program continued to meet the program objectives defined in CSA standard N288.5, Effluent monitoring programs at Class I nuclear facilities and uranium mines and mills, by:

a) demonstrating compliance with authorized release limits (Derived Release Limits) and other regulatory requirements;

b) demonstrating adherence to internal objectives and targets set on release amounts, for the purposes of emissions and effluent control;

c) confirming the adequacy of controls on releases from the source;

d) providing an indication of unusual or unforeseen conditions that might require corrective action or additional monitoring;

e) providing data to assess the level of risk on human health and safety, and the potential biological effects in the environment of the nuclear substances released from the facility; and,

f) providing data which, when combined with the results of environmental monitoring, can be used to test, verify or refine models used in Environmental Risk Assessments and dose assessments, and incorporate recommendations into program design [R-17].

Radionuclides in airborne emissions and waterborne effluents are monitored, as applicable, at Bruce Power facilities including Bruce A, Bruce B, Central Maintenance Facility, and the Central Storage Facility. Other facilities located on or near site that monitor for airborne and waterborne radionuclides, as applicable, include Canadian Nuclear Laboratories, Ontario Power Generation’s Western Waste Management Facility, Kinectrics’ Ontario Nuclear Services Facility, and Laurentis’ Western Clean-Energy Sorting and Recycling Facility. Descriptions of the radiological emissions and effluent programs for these facilities can be found in Section 2.0. Figure 5 below provides a map of radiological emissions and effluent monitoring locations.

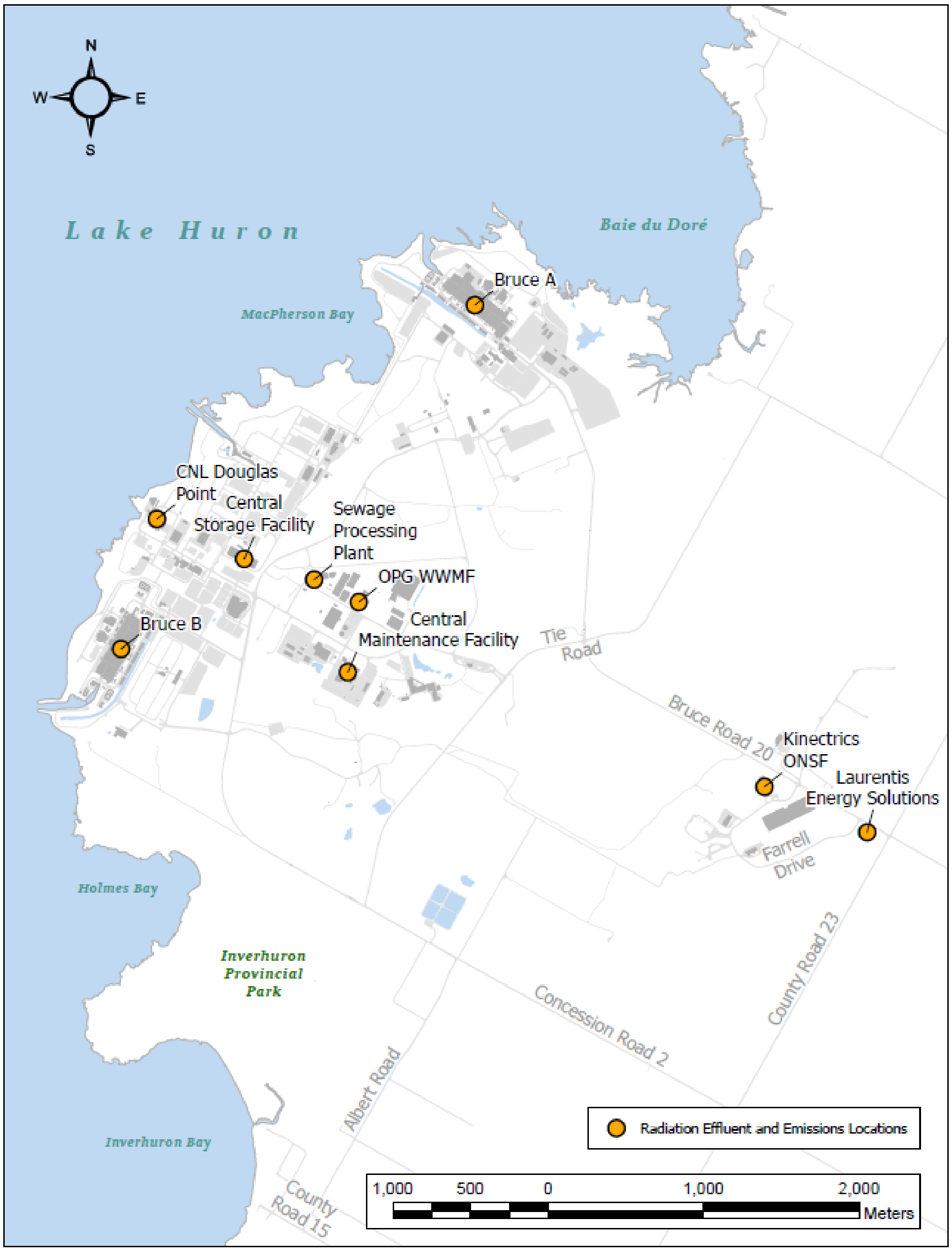


Figure 5 – Radiological Emissions and Effluent Monitoring Locations

4.1.1 Bruce Power Facilities (Bruce A, Bruce B, Central Maintenance Facility, Central Storage Facility)

Radiological emissions and effluents from Bruce A, Bruce B, the Central Maintenance Facility, and the Central Storage Facility are monitored under Bruce Power's Radiological Emissions and Effluent Monitoring program framework established in accordance with CSA N288.5. The program defines the framework for control of radioactive airborne and waterborne releases, including risk-informed monitoring, analysis and quality assurance requirements. Airborne radiological emissions are monitored from applicable stacks within each facility for tritium oxide, carbon-14, radioiodine (^{131}I), noble gasses, gross beta/gamma, and gross alpha. Waterborne radiological effluents are monitored at applicable release points for tritium oxide, carbon-14, gross beta/gamma and gross alpha.

All airborne emissions and waterborne effluents at Bruce Power remain well below the Derived Release Limits, which are regulatory limits developed using CSA standard N288.1 [R-48], and based on a public dose limit of 1 millisievert per year as mandated by the CNSC (*Radiation Protection Regulations*, SOR/2000-203) [R-49]. Bruce Power operates well below Derived Release Limits to ensure that members of the public and the environment are protected. Environmental Action Levels, developed in accordance with CSA standard N288.8, are established at Bruce Power and are used as a precautionary measure to provide early warning of any actual or potential loss(es) of control of the Environmental Protection Program [R-50]. These levels are not an indication of risk to the public or environment as they represent a very small fraction of the Derived Release Limit (typically less than 1% of the Derived Release Limit) with annual dose to public remaining low (*de minimus)*. Bruce Power controls radiological emissions and effluent as low as reasonably achievable by taking action to investigate causes of elevated emissions and effluents and initiating mitigating actions, when necessary.

4.1.2 Airborne Radiological Emissions

4.1.2.1 2025 Radiological Airborne Emission Results

Controlled airborne radiological releases occur throughout normal operations and outage maintenance activities. These emissions are primarily discharged through monitored exhaust stacks and are consistently maintained well below applicable regulatory limits, including Derived Release Limits. Airborne radiological emissions originate principally from reactor systems such as the main moderator and heat transport systems, as well as associated auxiliary systems.

Emission levels may vary during both planned and unplanned activities; however, comprehensive monitoring systems are in place to continuously capture and assess this variability. Planned activities that can result in temporary increases in airborne emissions include the controlled removal of defect fuel bundles from the reactor core, moderator cover gas purges conducted to maintain chemistry parameters within specification, and scheduled outage activities involving maintenance on reactor systems to support equipment reliability and continued safe operation.

Less frequently, elevated emissions may be associated with equipment-related issues, such as exhaust stack filter bypass conditions, resin exhaustion in ion-exchange purification systems, or boiler tube leaks that can result in increased releases through feedwater venting. These conditions are monitored, investigated, and addressed through established corrective action processes.

Bruce Power has several engineered barriers in place to minimize the release of radionuclides to the environment and keep releases as low as reasonably achievable. These barriers include high efficiency particulate air filters and high efficiency carbon air filters to remove airborne particulates and radioiodine. Testing of Bruce Power's stack filters is conducted annually by a third-party vendor to assess and assure their removal efficiency. Additional barriers include moderator and heat transport purification systems designed to remove radionuclides, and moderator confinement and vault vapour recovery systems which reduce airborne tritium releases. Together, these engineered barriers along with systematic monitoring and investigation of emissions above normal operating levels, ensure Bruce Power maintains emissions at levels that are as low as reasonably achievable. At all times, Bruce Power operations are designed to minimize emissions below internal administrative levels and Environmental Action Levels (CNSC reportable levels), which ensure emissions remain well below regulatory Derived Release Limits.

The 2025 radiological airborne emission results for all licensed facilities located on or near site are shown in Table 6 [R-51]–[R-54]. This includes annual results of tritium, noble gases, radioiodine (^{131}I), carbon-14, particulate alpha, and particulate beta/gamma. Bruce Power provides emission results to the CNSC in quarterly reports in accordance with the Power Reactor Operating Licence. Bruce Power's radiological airborne emissions at Bruce A, Bruce B, the Central Maintenance Facility and the Central Storage Facility continue to remain well below regulatory limits (Derived Release Limits) as shown in Table 7 which displays Bruce Power's annual emissions as a percentage of the Derived Release Limit.

In 2025, the Unit 2 contaminated exhaust pathway experienced airborne carbon-14 emissions above the reportable Environmental Action Level during the week ending July 23, 2025. The elevated emissions were associated with activities following the Major Component Replacement (MCR) chemical decontamination. Chemical decontamination is a planned activity that requires the use of ion-exchange resins, along with the management of spent resin and dewatering of the spent resin storage tank at Bruce A to accommodate spent resin transfers. The elevated emissions were caused by an inadvertent exposure of the spent ion-exchange resins to air for several days due to a faulty water-level indicator. This fault resulted in the tank water level unintentionally dropping below the surface of the resins, which normally provides a shielding function. Exposure of the resins to air allowed a portion of carbon-14 to vent from the spent resin dewatering tank to the Unit 2 contaminated exhaust stack. Once the condition was identified, immediate corrective actions were taken to restore adequate water coverage of the resins, and carbon-14 emissions subsequently returned to normal levels. Carbon-14 emissions were 25 Curies over the course of the week, representing 402% of the Environmental Action Level (6.22 Ci/week). Reaching this Environmental Action Level was reported to the CNSC; however, it is important to note that this carbon-14 emission was not indicative of risk to the public or the environment as it remained a small percentage (2.14%) of Bruce Power's weekly Derived Release Limit and dose to public remained *de minimus.*

Table 6 – Annual Radiological Airborne Emissions for 2025

Facility & Radionuclide/ Radionuclide Group	Bruce A	Bruce B	Central Maintenance Facility	Central Storage Facility	Ontario Power Generation Western Waste Management Facility	Canadian Nuclear Laboratories Douglas Point Waste Facility	Kinectrics' Ontario Nuclear Services Facility	Laurentis EnergySolutions Western Clean-Energy Sorting and Recycling Facility	Total
Tritium Oxide (becquerels per year)	5.3E+14	3.7E+14	3.1E+09	2.5E+11	4.8E+12	9.8E+09	1.49E+11	<1E+12	9.1E+14
Noble Gas (becquerel-megaelectronvolts per year)	4.6E+13	2.4E+13	N/A	N/A	N/A	N/A	N/A	N/A	7.1E+13
Iodine-131 (becquerels per year)	6.7E+05	0.0E+00	0.0E+00	N/A	2.9E+04	N/A	N/A	N/A	6.7E+05
Particulate Gross Beta/ Gamma (becquerels per year)	1.9E+06	5.3E+06	0.0E+00	0.0E+00	0.0E+00	2.6E+03	N/A	N/A	7.2E+06
Particulate Gross Alpha (becquerels per year)	4.6E+04	6.0E+04	4.1E+02	N/A	N/A	N/A	N/A	N/A	1.1E+05
Carbon-14 (becquerels per year)	3.0E+12	7.8E+11	N/A	N/A	1.3E+10	N/A	N/A	N/A	3.8E+12

Note:

1. Beta/Gamma Results: Bruce A, Bruce B, and the Canadian Nuclear Laboratories Douglas Point Waste Facility perform beta analysis, and the Central Maintenance Facility, Central Storage Facility, and Ontario Power Generation Western Waste Management Facility utilize gamma scan results. Naturally occurring radionuclide material detected in the gamma scan analysis is not included in the summation of releases and are not reported.
2. Airborne radiological emissions from Bruce Power facilities are monitored continuously via stack monitoring systems with weekly analysis performed.

Table 7 – Annual Radiological Airborne Emissions for 2025 as a Percentage of the Derived Release Limit

Facility & Radionuclide/ Radionuclide Group	Bruce A	Bruce B	Central Maintenance Facility	Central Storage Facility
Tritium Oxide (% Derived Release Limit)	1.6E-01	4.7E-02	1.0E-06	5.8E-05
Noble Gas (% Derived Release Limit)	3.0E-02	6.5E-03	N/A	N/A
Iodine-131 (% Derived Release Limit)	1.9E-05	0.0E+00	0.0E+00	N/A
Particulate Gross Beta/ Gamma (% Derived Release Limit)	2.9E-04	3.9E-04	0.0E+00	0.0E+00
Particulate Gross Alpha (% Derived Release Limit)	1.8E-05	8.5E-06	1.2E-07	0.0E+00
Carbon-14 (% Derived Release Limit)	1.3E-01	1.9E-02	N/A	N/A

4.1.2.2 Air Emission Monitoring of Radioisotope Lutetium-177 Production

In January 2022, Bruce Power began production of lutetium-177, a medical isotope used in targeted radionuclide therapy to treat neuroendocrine tumours and prostate cancer. The lutetium-177 produced at Bruce B is used in cancer treatments around the world to precisely target malignant cancer cells without damaging surrounding healthy tissues.

Commissioning of the isotope production system in Unit 7 began in January 2022 and became operational on October 24, 2022. Although no changes to radiological emission levels were expected from this isotope production system, monitoring of lutetium-177, ytterbium-175 and ytterbium-177 has occurred at Bruce B since commissioning. Due to the short half-life of the decay products associated with the production of lutetium-177, particles will either quickly decay to negligible activity or be filtered out by high efficiency particulate air filters prior to release resulting in negligible emissions. Although it is expected to have a negligible impact on emissions, any measurable radiological emissions produced from the lutetium-177 isotope production system would be detected by the existing stack monitoring systems already in place and reported to the CNSC via routine quarterly reporting. No waterborne effluent is produced from the lutetium-177 isotope production system.

To date, no measurable airborne emissions from the production of lutetium-177 have been identified.

4.1.2.3 Historical Radiological Airborne Emission Results

Figure 6 through Figure 15 below provides an overview of the five and ten-year historical trends of annual airborne radiological emissions at Bruce A, Bruce B, the Central Maintenance Facility and the Central Storage Facility. Ten-year historical trends have been developed for Bruce A and Bruce B tritium and carbon-14 emissions as these radionuclides are the principal radionuclides contributing to dose to public (see Section 3.0) with five-year historical trends developed for the remaining radionuclide(s)/radionuclide groups. Additionally, to prevent graphical scaling issues and provide a clearer visual of radiological emissions, Bruce A and Bruce B have been trended separately from the Central Maintenance Facility and Central Storage Facility as these support buildings emit significantly lower emissions.

Figure 6 presents airborne tritium emissions from Bruce A and Bruce B. Airborne tritium is a principal radionuclide contributing to dose to the public. Tritium emissions from Bruce B in 2025 were consistent with those observed in previous years.

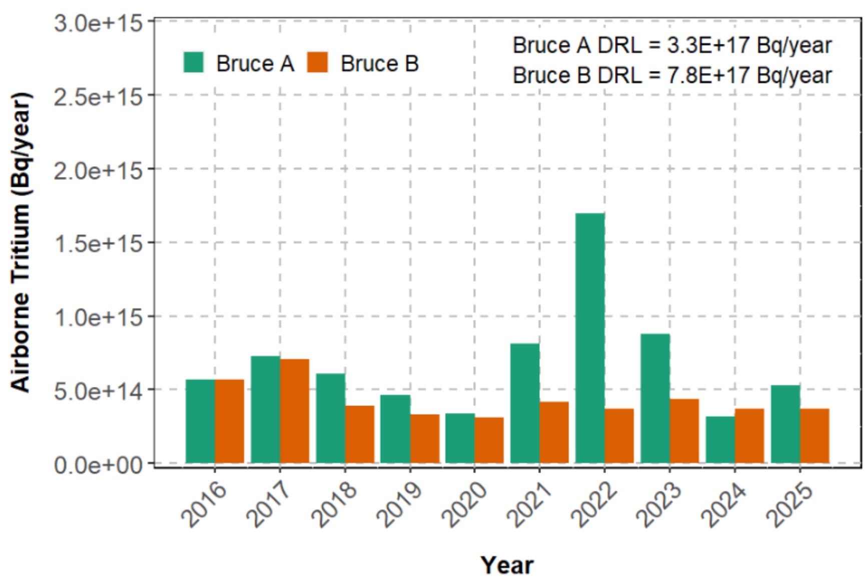


Figure 6 – Historical Airborne Tritium Emissions - Bruce A and Bruce B

Airborne tritium emissions from Bruce A in 2025 were slightly elevated compared to 2024 but remained low relative to levels observed in 2022 and 2023, reflecting continued improvements in equipment reliability and vapour recovery system performance. Temporary increases in airborne tritium emissions occurred in December 2021 and January 2022 due to a Unit 1 moderator pump seal leak within confinement and associated radiological safety purging activities. In 2022, increased emissions were also associated with the Bruce A Vacuum Building Outage and reduced availability of vapour recovery systems. In 2023 and October 2025, short-term increases were related to isolated equipment leaks and planned work in confinement. All airborne tritium emissions from Bruce A and Bruce B in 2025 remained well below regulatory limits, with dose to the public remaining *de minimis*.

The Central Maintenance Facility and Central Storage Facility historical airborne tritium emissions are provided in Figure 7 and Figure 8 and continue to remain very low (two separate figures are provided to present a clearer visual of the low emissions released from the Central Maintenance Facility). The Central Maintenance Facility contains various maintenance areas and laboratories responsible for fabrication and welding activities, equipment refurbishment, and radiation protection instrumentation calibration and repair. All current and historical tritium emissions remain low due to the limited radiological work that occurs at the Central Maintenance Facility.

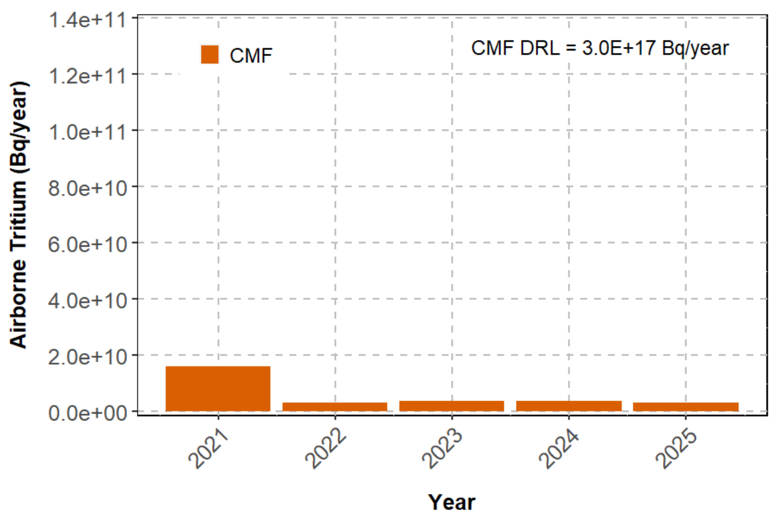


Figure 7 – Historical Airborne Tritium Emissions - Central Maintenance Facility

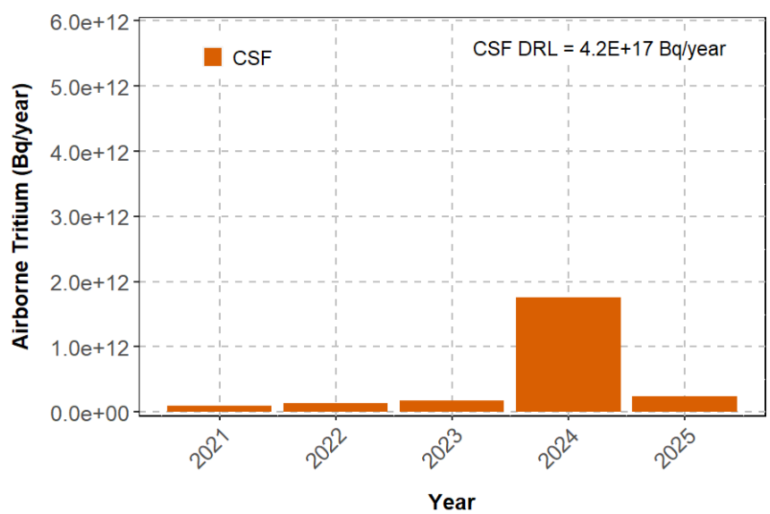


Figure 8 – Historical Airborne Tritium Emissions - Central Storage Facility

The Central Storage Facility is designed to store and perform maintenance on materials including contaminated tooling, equipment, and components from Major Component Replacement outages. Monitoring of emissions at the Central Storage Facility started upon commencement of building operations in December 2020 and continue to remain low. In 2024, tritium emissions increased at the Central Storage Facility as a result of planned off-gassing and maintenance of equipment within shipping containers containing bulkheads, moderator drain and dry equipment, and vault air-conditioners. While emissions appear to have increased in 2024, they continue to remain very low. All airborne tritium emissions from the Central Maintenance Facility and Central Storage Facility in 2025 remain well below Bruce Power's Derived Release Limits and the dose to public remains *de minimus*.

Figure 9 displays the historical trend of airborne carbon-14 emissions from Bruce A and Bruce B.

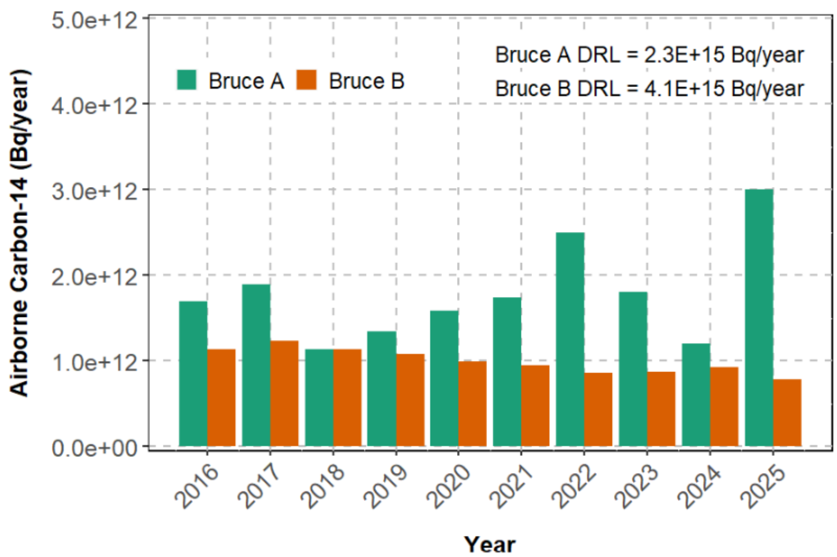


Figure 9 – Historical Airborne Carbon-14 Emissions

In 2025, airborne carbon-14 emissions remained low at Bruce B, while Bruce A experienced an increase compared to recent years. Airborne carbon-14 emissions at Bruce B have a consistently lower baseline due to the operation of a bulk oxygen system that reduces the frequency of moderator cover gas purges. Elevated carbon-14 emissions at Bruce A in 2022 and 2023 were primarily associated with outage-related activities, including confinement and moderator cover gas purges, increased resin demand, and multiple simultaneous outages. Emissions decreased in 2024 due to fewer outages and reduced resin demand. In 2025, elevated carbon-14 emissions at Bruce A were predominantly associated with post-MCR chemical decontamination activities and associated management of spent ion-exchange resins. The chemical decontamination process completed in Unit 3 and Unit 4 effectively removed residual radionuclides like cobalt-60 from the primary heat transport system and reduced the effective dose to workers supporting MCR campaigns and future online and outage work programs. While these decontamination activities had downstream C14 emissions that were higher than typically observed, the annual dose to public in 2025 remained *de minimus* (Section 3.0), and the reduced dose to Bruce A workers achieved through these efforts was a great success, and it allows for the continued safe maintenance and operation of these units for many more decades to come.

In 2025, increased carbon-14 emissions resulted from a period of reduced redundancy and efficiency of a reverse osmosis system in the Active Liquid Waste (ALW) system and a short-term increase in emissions via the Unit 2 contaminated exhaust pathway that reached the Environmental Action Level during the week ending July 23, 2025, as discussed in Section 4.1.2.1. All airborne carbon-14 emissions from Bruce A and Bruce B in 2025 remained below regulatory limits, with dose to the public remaining *de minimis*.

Figure 10 displays historical radioiodine emissions at Bruce A and Bruce B over the last 5 years. Radioiodine emissions at Bruce A in 2025 remained very low and consistent with levels observed in 2023 and 2024, while no airborne radioiodine emissions were reported for Bruce B in 2025, with all results below the Minimum Detectable Activity. Although emissions appear absent in certain years due to graphical scaling, low-level radioiodine emissions were present (less than 6.5E+05 Bq/year). In 2022, Bruce A experienced a two-week period of elevated iodine emissions associated with the planned removal of defect fuel on February 2, 2022, in combination with equipment deficiencies. Radioiodine emissions during this period were above Bruce A's Environmental Action Level. Corrective actions were implemented to reduce the risk of recurrence, including replacement of the high efficiency carbon air (HECA) filter beds and an increased focus on the filter maintenance and testing program. Although radioiodine emissions in February 2022 were above the Environmental Action Level and were reported to the CNSC, emissions during this period, as well as historically, have remained well below Bruce Power's Derived Release Limit and the dose to public remained *de minimus*.

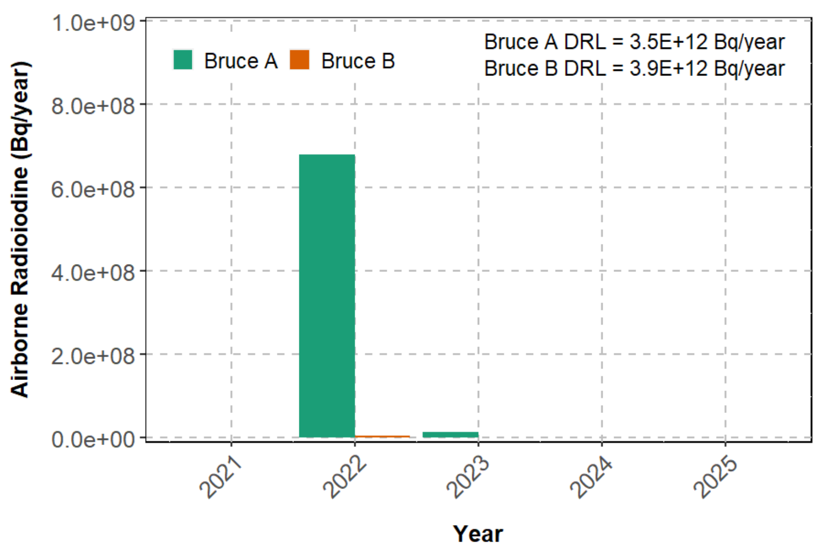


Figure 10 – Historical Airborne Radioiodine Emissions

No airborne radioiodine emissions have been generated from the Central Maintenance Facility over the last 5 years and therefore no trend figure is included in this report.

Figure 11 displays historical noble gas emissions over the last 5 years from Bruce A and Bruce B. In 2025, noble gas emissions from Bruce A and Bruce B remained low relative to historical trends. Noble gas emissions at Bruce A are consistently higher than those at Bruce B, which is attributed to a greater frequency of required primary system purges, such as moderator cover gas and annulus gas.

To minimize airborne radiological emissions, particularly noble gases, purge pathway configurations are evaluated, where practicable, prior to execution to promote decay time within the vault before discharge to an exhaust stack. All noble gas emissions are below Environmental Action Levels and well below regulatory limits with dose to public remaining *de minimus*.

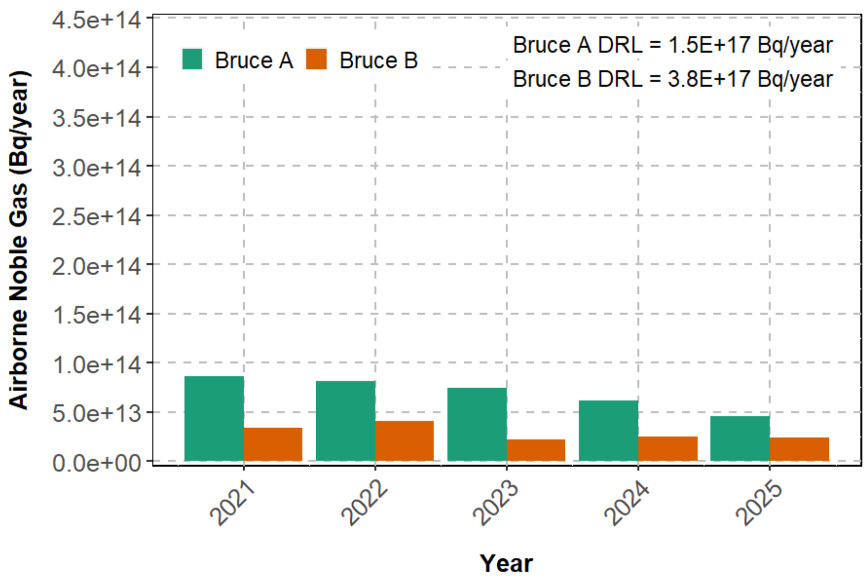


Figure 11 – Historical Airborne Noble Gas Emissions

Figure 12 and Figure 14 display the historical trend for particulate gross beta/gamma emissions and particulate gross alpha emissions for Bruce A and Bruce B, respectively. Figure 13 and Figure 15 display the particulate gross beta/gamma emissions for the Central Maintenance Facility and the Central Storage Facility and the particulate gross alpha emissions for the Central Maintenance Facility, respectively. In 2025, particulate gross beta/gamma and particulate alpha emissions continued to remain very low at all facilities with the majority of weekly stack emission results being less than the minimum detectable activity.

Radiological particulate emissions may be influenced by naturally occurring radioactive material and can fluctuate with the level of construction or maintenance activities, which typically increase during outages periods. These activities may include concrete work, opening of primary systems, and cutting, welding, or grinding of reactor system equipment to support asset management and ensure the continued safe and reliable operation of the stations. To minimize the release of particulates to the environment, contaminated exhaust stacks at Bruce A, Bruce B, the Central Maintenance Facility, and the Central Storage Facility are equipped with high efficiency particulate air (HEPA) filters that are effective at capturing and removing airborne particulates prior to discharge through the exhaust stacks.

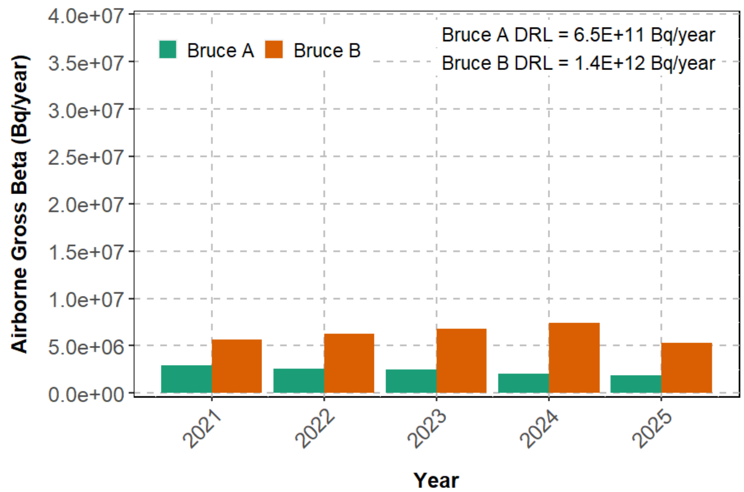


Figure 12 – Historical Airborne Particulate Beta/Gamma Emissions – Bruce A and Bruce B

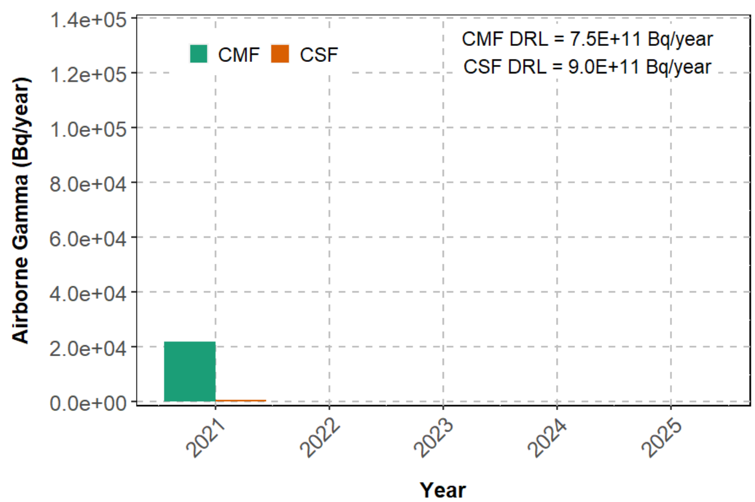


Figure 13 – Historical Airborne Particulate Beta/Gamma Emissions – Central Maintenance Facility and Central Storage Facility

At the Central Maintenance Facility and the Central Storage Facility, no particulate gross beta/gamma emissions were identified from 2022 through 2025, as shown in Figure 13. In 2021, particulate gross beta/gamma emissions were identified, however, remained very low. At the Central Maintenance Facility, particulate gross beta/gamma and particulate gross alpha emissions were suspected to be attributable to naturally occurring radioactive material. At the Central Storage Facility, particulate gross gamma emissions may have been associated with planned maintenance activities involving steam generators and tooling from the Unit 6 Major Component Replacement. All particulate gross beta/gamma and particulate gross alpha emissions at Bruce A, Bruce B, the Central Maintenance Facility, and the Central Storage Facility remained below applicable Environmental Action Levels and well below regulatory limits with dose to public remaining *de minimus*.

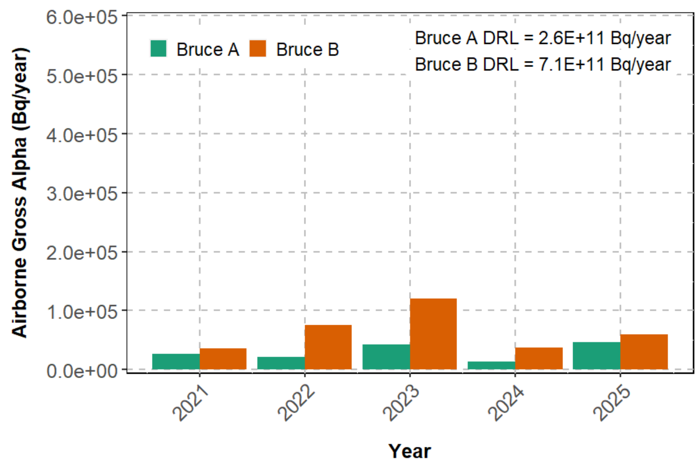


Figure 14 – Historical Airborne Particulate Gross Alpha Emissions – Bruce A and Bruce B

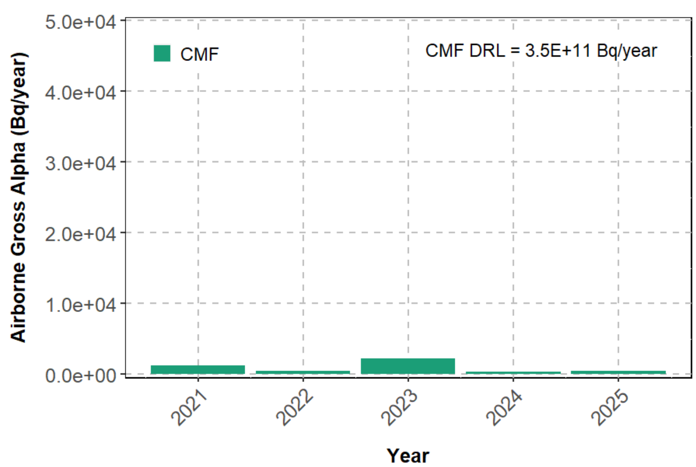


Figure 15 – Historical Airborne Particulate Gross Alpha Emissions – Central Maintenance Facility

4.1.3 Waterborne Radiological Effluent

4.1.3.1 2025 Radiological Waterborne Effluent Results

Waterborne radiological effluent, generated during Bruce Power's normal operation and outage activities remained well below regulatory limits in 2025. Waterborne effluent is monitored through established release pathways, including Active Liquid Waste system, feedwater discharges and foundation drainage. These effluent streams are ultimately discharged to Lake Huron via the Condenser Cooling Water Duct.

Radiological waterborne effluent typically originates from reactor systems, such as the moderator and heat transport systems and their auxiliary systems. Minor quantities are collected through systems including vault vapour recovery and spent resin storage and are routed to the Active Liquid Waste treatment system prior to discharge.

The Active Liquid Waste system is the primary contributor to waterborne radiological effluent. Wastewater in this system is collected in tanks and recirculated to allow short-lived radionuclides to decay. Reverse osmosis and filtration are used to remove radioactive particulate. Prior to release, each tank is recirculated and sampled to confirm that established discharge criteria are met.

Waterborne effluent loading can fluctuate in response to both planned and unplanned activities. Unplanned events that may result in elevated radionuclide concentrations in effluent include equipment challenges, such as moderator or primary heat transport upgraders being out of service, delays in offsite processing (detritiation) of heavy water (D_2O), purification resin exhaustion, and boiler tube leaks. Planned activities that may contribute to effluent variability include increased spent resin transfer activities, controlled discharges from collection and recovery systems, and planned outage periods during which maintenance is performed on reactor systems to support equipment health and continued safe operation.

Bruce Power has multiple engineered barriers in place to minimize the release of waterborne radionuclides to the environment. These barriers include moderator and heat transport purification systems that remove waterborne radionuclides from reactor systems, heavy water in light water (D_2O in H_2O) leak detection systems that provide early indication of heavy water or boiler tube leaks, and heavy water (D_2O) supply and inventory systems designed to maximize the capture and reuse of heavy water (D_2O). Together with the application of the as low as reasonably achievable (ALARA) principle, routine effluent monitoring, and the initiation of investigations when effluent levels are above normal operating ranges, these barriers support the minimization of waterborne effluent and ensure releases remain well below regulatory limits.

Bruce A, Bruce B, Canadian Nuclear Laboratories, and Kinectrics' Ontario Nuclear Services Facility monitor waterborne radionuclides, as applicable. The 2025 results of radiological waterborne effluents – including tritium, carbon-14, particulate gross beta/gamma, and particulate gross alpha – from these facilities are presented in Table 8 [R-51]–[R-53]. In accordance with the Power Reactor Operating Licence, Bruce Power reports radiological waterborne effluent results to the CNSC on a quarterly basis. In 2025, Bruce Power's radiological waterborne effluents remained well below regulatory limits, as demonstrated in Table 9 which displays annual effluent releases as a percentage of the Derived Release Limit.

There are no direct radiological waterborne effluent releases to the environment from the Central Maintenance Facility or Central Storage Facility. All radiological waterborne releases from these buildings are directed to Bruce A's Active Liquid Waste management system for processing and are included in the waterborne effluent total for Bruce A.

Starting January 2021, monitoring of discharge from the Western Waste Management Facility's Sample Stations system surface (stormwater) and subsurface (groundwater) streams was transitioned from the effluent monitoring program to CSA N288.6, *Environmental risk assessments at Class I nuclear facilities and uranium mines and mills*, and CSA N288.7, *Groundwater protection programs at Class I nuclear facilities and uranium mines and mills*, respectively [R-27], [R-55]. This change was based on the absence of releases of effluent into the stormwater system – other than the deposition of airborne emissions via precipitation. The monitoring and reporting of these airborne emissions are already managed under the airborne effluent monitoring programs and not reported separately as waterborne effluent [R-51].

Table 8 – Annual Waterborne Radiological Effluent Results for 2025

Facility & Radionuclide/ Radionuclide Group	**Bruce A**	**Bruce B**	**Canadian Nuclear Laboratories Douglas Point Waste Facility**	**Total**
Tritium Oxide (becquerels per year)	3.2E+14	8.5E+14	1.7E+10	1.2E+15
Carbon-14 (becquerels per year)	2.5E+11	3.6E+08	N/A	2.5E+10
Gross Gamma (becquerels per year)	7.3E+08	6.5E+08	N/A	1.4E+09
Gross Beta (becquerels per year)	N/A	N/A	1.8E+07	0.0E+00
Gross Alpha (becquerels per year)	9.1E+04	1.7E+05	1.0E+07	2.6E+05

Note:

1. There were no waterborne effluents in 2025 for Kinectrics' Ontario Nuclear Services Facility.
2. Radiological waterborne effluents from Bruce Power facilities are primarily processed through the active liquid waste system. Tritium and gross gamma samples are analyzed on a per batch discharge frequency (grab and composite sampling) and gross alpha and carbon-14 samples are analyzed via monthly composite samples.

Table 9 – Annual Radiological Waterborne Effluent Results for 2025 as a Percentage of the Derived Release Limit

Facility & Radionuclide/ Radionuclide Group	**Bruce A**	**Bruce B**
Tritium Oxide (% Derived Release Limit)	3.7E-02	1.1E-01
Carbon-14 (% Derived Release Limit)	2.5E-01	1.7E-04
Gross Gamma (% Derived Release Limit)	2.5E-02	1.0E-02
Gross Alpha (% Derived Release Limit)	5.9E-06	5.2E-06

4.1.3.2 Historical Radiological Waterborne Effluent Results

Figure 16 through Figure 19 below provide an overview of the five and ten-year historical trends of annual radiological waterborne effluents at Bruce A and Bruce B. Ten-year historical trends have been developed for Bruce A and Bruce B tritium and carbon-14 effluents as these radionuclides are the principal waterborne radionuclides contributing to dose to public (see Section 3.0) with five-year historical trends developed for the remaining radionuclide groups.

Figure 16 presents the historical trend for waterborne tritium. Waterborne tritium releases are a minor contributor to the dose to the public compared to airborne tritium. Bruce B has a consistently higher baseline of waterborne tritium effluent than Bruce A due to larger volumes of Moderator Confinement Vapour Recovery condensate routed to the Active Liquid Waste system as a result of differences in moderator upgrader processing capacity. In 2025, Bruce A waterborne tritium effluent remained relatively stable compared to historical trends, while Bruce B waterborne tritium effluent decreased compared to 2024. An increase in Bruce B tritium effluent in 2021 was primarily attributed to a leaking motorized valve in the Unit 8 Emergency Coolant Injection U loop, which was identified and repaired in November 2021. To prepare for the 2024 Bruce B Vacuum Building Outage, planned and closely monitored draining activities of the Bruce B Emergency Water Storage Tank were conducted in 2023 and 2024, contributing to elevated waterborne tritium effluent during those years.

In 2024 and 2025, Bruce A waterborne tritium effluent included contributions from a very small preheater leak in Unit 2, which was repaired in September 2025 during the planned outage. In addition, Bruce B waterborne tritium effluent in 2025 included contributions from multiple planned Moderator Confinement Vapour Recovery (MCVR) drains initiated to manage downgraded moderator water following upgrader repairs earlier in the year. All effluent was well below regulatory limits with dose to public remaining *de minimus*.

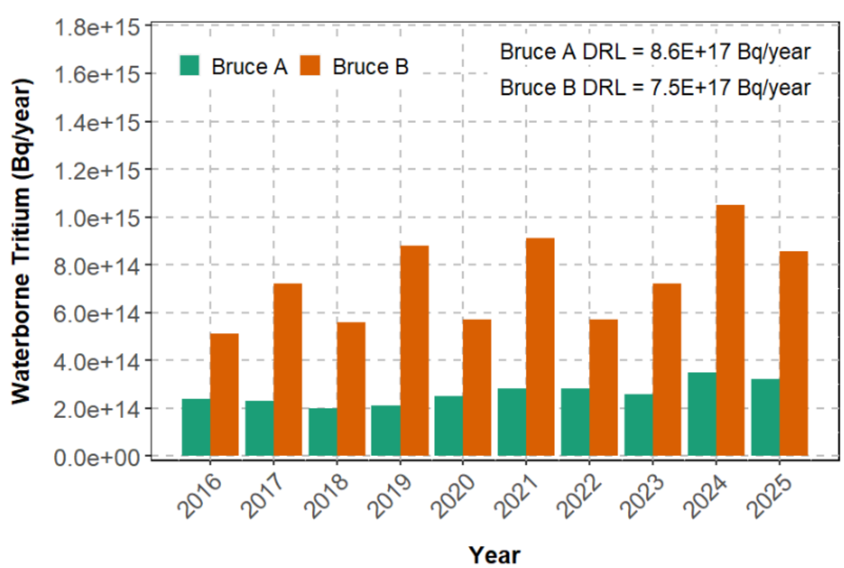


Figure 16 – Historical Waterborne Tritium Effluent

Figure 17 presents the historical trend of waterborne carbon-14 effluent. A logarithmic scale is used to accommodate the elevated Bruce A waterborne carbon-14 effluent in 2025. Carbon-14 in waterborne effluent is a radiological parameter associated with dose to public, with control and oversight provided through Bruce Power's resin management program. In 2025, total annual waterborne carbon-14 effluent increased at Bruce A compared to 2024, while a decrease was observed at Bruce B. Waterborne carbon-14 effluent can fluctuate year-to-year due to variations in the volume of spent ion exchange resins processed for waste. At Bruce B, increases observed in 2015, 2023, and 2024 were attributed to preparation activities supporting the Vacuum Building Outage, including drainage of the Emergency Water Storage Tank.

Carbon-14 waterborne effluent at both stations remained low in 2022. The increases observed at Bruce A in 2023, 2024 and 2025 were primarily associated with planned increases in spent resin dewatering required to support outages, including first-of-a kind heat transport chemical decontamination activities undertaken as part of Major Component Replacement. Acidic chemical decontamination resins generated during the Unit 3 Major Component Replacement resulted in the release of weakly bound carbonates containing carbon-14 into the spent resin tank water. In 2025, elevated effluent at Bruce A was further influenced by continued high-volume spent resin dewatering coincident with reduced carbon-14 removal capability associated with deficiencies in the Active Liquid Waste reverse osmosis system. All waterborne carbon-14 effluent remained well below regulatory limits with dose to public remaining *de minimus*.

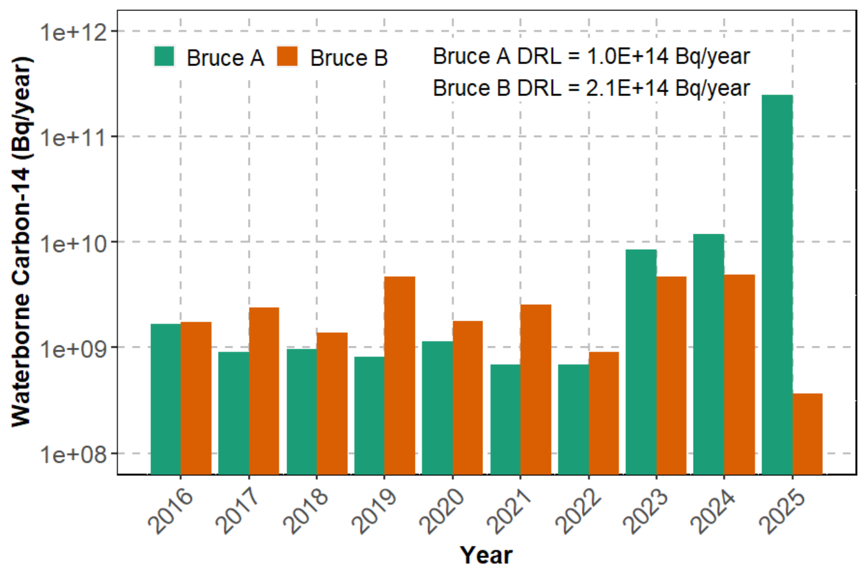


Figure 17 – Historical Waterborne Carbon-14 Effluent

Bruce A and Bruce B historical waterborne gross gamma effluent is shown in Figure 18 and waterborne gross alpha effluent is shown in Figure 19. In 2025, waterborne gross gamma and gross alpha effluent at both stations remained low and well within regulatory limits.

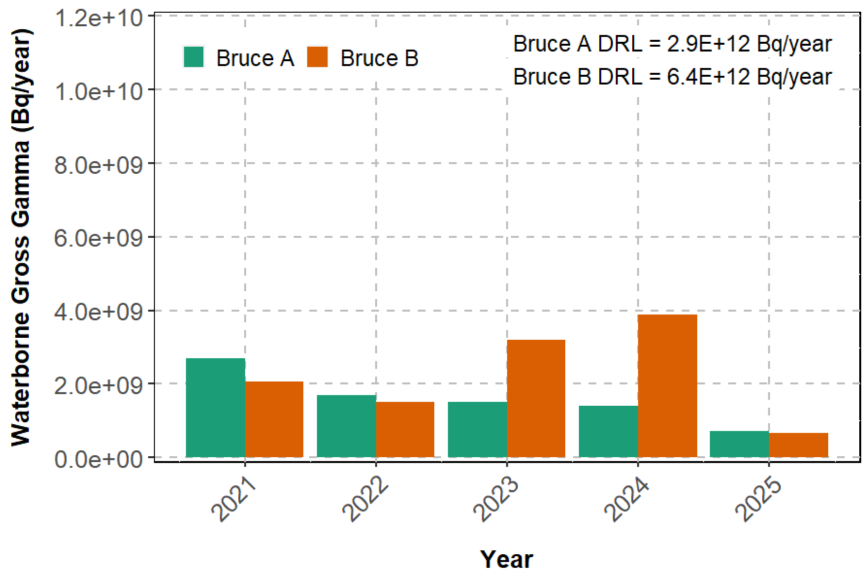


Figure 18 – Historical Waterborne Gross Beta/Gamma Effluent

Bruce A experienced slightly elevated waterborne gross gamma levels in late 2021 due to water ingress into the Primary Irradiated Fuel Bay and the subsequent controlled discharge of this water to the Active Liquid Waste system to maintain bay levels. In 2023 and 2024, Bruce B experienced increased waterborne gross gamma in effluent primarily associated with planned spent resin dewatering activities that were processed through the Active Liquid Waste system and discharged in a controlled manner. In April 2024, the Bruce B Active Liquid Waste ion exchange filtration system was returned to service to reduce waterborne particulates prior to discharge.

As shown in Figure 19, no waterborne gross alpha effluent was reported at Bruce A or Bruce B in 2021 and 2022, as all results were below the Minimum Detectable Activity. Beginning in 2023, results greater than the critical level, but below the Minimum Detectable Activity, were reported. As shown, gross alpha effluent levels in 2023, 2024, and 2025 remained extremely low with a majority of results continuing to be below the Minimum Detectable Activity. Overall, waterborne gross gamma and gross alpha effluent remained well below regulatory limits with dose to public remaining *de minimus*.

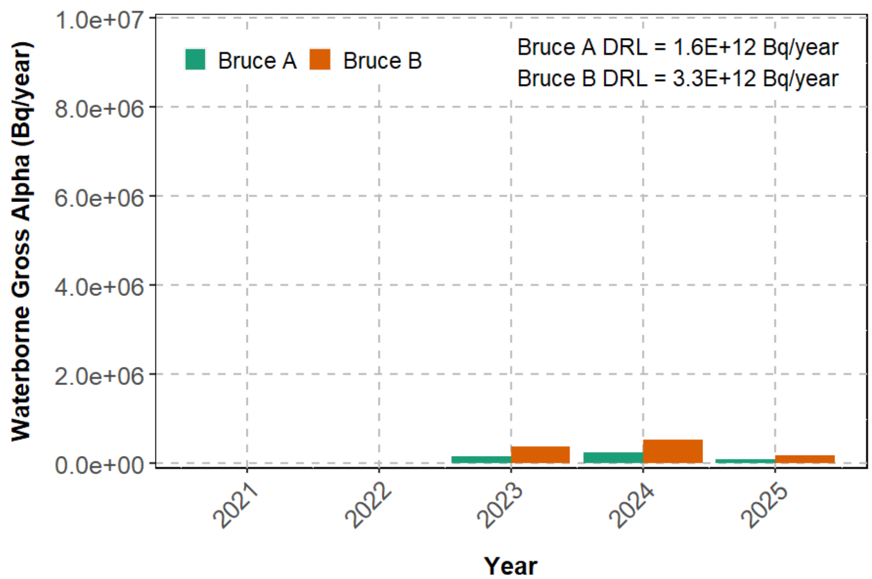


Figure 19 – Historical Waterborne Gross Alpha Effluent

4.1.3.3 Sewage

Domestic wastewater (sanitary sewage) is collected from all facilities at the Bruce Power site including Bruce A and Bruce B, Central Maintenance Facility, Central Storage Facility, Canadian Nuclear Laboratories (Douglas Point), Ontario Power Generation (Western Waste Management Facility) and Centre of Site buildings. This wastewater is treated onsite at the Bruce Power Sewage Processing Plant. The sanitary sewage collection system is a 10 kilometre network of gravity sewers and force mains.

The Sewage Processing Plant has an average design flow capacity of 1,590 cubic metres per day and a maximum design flow capacity of 4,700 cubic metres per day. The plant consists of an inlet chamber, aerated equalization tank, screening and grinding equipment, liquid chemical injection, and two parallel biological treatment trains consisting of aeration tanks, settling tanks, and aerobic sludge digesters, followed by ultraviolet disinfection, and two onsite lagoons for sludge storage. Final effluent from the plant is discharged to Lake Huron via a gravity pipe to the Lake Huron outfall located near Douglas Point.

Sewage Processing Plant effluent monitoring data includes radiological analytical results from the treated liquid effluent routed to the lake and the sludge digester tanks routed to onsite lagoons.

As shown in Table 10 and Table 11, quarterly and annual average concentrations of radiological parameters in sewage sludge and sewage effluent in 2025 were low and remained well below Bruce Power's internal acceptance criteria of 5,956 becquerels per litre for tritium, 4.3 becquerels per litre for gross beta, and 9.0 becquerels per litre for gross gamma. Annual average concentrations were also well below the Ontario Drinking Water Quality Objective for tritium (7,000 becquerels per litre) [R-56].

Table 10 – 2025 Sewage Processing Plant – Sewage Digester Sludge

Sample Source	Tritium (becquerels per litre)	Gamma (becquerels per litre)
Quarter 1	253	None detected
Quarter 2	321	0.011
Quarter 3	289	None detected
Quarter 4	411	0.017
Annual Average	318	0.007

Note:
1. Beta analyses are not done on sludge samples due to sample beta-self absorption.
2. Sewage Processing Plant sewage digester sludge is sampled and analyzed via grab samples when digester sludge is transferred to the sewage lagoon.

Table 11 – 2025 Sewage Processing Plant – Sewage Effluent

Sample Source	Tritium (becquerels per litre)	Gross Beta (becquerels per litre)
Quarter 1	258	0.54
Quarter 2	266	0.59
Quarter 3	326	0.56
Quarter 4	286	0.50
Annual Average	284	0.55

Note:
1. Gamma analyses are not done on effluent samples since beta analysis is the most sensitive analysis for liquids.
2. Sewage processing plant sewage effluent is sampled and analyzed weekly via a 24-hour composite sample.

4.2 Conventional (Non-Radiological) Emissions and Effluent Monitoring

Bruce Power performs extensive modelling and monitoring of its emissions and effluent for conventional/hazardous contaminants to ensure that releases occur within acceptable limits and environmental impact is minimized.

The objectives of the conventional emissions and effluent monitoring program are to:

- Demonstrate compliance with authorized release limits and any other regulatory requirements concerning the release of hazardous substances from the source;
- Demonstrate adherence to internal objectives and targets set on release amounts, for purposes of effluent control;
- Confirm the adequacy of control on releases from the source and ensure that appropriate measures are taken if new or existing activities will increase or change air or water emissions;
- Inform continual improvement strategies;
- Provide an indication of unusual or unforeseen conditions that might require corrective action or additional monitoring;
- Provide data to assess the level of risk on human health and safety, and the potential biological effects in the environment of the hazardous substances of concern released from the facility;
- Assist with determining whether a discharge/release event is reportable to external regulators; and
- Provide data which, when combined with the results of environmental monitoring, can be used to test, verify or refine models used in Environmental Risk Assessments, and incorporate recommendations into program design.

The results of monitoring events are submitted to the appropriate environmental Authorities Having Jurisdiction at various times throughout the year. Table 12 provides a summary of the monitoring reports that Bruce Power submits throughout the year as well as identifies the time of submission and the lead regulatory agency. The reports provide details and information necessary to meet regulatory reporting requirements. The following sections describe some of the regulatory context for each report.

4.2.1 Conventional (Non-Radiological) Emissions and Effluent Monitoring Program Methodologies

Effluent sampling and monitoring are conducted in compliance with limits set forth in the following:

- *Ontario Regulation 419/05: Air Pollution - Local Air Quality* [R-57], the *Environmental Protection A*ct (R.S.O. 1990, c. E. 19) [R-5]
- *Ontario Water Resources Act* (R.S.O. 1990, c.O.40) [R-58]
- Environmental Compliance Approvals issued by the Ministry of the Environment, Conservation and Parks [R-59]–[R-62]
- Permits to Take Water issued by Ministry of the Environment, Conservation and Parks and with Internal Administrative Levels [R-63] [R-64] [R-65]
- *Ontario Regulation 390/18: Greenhouse Gas Emissions: Quantification, Reporting and Verification* [R-66]
- *Federal Halocarbon Regulations, 2022, SOR/2022-210* [R-67]
- Notice to Report: Under the authority of Section 46 of the *Canadian Environmental Protection Act*, operators of facilities that meet the criteria specified in the annual notice with respect to reporting of greenhouse gases, published in the Canada Gazette, are required to report facility Greenhouse Gas emissions to Environment and Climate Change Canada by the annual June 1st reporting deadline [R-68].
- Notice to Report: Under the authority of the *Canadian Environmental Protection Act*, 1999 (CEPA 1999), owners or operators of facilities that meet published reporting requirements are required to report to the National Pollutant Release Inventory [R-69]
- *Ontario Regulation 463/10: Ozone Depleting Substances and other Halocarbons* [R-70]
- *Ozone-Depleting Substances and Halocarbon Alternatives Regulations (SOR/2016-137)* [R-71]

Table 12 – 2025 Bruce Power Regulator Reporting for Conventional Parameters

Regulatory Instrument	Report Title (Document Control Number)	Regulatory Agency	Submission Date (Frequency)
Air – Environmental Compliance Approval	Written Summary for Reporting Year 2025 Environmental Compliance Approval – Air 7747-8PGMTZ	Ministry of the Environment, Conservation and Parks	15JUN2026 (Annual)
Air – Halocarbon	Halocarbon Release Report Pursuant to the *Federal Halocarbon Regulations (SOR/2022-210)* Section 25 January to June 2025 (BP-CORR-00521-00096)	Environment and Climate Change Canada	31JUL2025 (Semi-annual)
Air – Halocarbon	Halocarbon Release Report Pursuant to the *Federal Halocarbon Regulations (SOR/2022-210)* Section 25 July to December 2025 (BP-CORR-00521-00101)	Environment and Climate Change Canada	31JAN2026 (Semi-annual)
Air – Greenhouse Gas	Not required to report 2025 Federal and Provincial Greenhouse gas Reporting	Internal Report	Quantify Greenhouse Gas emissions by 01JUN2026 (Annual) Not required to report
Air – National Pollutant Release Inventory	2025 National Pollutant Release Inventory for Bruce Power NPRI ID #7041	Environment and Climate Change Canada	01JUN2026 (Annual)
Water – Annual Effluent	2025 Annual Effluent Discharge Report (BP-CORR-00541-00314)	Ministry of Environment, Conservation and Parks	01JUN2026 (Annual)
Water – Quarterly Effluent and Environmental Compliance Approval Report	Q1 2025 Effluent Discharge Report (BP-CORR-00541-00283)	Ministry of Environment, Conservation and Parks	15MAY2025(Quarterly)
Water – Quarterly Effluent and Environmental Compliance Approval Report	Q2 2025 Effluent Discharge Report (BP-CORR-00541-00293)	Ministry of Environment, Conservation and Parks	14AUG2025 (Quarterly)
Water – Quarterly Effluent and Environmental Compliance Approval Report	Q3 2025 Effluent Discharge Report (BP-CORR-00541-00297)	Ministry of Environment, Conservation and Parks	14NOV2025 (Quarterly)

Regulatory Instrument	Report Title (Document Control Number)	Regulatory Agency	Submission Date (Frequency)
Water – Quarterly Effluent and Environmental Compliance Approval Report	Q4 2025 Effluent Discharge Report (BP-CORR-00541-00308)	Ministry of Environment, Conservation and Parks	14FEB2026 (Quarterly)
Water – Environmental Compliance Approval	2025 Environmental Compliance Approval (Water) Annual Compliance Report for Bruce A (BP-CORR-00541-00318)	Ministry of Environment, Conservation and Parks	31MAR2026(Annual)
Water – Environmental Compliance Approval	2025 Environmental Compliance Approval (Water) Annual Compliance Report for Bruce B (BP-CORR-00541-00319)	Ministry of Environment, Conservation and Parks	31MAR2026 (Annual)
Water – Environmental Compliance Approval	2025 Environmental Compliance Approval (Water) Annual Compliance Report for Centre-of-Site (BP-CORR-00541-00320)	Ministry of Environment, Conservation and Parks	31MAR2026 (Annual)
Water – Permit to Take Water	2025 BA Water Taking Data - Permit to Take Water # P-300-2114648110 (BP-CORR-00541-00315)	Ministry of Environment, Conservation and Parks	31MAR2026 (Annual)
Water – Permit to Take Water	2025 BB Water Taking Data - Permit to Take Water # P-300-4114675736 (BP-CORR-00541-00316)	Ministry of Environment, Conservation and Parks	31MAR2026 (Annual)
Water – Permit to Take Water	2025 CS Water Taking Data - Permit to Take Water # P-300-7116089842 (BP-CORR-00541-00317)	Ministry of Environment, Conservation and Parks	31MAR2026 (Annual)
Water – *Wastewater Systems Effluent Regulation*	2025 Q1 Wastewater Systems Effluent Regulation Report (BP-CORR-00521-00095)	Environment Climate Change Canada	15MAY2025 (Quarterly)
Water – *Wastewater Systems Effluent Regulation*	2025 Q2 Wastewater Systems Effluent Regulation Report (BP-CORR-00521-00098)	Environment Climate Change Canada	14AUG2025 (Quarterly)

Regulatory Instrument	Report Title (Document Control Number)	Regulatory Agency	Submission Date (Frequency)
Water – *Wastewater Systems Effluent Regulation*	2025Q3 Wastewater Systems Effluent Regulation Report (BP-CORR-00521-00099)	Environment Climate Change Canada	14NOV2025 (Quarterly)
Water – *Wastewater Systems Effluent Regulation*	2025 Q4 Wastewater Systems Effluent Regulation Report (BP-CORR-00521-00103)	Environment Climate Change Canada	14FEB2026 (Quarterly)

4.2.2 Conventional Air Emissions

4.2.2.1 Environmental Compliance Approval

In 2025, conventional air emissions were held to performance standards stipulated in Environmental Compliance Approval for Air Number 7477-8PGMTZ [R-72] which incorporates all non-radiological air emission sources on site. The Environmental Compliance Approval for Air allows flexibility to release contaminants up to a maximum Point of Impingement concentration limit at its property boundary. These limits are typically Ministry of the Environment, Conservation and Parks (MECP) limits (as per *Ontario Regulation 419/05*) [R-57], and for cases where there is no pre-defined MECP Point of Impingement limit, Bruce Power is bound by a Maximum Ground Level Concentration accepted by the MECP upon its Environmental Compliance Approval for Air application submission.

During the reporting period, an application to renew Bruce Power's Environmental Compliance Approval for Air Limited Operational Flexibility was under review by the MECP. The MECP Director issued a letter indicating that Condition 2.1 of the Environmental Compliance Approval for Air allows the Limited Operational Flexibility to remain in effect until the Environmental Compliance Approval for Air has been revoked with the issuance of the new Limited Operational Flexibility. All other Terms and Conditions of the Environmental Compliance Approval for Air remained in effect [R-73].

On December 19, 2025, Bruce Power was issued Environmental Compliance Approval Number A-500-4111356877 [R-59], at which time the previous Environmental Compliance Approval was revoked. During the application review, the MECP requested the assessment of shoreline fumigation for hydrazine. Following this assessment, additional modelling was undertaken to evaluate hydrazine concentrations at the Point of Impingement and confirm compliance with the annual site-specific hydrazine limit established by the MECP. [R-74][R-75]

Air contaminants of concern are modelled for all non-negligible sources in worst-case scenarios. Estimated emission rates are then analyzed to ensure regulatory limits at the Point of Impingement are met. While Bruce Power is bound by Environmental Compliance Approval for Air performance limits, the company has operational flexibility to do things like modify the location of emissions sources or add new buildings and exhaust stacks, once it can be demonstrated that it will remain within these limits. The total facility emission rates, maximum point of impingement concentrations and limits are presented in Table 13.

Table 13 – Emission Summary Table

Contaminant	Total Facility Emission Rate (grams/second)	Maximum Point of Impingement Concentration (micrograms/cubic meter)	Averaging Period	Point of Impingement Limit (micrograms/cubic meter)	Percentage of Point of Impingement Limit
Aliphatic Naphtha	1.68	87	24-hour	122.5	71.1
Ammonia	1.42	3.06	24-hour	100	3.1
Ethanolamine	0.182	0.389	24-hour	35	1.1
Ferric/Iron Oxide	0.0693	3.02	24-hour	25	12.1
Hexavalent Chromium	0.00000294	0.00000154	Annual	0.00014	1.1
Hydrazine	0.0312	0.00128	24-hour	0.14	<1
Hydrazine	0.00102	0.000167	Annual	0.0002	83.5
Manganese	0.0101	0.388	24-hour	0.4	96.9
Methylamine	0.192	0.409	24-hour	25	1.6
Morpholine	2.76	5.80	24-hour	200	2.9
Nickel	0.00000643	0.00000662	Annual	0.04	<1
Nitrogen Oxides	4.25	14.7	24-hour	200	7.3
Nitrogen Oxides	4.25	110	1-hour	400	27.4
Nitrogen Oxides – Emergency	46.0	1470	0.5-hour	1880	78.4
Particulate Matter	0.397	7.33	24-hour	120	6.1
Propylene Glycol	0.0858	1.62	24-hour	120	1.3
Sulphur Dioxide	0.762	27.9	1-hour	100	27.9
Sulphur Dioxide	0.762	0.362	Annual	10	3.6
Xylene	0.555	342	10-minute	3000	11.4
Xylene	0.555	28.8	24-hour	730	4.0
Toluene	1.11	57.6	24-hour	2000	2.9

Specific contaminants emitted from non-negligible air emission source on site are identified in the Emission Summary and Dispersion Modelling report that reflects the actual operation of the facility [R-76].

Bruce Power maintains an up-to-date Emission Summary and Dispersion Modelling report that reflects current operations. Upon making any modifications (within the bounds of the operational flexibility prescribed in the Environmental Compliance Approval for Air [R-72]), the modification log and Emission Summary and Dispersion Modelling report are updated to document that the facility remains in compliance. For temporary modifications, a memorandum is prepared to document the temporary change which supplements the Emission Summary and Dispersion Modelling report. The Emission Summary and Dispersion Modelling Report shows that:

1. The nature of the operations of the facility continues to be consistent with the description section of the Environmental Compliance Approval for Air;

2. The production at the facility continues to be below the facility production limit specified in the Environmental Compliance Approval for Air; and

3. The performance limits are met.

During 2025, three modification notifications were submitted to the MECP for the use of diesel compressors and generators as follows:

- Two temporary 1,000 kilowatt diesel generators required for Unit 3 Major Component Replacement for post weld heat treatment of the upper shell to the steam drum.

- A temporary 1,250 kilowatt diesel generator required to provide power for a chiller and heat exchanger to provide supplemental cooling for Bruce B Unit 8 vault.

- Two temporary diesel compressors required for the vault pressure test during the lead in of Unit 4 Major Component Replacement.

The modifications demonstrated compliance with the Point of Impingement limits (as per Ontario Regulation 419/05) and the conditions of Bruce Power’s Environmental Compliance Approval for Air.

4.2.2.2 Noise

The Environmental Compliance Approval for Air [R-72] requires that Bruce Power is within the noise limits of Noise Pollution Clearinghouse-232 Sound Level Limits for Stationary Sources in Class 3 Areas (Rural).

Noise monitoring conducted between 2015 and 2020, demonstrated that the sound levels at the concerned receptors complied with the quantitative limits stipulated by the Ministry of Environment, Conservation and Parks (MECP).

The studies did, however, reveal that the Bruce Power facility can be audible at Inverhuron Provincial Park and along Lake Street when background sound levels are at a minimum. There were no noise complaints received from nearby residents in 2025.

As a condition of the new Environmental Compliance Approval, Bruce Power will complete an Acoustic Assessment Report in 2026. The assessment will evaluate facility sound emissions under representative operating conditions, assess compliance with applicable MECP noise criteria at applicable receptors, and identify any mitigation measures, if required, to ensure continued compliance with regulatory requirements.

4.2.2.3 Halocarbon Management & Releases

In Canada, the federal, provincial, and territorial governments have legislation to protect the ozone layer and manage ozone depleting substances and their halocarbon alternatives. The use and handling of these substances are regulated by the provinces and territories in their respective jurisdictions, and through the *Federal Halocarbon Regulations*, 2022 [R-77] for refrigeration, air conditioning, fire extinguishing, and solvent systems under Federal jurisdiction. Bruce Power is governed by both provincial and federal regulations.

Figure 20 below provides the number of reportable halocarbon releases across site for the 2025 calendar year. These releases are broken down by magnitude. Halocarbon releases of 10 – 100 kilograms are reported to Environment and Climate Change Canada (ECCC) in the semi-annual release reports. Halocarbon releases greater than 100 kilograms are immediately reportable to ECCC and the MECP.

There were six releases between 10 – 100 kilograms and no releases greater than 100 kilograms in 2025.

The number of reportable releases decreased from 2024 due to corrective actions taken to reduce releases from equipment containing more than 100 kilograms of halocarbons following equipment challenges in 2024. Improvements included increasing leak check frequency on large equipment to enable more timely identification of leaks, replacing relief valves on the Main Control Room chillers, and enhancing preventative maintenance programs. Oversight will continue to assess the effectiveness of these measures in further reducing releases.

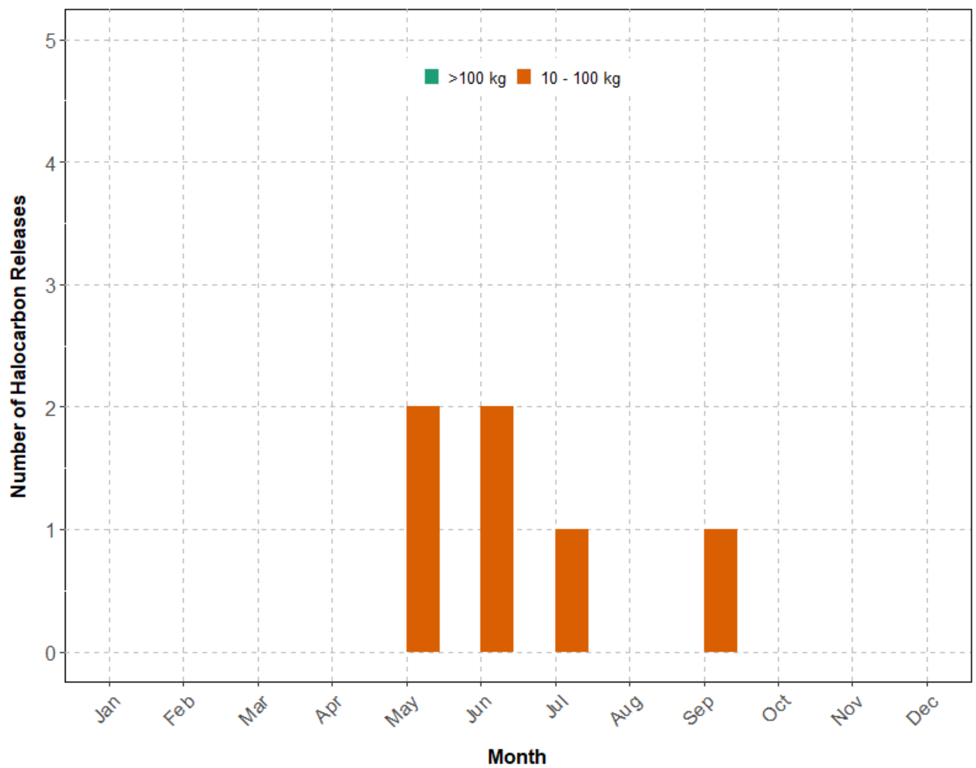


Figure 20 – 2025 Bruce Power Halocarbon Release Occurrences

<u>Historical Halocarbon Releases</u>

The environmental impact of halocarbon discharges has been reduced by transitioning from ozone-depleting refrigerants (chlorofluorocarbons and hydrochlorofluorocarbons) to hydrofluorocarbons, which have negligible impact on the ozone layer (e.g., R134a and R410A). While hydrofluorocarbons do not contribute to ozone depletion, they are associated with higher global warming potential and are therefore considered greenhouse gases. [R-77].

Figure 21 below provides the historical trend of the halocarbon releases since 2016. Between 2017 and 2020, no halocarbon releases greater than 100 kilograms occurred. In 2021, three halocarbon releases greater than 100 kilograms were reported to ECCC and the MECP (Bruce B – 317 kilograms, Bruce B – 209 kilograms and Centre of Site – 99 kilograms), two releases were reported in 2022 (Centre of Site – 215 kilograms and Bruce A – 274 kilograms) and four releases were reported in 2024 (Bruce B – 172, 168 and 243 kilograms and Centre of Site – 138 kilograms). The 99 kilograms release at Centre of Site in 2021 was conservatively reported given the uncertainty in the accuracy of the measurement instrumentation. The number of reportable halocarbon releases decreased from 2024 due to an increased focus on leak check frequency, preventative maintenance and component replacements.

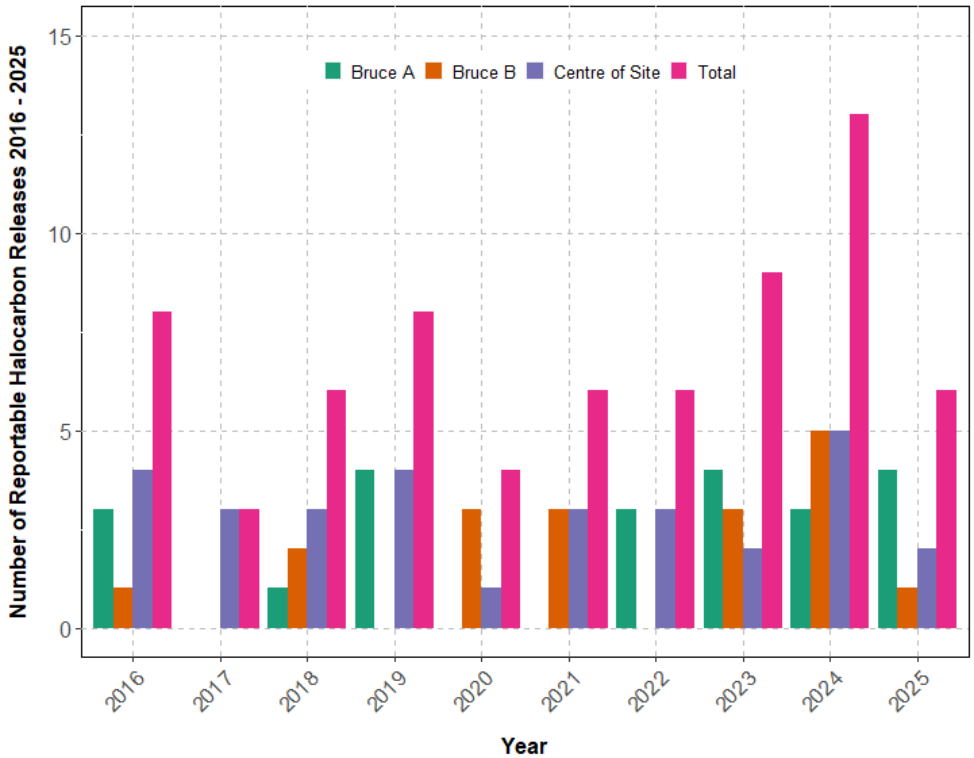


Figure 21 – Historical Bruce Power Halocarbon Releases

4.2.2.4 Greenhouse Gas Emissions

The provincial threshold for reporting greenhouse gas emissions dropped from 25,000 tonnes of carbon dioxide equivalent to 10,000 tonnes of carbon dioxide equivalent in 2015. Bruce Power was below the 25,000 tonnes of carbon dioxide equivalent threshold in 2013 and 2014 and below the 10,000 tonnes of carbon dioxide equivalent threshold from 2015 to 2024. In order to cease reporting, there must be three consecutive years reported under the threshold. Therefore, 2015 was the last year of reporting greenhouse gas emissions.

Greenhouse gas emissions will continue to be calculated for 2025 and onwards to confirm they remain below threshold values. The calculation of 2025 emissions will be completed by June 1, 2026.

Historical Greenhouse Gas Emissions

Figure 22 shows greenhouse gas emissions from 2015 to 2024. Greenhouse gas emissions on site have been consistent since the Bruce Steam Plant shut down in 2015 and includes combustion of stove oil and diesel by boilers at the steam plant and combustion of stove oil and diesel from stationary equipment (examples include: standby generators, temporary generators, heaters). Greenhouse gas emissions for 2024 were greater than 2023 but consistent with 2015 – 2022. The increase in emissions compared to 2023 was due to increased fuel consumption and halocarbon releases.

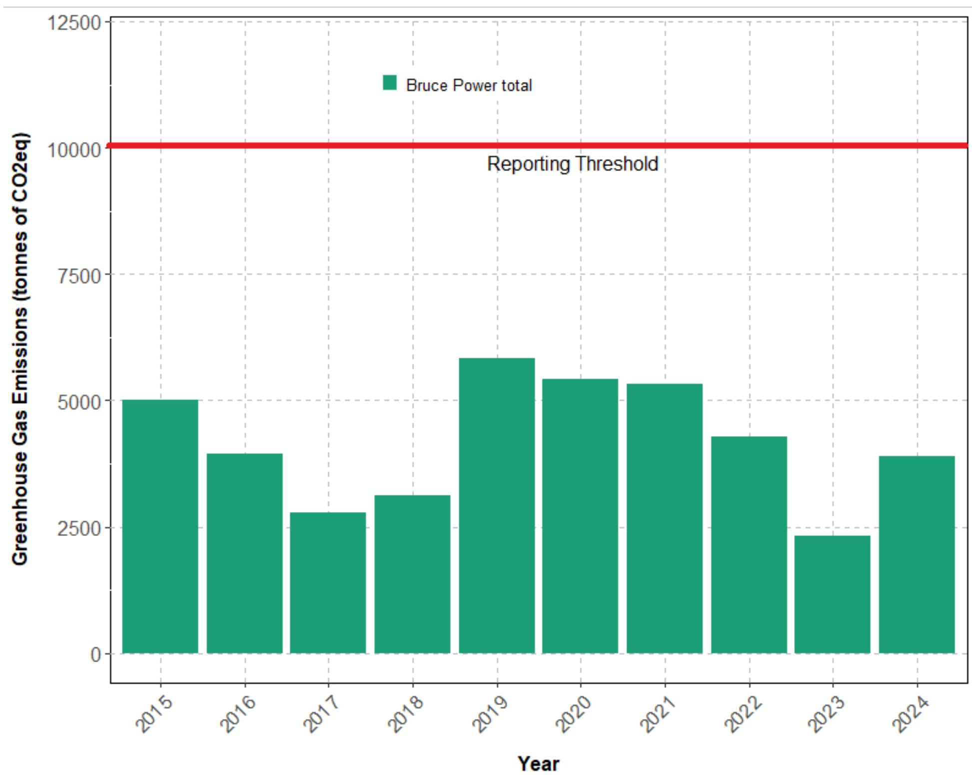


Figure 22 – Provincial Greenhouse Gas Reporting Tonnes Carbon Dioxide Equivalent – Conventional Air

In March of 2021, Bruce Power made a commitment to net greenhouse gas reductions from site operations by 2027. The Greenhouse Gas Reduction Strategy outlines how emissions reduction targets will be achieved through a structured approach. Bruce Power met emissions reduction targets in 2025 and continues to work on the implementation of operational initiatives, local carbon sequestration and offset projects, as well as participating in the Ontario Clean Energy Program. Details of Bruce Power's greenhouse gas reduction goals and progress are included in the 2025 Sustainability Report.

4.2.2.5 National Pollutant Release Inventory

The National Pollutant Release Inventory is Canada's legislated, publicly accessible inventory of pollutant releases, disposals and recycling. National Pollutant Release Inventory information is a major starting point for identifying and monitoring sources of pollution in Canada, and in developing indicators for the quality of air, land, and water. The National Pollutant Release Inventory provides Canadians with annual information on industrial, institutional, commercial, and other releases and transfers in Canadian communities [R-78].

Bruce Power complies with reporting requirements and regulatory limits, as shown in Section 4.2. Bruce Power's National Pollutant Release Inventory contaminants reported for the 2024 calendar year are presented in Table 14. Calculations and reporting for the 2025 calendar year will be completed by June 1, 2026.

Table 14 – National Pollutant Release Inventory Contaminants Reported for 2024

Contaminant	Volume to Air (kilograms)	Volume to Water (kilograms)	Volume to Land (kilograms)
Ammonia (total)	6,369.8	3,085.4	-
Hydrazine	19.5	962.5	763.9
Lead	12.3	-	228.9
Oxides of nitrogen	19,544.9	-	-
Particulate Matter 10	9,480.5	-	-
Particulate Matter 2.5	7,013.4	-	-
Volatile organic compounds	14,731.3	-	-

A graphical comparison of releases reported under National Pollutant Release Inventory to air, water and land is shown in Figure 23.

Releases of hydrazine, ammonia, lead and volatile organic compounds have remained consistent between 2020 and 2024. Releases of nitrogen oxides varies year over year due to equipment required to support construction activities, outages and major component replacement as well as standby generator test runs. Total particulate matter emissions increased in 2024 due to construction activities including increased diesel combustion and welding.

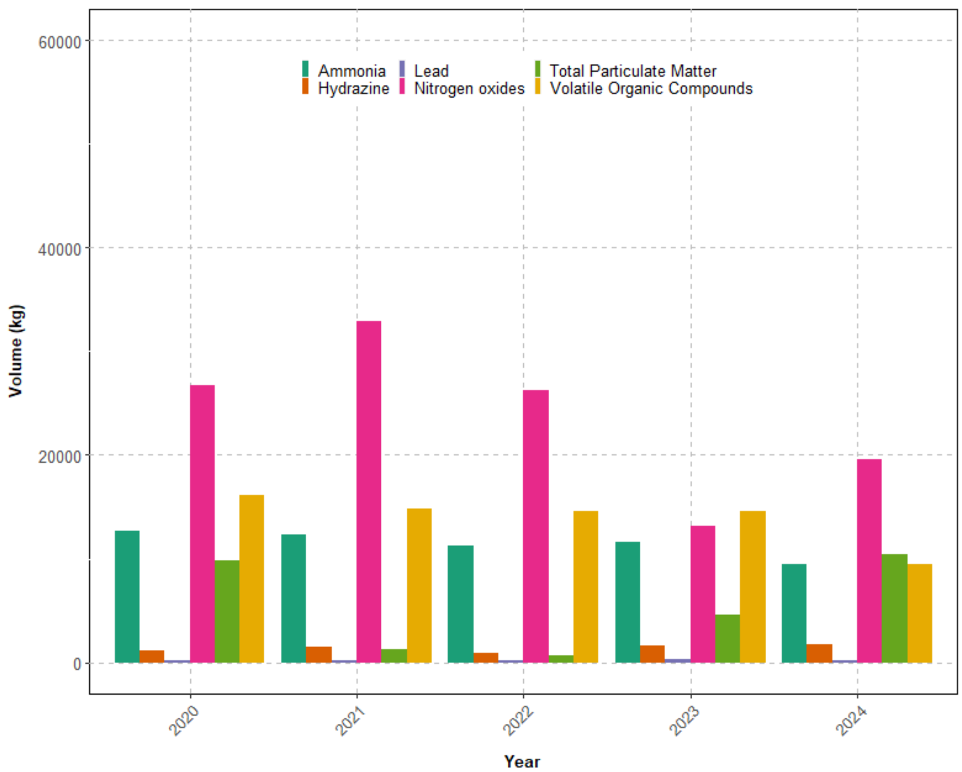


Figure 23 – 2020 to 2024 Releases to Air, Water and Land (kilograms)

<u>Quality Assurance/Quality Control</u>

Quality assurance activities for conventional air emissions are outlined in the Emission Summary and Dispersion Modelling report [R-79]. The Emission Summary and Dispersion Modelling report includes the operating conditions, emission estimating, data quality and sample calculations. Modelling is conducted in accordance with the Air Dispersion Modelling Guideline for Ontario, Version 3.0 [R-80].

Data included in the National Pollutant Release Inventory reporting follows the guideline released by Environment and Climate Change Canada [R-81]. Hydrazine, Ammonia and Morpholine Calculation Methodology for National Pollutant Release Inventory Reporting [R-82], describes the process for obtaining continuous emissions monitoring data, plant information, drain data for the calculation of air and water emissions for hydrazine, morpholine and ammonia.

Data included in the greenhouse gas calculations follows Canada's Greenhouse Gas Quantification Requirements [R-83].

4.2.3 Conventional Water Effluent

Conventional water effluents from Bruce Power operations are controlled to meet regulatory requirements and to minimize environmental impacts to protect the environment. Conventional water effluents at Bruce Power are discharged according to specific licenses, permits, and regulations under (but not limited to) the *Environmental Protection Act* [R-5] and the *Ontario Water Resources Act* [R-58]. Figure 24 below indicates the locations Bruce Power monitors as final discharge points to Lake Huron: Bruce A and Bruce B Condenser Cooling Water Duct and the Centre of Site Sewage Processing Plant effluent. Additional monitoring locations are reported in the reports listed in Table 12 – 2025 Bruce Power Regulator Reporting for Conventional Parameters, above.

Figure 24 – Conventional Water Effluent Sampling Locations

4.2.3.1 Environmental Compliance Approvals

The *Ontario Water Resources Act* states that no person shall use, operate, establish, alter, extend, or replace new or existing sewage works except under, and in accordance with, an Environmental Compliance Approval. Bruce Power operates within three Environmental Compliance Approvals regulating conventional water effluents across site; Bruce A, Bruce B, and Centre of Site [R-60] [R-61] [R-62]. These Environmental Compliance Approvals specify site-specific effluent limits and monitoring and reporting requirements for the operation of the facility. Non-compliances of Environmental Compliance Approval limits are reportable to the Ministry of Environment, Conservation and Parks (MECP) and are subject to Environmental Penalties under *Ontario Regulation 223/07* [R-84]. Table 15, Table 16, Table 17 and Table 18 show summaries of the measured effluent concentrations in the Bruce A and Bruce B cooling water discharge ducts, and the Centre of Site sewage processing plant between 2021 and 2025. The maximum measured values for regulated parameters were all below the approved limits in 2025, with the exception of three acute lethality failures in the Bruce B Active Liquid Waste System discharge in April, June, and November 2025 as discussed below.

Table 15 – Average and Maximum Monthly Effluent Concentrations Measured in the Bruce A Cooling Water Discharge Duct (2021 - 2025)

(Table units are micrograms per litre (ug/L), equivalent to parts per billion, or as stated.)

Parameter	Units	Method Detection Limit (2025)	Environmental Compliance Approval Limit (or Objective)	Average	Maximum
Ammonia (unionized)	ug/L	Varies based on pH and temperature but does not exceed 3.5 micrograms per litre	< 20	< Method Detection Limit	< Method Detection Limit
Boron	ug/L	4	5,000	14.5	18.3
Hydrazine	ug/L	3	100	< Method Detection Limit	12
Morpholine	ug/L	110	2,500	< Method Detection Limit	150
Total Residual Chlorine	ug/L	1	< 10	< Method Detection Limit	< Method Detection Limit
pH	Not Applicable	Not Applicable	6.0 to 9.5	8.0	8.5 (Minimum: 6.8)
Phosphorus	ug/L	5	1,000 (objective)	26	62
Acute Lethality rainbow trout	Percent mortality	Not Applicable	50 percent	0	0
Acute Lethality *daphnia magna*	Percent mortality	Not Applicable	50 percent	0.3	3.33

Table 16 – Average and Maximum Monthly Effluent Concentrations Measured in the Bruce B Cooling Water Discharge Duct (2021 - 2025)

(Table units are micrograms per litre (ug/L), equivalent to parts per billion, or as stated.)

Parameter	**Units**	**Method Detection Limit (2025)**	**Environmental Compliance Approval Limit or (Objective)**	**Average**	**Maximum**
Ammonia (unionized)	ug/L	Varies based on pH and temperature, but does not exceed 3.5 micrograms per litre	< 20	< Method Detection Limit	< Method Detection Limit
Hydrazine	ug/L	3	100	5	24
Morpholine	ug/L	15	2,500	< Method Detection Limit	< Method Detection Limit
Total Residual Chlorine	ug/L	1	< 10	< Method Detection Limit	< Method Detection Limit
pH	Not Applicable	Not Applicable	6.0 to 9.5	7.3	8.7 (Minimum: 6.5)
Phosphorus	ug/L	5.8	1,000 (objective)	8.9	64
Acute Lethality- rainbow trout	Percent mortality	Not Applicable	50 percent	0	0
Acute Lethality- *daphnia magna*	Percent mortality	Not Applicable	50 percent	0.2	3.33

Table 17 – The Maximum Daily and Monthly Average Environmental Compliance Approval Effluent Concentrations at the Centre of Site Sewage Processing Plant (2021 - 2025)
(Table units are micrograms per litre (ug/L), equivalent to parts per billion, or as stated.)

Parameter	Units	Method Detection Limit (2025)	Monitoring Frequency	Daily Limit	Monthly Average Limit	Average Result	Maximum Result
Biochemical Oxygen Demand (5-day)	ug/L	2000	Weekly	Not Applicable	25,000	2,600	14,000
Nitrogen (Ammonia + Ammonium)	ug/L	6	Weekly	Not Applicable	7,000	59	1900
Total Phosphorus	ug/L	14	Weekly	Not Applicable	1,000	220	650
Total Suspended Solids	ug/L	400	Daily	44,000	18,000	9,600	78,000*
Oil and Grease	ug/L	1,000	Weekly	38,000 (weekly limit)	12,000	< Method Detection Level	3,800
pH	Not Applicable	Not Applicable	Continuous	6.0-9.5	Not Applicable	7.2	8.3 (Minimum: 6.5)
Escherichia coli	Colony Forming Unit per 100 millilitres (rolling geometric mean)	Not Applicable	Weekly	Not Applicable	200	1.08	27.1
Acute Lethality (Rainbow Trout)	Percent mortality	Not Applicable	Quarterly	50 percent (quarterly limit)	Not Applicable	0	0
Acute Lethality (*Daphnia magna*)	Percent mortality	Not Applicable	Quarterly	50 percent (quarterly limit)	Not Applicable	1	17

Note: * Total Suspended Solids Daily Limit Exceedance occurred on June 3, 2023, as per BP-CORR-00541-00203- 14 Day Letter- Sewage Processing Plant Total Suspended Solids Environmental Compliance Approval Exceedance- June 3, 2023.

Table 18 – Quarterly Average (measured monthly) Wastewater Systems Effluent Regulation Effluent Concentrations at the Centre of Site Sewage Processing Plant (2021 - 2025)
(Table units are micrograms per litre (ug/L), equivalent to parts per billion, or as stated.)

Parameter	Units	Method Detection Limit (2025)	Quarterly Average Limit	Average	Maximum
Carbonaceous Biochemical Oxygen Demand	ug/L	2,000	25,000	2,800	8,600
Total Suspended Solids	ug/L	3,000	25,000	7,100	10,000

The 5-year trend of the annual average effluent concentrations in the Bruce A and Bruce B cooling water discharge ducts is shown in Figure 25 for ammonia, hydrazine and morpholine. The annual average values for these parameters have been well below the limits over the last 5 years, demonstrating continued compliance and protection of the receiving environment.

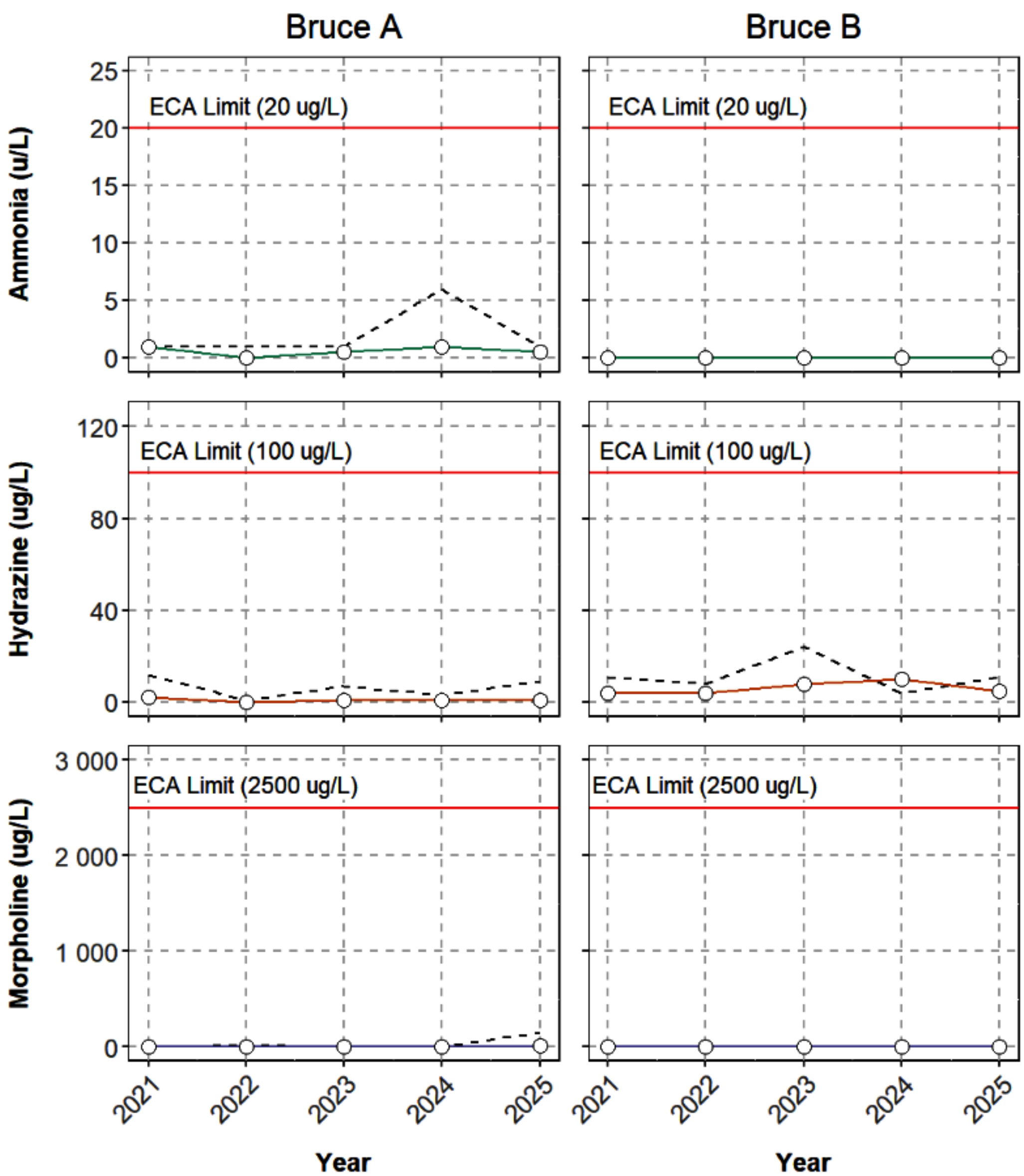


Figure 25 – Bruce A and Bruce B Cooling Water Discharge Duct Annual Average Concentrations from 2021 through 2025.
(The solid line indicates the average annual value;
the dashed line indicates the maximum annual value.)

In 2025, there were three reportable events related to the site Environmental Compliance Approvals; acute lethality failures for Daphnia magna in the Bruce B Active Liquid Waste System discharge in April, June, and November 2025. These events were reported to the MECP as well as to the CNSC (reference B-2025-472414, B-2025-485303 and B-2025-526371). A comprehensive investigation extending over 18 months found no evidence that chemical contaminants are responsible for the observed *Daphnia magna* lethality in Bruce B Active Liquid Waste System effluent. Targeted follow-up testing demonstrated that water conditions; low hardness (corrected *in situ* following the first failure in 2025), and low alkalinity is the primary factor influencing *Daphnia magna* mortality. It should be noted that no adverse effects were observed on Rainbow Trout, which is the other test organism used for the toxicity tests. In recent investigations, Bruce Power observed that the addition of sodium bicarbonate (increases alkalinity) in laboratory tests on this effluent consistently eliminated acute lethality impacts on *Daphnia magna*. These results indicate that the observed lethality impact on *Daphnia magna* is attributable to ion-deficient water conditions in the Bruce B Active Liquid Waste System, which receives system drainage of predominantly demineralized water that is unsuitable to support *Daphnia magna* life stages, rather than representing an actual environmental risk with a contaminant being discharged to the lake at unsafe levels. Active Liquid Waste System effluent discharges into the Condenser Cooling Water Duct and mixes with a very high flow, before reaching a final control point (monitoring location) at the end of the duct (powerhouse footprint) where it enters the natural environment. Acute lethality testing at this downstream location at the end of the duct consistently passes for both *Daphnia magna* and Rainbow Trout (Table 16), demonstrating that effluent that meets the natural environment is consistently non-toxic.

Thermal effluent limits from the Bruce A and B Environmental Compliance Approvals are provided in Table 19. No exceedances of these limits occurred in 2025. A temporary flexibility amendment of the Bruce A Environmental Compliance Approval is in place to allow a maximum effluent temperature of 34.5 degrees Celsius (an increase of 2.3 degrees Celsius) between June 15th and September 30th each year. This operational flexibility, which is required to compensate for gradual lake-wide warming due to climate change, permits Bruce A effluent temperature to reach 34.5 degrees Celsius for a maximum of 30 aggregate days within this period, and for no more than a maximum of 15 consecutive days at a time. This operational flexibility was not invoked in 2025 because the maximum daily average effluent temperature at Bruce A did not exceed 32.2 degrees Celsius. The amended Bruce A Environmental Compliance Approval containing the updated thermal flexibility was issued in April 2024 [R-60] and is valid through December 21, 2028. Bruce Power is required to notify the MECP Local District Manager verbally at the start and end of each occurrence of invoking thermal flexibility, followed by written notification within 14 days.

Section 5.2.3 provides a summary of off-site thermal monitoring programs. An updated Thermal Risk Assessment will be prepared every 5 years as part of the Environmental Risk Assessment update (Section 7.0). The Thermal Risk Assessment will incorporate up-to-date climate science and 5 years of off-site thermal monitoring and modelling data as well as advancements in the scientific literature on the effects of temperature on aquatic biota. The Thermal Risk Assessment is to be submitted to the MECP Local District Manager in June 2027, as well as to the Saugeen Ojibway Nation, the Métis Nation of Ontario (Region 7) and Historic Saugeen Métis.

Table 19 – ECA Limits for Bruce A and Bruce B

Station	Parameter	Calendar Period	Daily (24hr) Average Temperature Limit
Bruce A	Effluent Temperature	Jun 15 to Sept 30	34.5°C (see note)
Bruce A	Effluent Temperature	Oct 1 to Jun 14	32.2°C
Bruce A	Temperature Difference (effluent minus intake)	Dec 15 to Apr 14	13.0°C
Bruce A	Temperature Difference (effluent minus intake)	Apr 15 to Dec 14	11.1°C
Bruce B	Effluent Temperature	Entire Year	No Limit
Bruce B	Temperature Difference (effluent minus intake)	Dec 15 to Apr 14	13.0°C
Bruce B	Temperature Difference (effluent minus intake)	Apr 15 to Dec 14	Q11°C

Note: During the Bruce A Operational Flexibility window, Bruce A shall be allowed to go beyond the Daily (24 hour) average effluent temperature limit of 32.2°C for no more than 30 aggregate days in this window and no more than 15 consecutive days for each.

4.2.3.2 Wastewater Systems Effluent Regulations

The *Wastewater Systems Effluent Regulations* [R-85] is a Federal wastewater regulation under the *Fisheries Act* that came into effect in 2012. The regulation applies to wastewater treatment systems like Bruce Power's Sewage Processing Plant because it discharges wastewater effluent at a flowrate that exceeds 100 cubic metres a day. Table 17 shows a summary of the measured Sewage Processing Plant effluent concentrations from 2021 to 2025. There were no exceedances reported in 2025.

4.2.3.3 Permit to Take Water

Most operations in Ontario that take more than 50,000 litres of water per day from a lake, river, stream, or groundwater source must obtain a Permit to Take Water from the MECP [R-58]. These permits help ensure Ontario's water is conserved, protected, managed, and used sustainably. Ontario's Water Taking Regulation (*Ontario Regulation 387/04*) [R-86] helps ensure fair sharing of water resources and it prevents interferences among water users. Permits are not issued to assign rights to water or to establish priorities on water use. *Ontario Regulation 387/04* [R-86] sets out criteria that the Ministry must consider when assessing an application for a Permit to Take Water. A permit will not be issued if the Ministry determines that the proposed water taking will adversely impact existing users or the environment [R-86].

Bruce Power has a separate permit for each station Bruce A P-300-2114648110 [R-63], Bruce B P-300-4114675736 [R-64] and Centre of Site P-300-7116089842 [R-65]. The Bruce A and Bruce B permits include flexibility throughout the year to allow for optimized efficiency in unit output as well as upgrades to Condenser Cooling Water pumps. Bruce Power remained in compliance with all Permit to Take Water requirements in 2025.

Bruce Power recognizes the value and importance of its interactions with Lake Huron. Bruce Power uses the cold, deep Lake Huron water in a once-through-cooling process to supply operational needs including consumption for boiler feedwater and domestic (potable) water. Bruce Power values this resource and more than 99.9 per cent of the water used for once-through-cooling is returned to Lake Huron. This process is highly regulated, including provincial permits for water taking and reporting and imposing protective limits on water quality for water returned to the lake. This ensures the conservation, protection, management and sustainable use of Ontario's freshwater resources.

In our effort to uphold and support these goals, Bruce Power monitor's its usage, including the amount of water returned directly to the lake with no chemical changes, and reports on daily amounts drawn from Lake Huron. Beyond considerations of water quantity management, Bruce Power is committed to monitoring and ensuring the protection of water quality and fish habitat in Lake Huron.

4.2.3.4 Quality Assurance/Quality Control

Quality Assurance and quality control for the conventional water effluent program applies the requirements of the Protocol for the Sampling and Analysis of Industrial/Municipal Wastewater [R-87] for Environmental Compliance Approvals [R-60]–[R-62], which also meets the requirements of CSA N288.5-11, Effluent monitoring programs at Class I nuclear facilities and uranium mines and mills [R-4]. The Quality Assurance/Quality Control program also includes requirements of the Environment and Climate Change Canada *Wastewater Systems Effluent Regulation* [R-85].

The Quality Assurance/Quality Control requirements for the conventional water effluent program include field quality control, lab quality control, and tracking of quality control data. The Quality Assurance/Quality Control program documentation further defines when lab accreditation is required for specific sampling parameters, and in some cases defines actions and how to report data depending on the Quality Assurance/Quality Control results.

4.3 Pollution Prevention

Environment and Climate Change Canada has the authority to require preparation and implementation of pollution prevention plans for toxic substances under Part 4 of *Canadian Environmental Protection Act* [R-88]. Pollution prevention planning is a method of identifying and implementing pollution prevention options to minimize or avoid the creation of pollutants or waste. Environment and Climate Change Canada issued a pollution prevention planning notice for any person who operates a facility in the electricity sector that has a concentration of hydrazine that is higher than the specified target levels under normal operating conditions and at any final discharge point. Bruce Power reviewed the notice and submitted a Notification of Non-Engagement [R-89] because effluent hydrazine concentrations are below the specified target levels under normal operating conditions. In 2025, all Bruce A and Bruce B Cooling Water Discharge Duct hydrazine results were below the P2 threshold.

4.4 Environmental Emergency Regulations

The aim of the Federal *Environmental Emergencies Regulations, 2019* [R-90] (under *Canadian Environmental Protection Act*) is to help reduce the frequency and severity of accidental releases of hazardous substances into the environment. Two hundred and forty-nine hazardous substances are included in the regulations, identified for their emergency hazard characteristics (oxidizer that may explode, inhalation, aquatically toxic, explosion, combustible, pool fire). The *Environmental Emergencies Regulations* identify minimum threshold quantities for these substances, above which there are requirements for submitting notices, developing Environmental Emergency Plans, and completing drills. These are based on both the total volume on site and the size of the largest container system for the substance(s). There are additional reporting requirements for Environmental Emergencies. To date, Bruce Power has not had a reportable Environmental Emergency under this regulation. Bruce Power currently meets the reporting threshold on site for diesel (Chemical Abstract Service Number 68334-30-5). Diesel volumes on site are above the total volume on site threshold; this required Bruce Power to submit a Schedule 2 notice to Environment and Climate Change Canada in 2021.

5.0 ENVIRONMENTAL MONITORING

Bruce Power's Environmental Monitoring program is built upon an integrated monitoring approach to improve understanding of environmental impact, verify environmental protection, and continuously improve performance by driving strategic research and innovation through collaborations with industry and community. To demonstrate environmental protection, Bruce Power performs extensive monitoring and modelling of radiological and conventional contaminants in the near-surface zones where living organisms, air, water, soil, sediment, and groundwater interact, Figure 26.

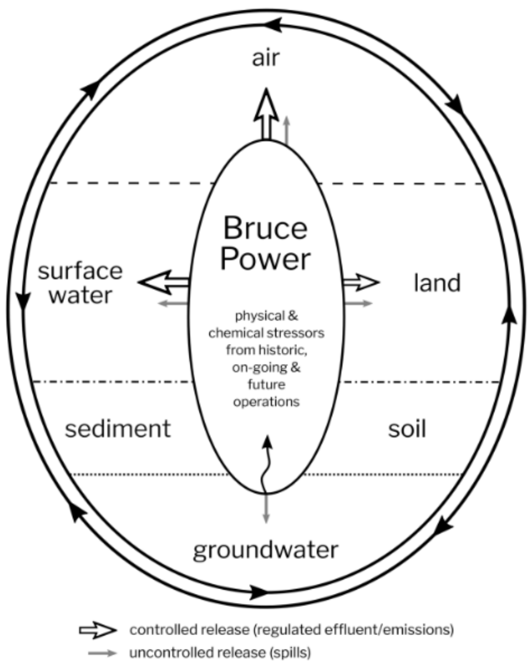


Figure 26 – Bruce Power has Multiple Layers of Protection in Place to Minimize Emissions and Effluents Released During Facility Operations

The Environmental Monitoring program monitors and models physical, radiological and chemical stressors released to the environment and continuously assesses their risk and impact.

Emissions and effluents to air, water and land are controlled and regulated to ensure that all releases occur in a manner that minimizes environmental impact. Bruce Power's Radiological and Conventional Environmental Monitoring programs are designed to continuously verify that environmental protection is being maintained and that these releases have a minimal impact on the surroundings. The programs are based on CSA N288.4-10 Environmental monitoring programs at nuclear facilities and uranium mines and mills [R-7], Canadian Nuclear Safety Commission (CNSC) REGDOC-2.9.1 Environmental Protection: Environmental Principals, Assessments and Protection Measures [R-14], and reporting requirements in CNSC REGDOC-3.1.1 Reporting Requirements for Nuclear Power Plants [R-2].

The primary objectives of the Environmental Monitoring program are to:

- Demonstrate compliance with all applicable environmental compliance obligations, Licence conditions and the Environmental & Sustainability Policy.
- To have in place environmental monitoring to provide timely data confirming that uncontrolled releases are not occurring and, if uncontrolled releases do occur, to identify when and where.
- To protect human and ecological health that may be affected by the release of contaminants or physical stressors into the environment arising from the facility.
- Support business decisions to drive environmental protection and sustainability principles.
- Maintain strong engagement and collaboration with local Indigenous Nations and Communities, and other interested parties.

Additionally, the CSA standard N288.4, Environmental monitoring programs at Class I nuclear facilities and uranium mines and mills outlines the following objectives for Environmental Monitoring programs [R-7]:

- Collect environmental monitoring data to assess the level of risk to human health and safety, and the potential biological effects in the environment of the contaminants and physical stressors of concern arising from the facility,
- Demonstrate compliance with limits on the concentration and/or intensity of contaminants and physical stressors in the environment and their effect on the environment; and
- Verify that the facility has effective containment and effluent control measures in place.

Bruce Power has well-established environmental monitoring programs that focus on the local area around the facility, including neighboring communities and Lake Huron. Together, the results build an overall understanding of the risk to human health and impact on the environment. The company's strong commitment to excellence has yielded exceptional environmental performance, and Environmental Risk Assessments continually show the operation of the facility has little-to-no impact on human and ecological health. This conclusion is supported by evidence independently collected by the Federal and Provincial governments who monitor and measure concentrations of contaminants in the environment near Bruce Power.

Bruce Power continues to engage with Saugeen Ojibway Nation, Métis Nation of Ontario (Region 7) and Historic Saugeen Métis and make progress on all commitments made at the 2018 licence renewal. Regular meetings are held with the Saugeen Ojibway Nation, Métis Nation of Ontario (Region 7), and Historic Saugeen Métis to discuss key concerns, regulatory items, and other items of interest. This continued dialogue results in improved understanding and opportunities for feedback and collaboration. Topics of focus include thermal effluent, fish impingement and entrainment, environmental monitoring and assessment, and dietary surveys. In 2024, Bruce Power and the Historic Saugeen Métis completed a project to remove invasive Phragmites from the Fishing Islands wetland complex. This project has helped to restore fish habitat and encourage naturalization of the area by removing high density Phragmites.

In 2025 progress on commitments were as follows:

- Continued to advance discussions on the Impact Assessment, with official Tailored Impact Statement Guidelines being received in August of 2025. The Impact Assessment followed Ontario Government's announcement of support for Bruce Power to commence the long-term planning and consultation work required to explore nuclear expansion options on the Bruce Power site (Bruce C Project). Although no decision has been made to advance with a project, the process has been initiated to begin early dialogue and engagement to ensure all voices are heard.

- Sustained support for the Saugeen Ojibway Nation's Coastal Waters Monitoring Program, established in 2019. This program enhances the existing body of knowledge compiled through Bruce Power's environmental monitoring program and results of this Program were integrated throughout the 2022 Environmental Risk Assessment.

- Continued sharing of impingement and entrainment and thermal effluent information.

- Ongoing discussions with the Saugeen Ojibway Nation to identify and implement a meaningful offset project that is supported by the community. A project to support Lake Whitefish Rehabilitation research has been proposed, and plan development is ongoing. Bruce Power's *Fisheries Act* Authorization was amended in December 2025 and the project plan is now due to Fisheries and Oceans Canada by December 31, 2026.

- In December 2023, an offset project plan was approved by Fisheries and Oceans Canada to improve fish habitat and restore connectivity in Bothwell's Creek, near Leith, Ontario. Bothwell's Creek has been used by the Métis Nation of Ontario (Region 7) community for fishing and recreation, however a decline in fish has been noticed over the past decade. Erosion, leading to high sedimentation, and a build-up of large debris may be the leading causes of the observed decline in fish in the creek. With the assistance of the Grey Sauble Conservation Authority, Bruce Power and the Métis Nation of Ontario (Region 7) held a community tree planting event in May 2024 to plant fifty white cedar trees along vulnerable stretches of the stream bank. In addition to the offset project, between 2024 and 2025 Bruce Power, the Métis Nation of Ontario (Region 7) and Freshwater Conservation Canada monitored temperature and completed redd surveys in Bothwell's Creek to better understand the creek conditions and inform future rehabilitation or enhancement activities planned for 2026.

In 2026 Bruce Power will continue to engage with each community on thermal effluent monitoring, fish impingement and entrainment, as well as continue work on community specific offset plans.

5.1 Radiological Environmental Monitoring

The Radiological Environmental Monitoring Program establishes a database of radiological activity measured in the environment near Bruce Power and determines the contribution of radiation dose to members of the public as a result of the radiological releases from normal operations on Site. The Radiological Environmental Monitoring Program is conducted in accordance with CSA N288.4-10 [R-7] and is integrated into the environmental management system framework which requires a regular review, assessment and refinement of the program to ensure the environment and the public are adequately protected.

The Radiological Environmental Monitoring data implicitly reflects the influence of releases from all licensed activities carried out at Bruce Power licensed facilities (i.e., Bruce A, Bruce B, Central Maintenance Facility and Central Storage Facility) as well as from facilities within or adjacent to the Bruce Power site boundary that are owned and operated by other parties. This includes the Western Waste Management Facility (owned and operated by Ontario Power Generation) and the Douglas Point Waste Facility (owned by the Atomic Energy of Canada Limited and operated by Canadian Nuclear Laboratories), both of which are located inside the Site perimeter, as well as the Ontario Nuclear Services Facility (owned and operated by Kinectrics) and the Western Clean – Energy Sorting and Recycling Facility (owned by Laurentis Energy Partners and operated by EnergySolutions) which are located outside the Site perimeter.

The Radiological Environmental Monitoring Program involves the collection and analysis of environmental media for radionuclides specific to nuclear power generation. Background levels of radioactivity in the environment due to naturally occurring sources are subtracted from the totals in order to determine the impact specific to Bruce Power operations. The data gathered each year is used in the annual dose to public calculation, which is described in Section 3.0.

The design of the Radiological Environmental Monitoring Program is based on risk and is informed by a radionuclide and exposure pathways analysis. This analysis outlines which radionuclides and environmental media should be monitored due to their contribution to human or non-human radiological dose. For radionuclide-media pairs contributing > 10% to the total dose of any human receptor, Bruce Power attempts to obtain samples at a minimum of one location per 22.5° wind sector over land to provide spatial resolution at the cardinal points of the compass and align with standard partitioning of meteorological data. The media contributing greater than 10% to receptor dose are air, soil, milk, meat, and terrestrial plants such as grains, fruit and vegetables. For radionuclide-media contributing < 10% to the total dose, Bruce Power attempts to obtain samples at three locations over land within the Radiological Environmental Monitoring boundary.

The following environmental media are collected and analyzed as part of the annual Radiological Environmental Monitoring Program:

- Air
- Water
  - Drinking water (e.g., water supply plants, residential wells)
  - Lake and stream water
- Terrestrial Samples
  - Animal products (e.g., milk, eggs, honey, animal meat)
  - Agricultural products (e.g., fruits, vegetables, farm crops, animal feed)
  - Soil
- Aquatic Samples
  - Fish
  - Sediment and beach sand

The radionuclides that are measured in the environmental media collected include tritiated water (tritium oxide), carbon-14, iodine-131, and beta and gamma emitting radionuclides.

Bruce Power relies on the Ontario Power Generation Health Physics Laboratory in Whitby, Ontario for provincial background radioactivity levels measured in a variety of environmental media collected at locations outside the influence of Bruce Power or other nuclear power plants. Background radiation comes from naturally occurring radioactive materials present in the environment (see Section 3.0), and these levels are subtracted from Bruce Power environmental monitoring results for dose calculations each year. The provincial background sampling locations are shown in Figure 27.

For the Bruce Power Radiological Environmental Monitoring Program, monitoring locations for aquatic media such as lake water, fish and sediment are downstream of the site, at locations where radionuclides are expected to accumulate. For air sampling, monitors are situated at varying distances from Bruce Power at locations covering all landward wind directions. For terrestrial foodstuffs (e.g., milk, meat, fruit, vegetables, grains, eggs, honey), sampling is performed at nearby areas or at local farms and residences, as applicable. Monitoring locations are based on practical considerations, including the availability of samples and participation of local residents and farmers. Wild animals are sampled only when available (e.g., subject to on-site vehicle collisions or samples provided by local hunters). Milk is monitored from several local dairy farms through an agreement with the Dairy Farmers of Ontario.

Bruce Power groups the sampling locations by proximity to site and these groups include indicator, area near and area far locations. Indicator locations are used to assess the potential dose to the public. These locations are on or outside the facility perimeter and represent the highest risk of public exposure as they are closest to the source. Indicator locations are within 20 kilometres of the facility and take into consideration the locations of representative persons and where they get their food and water from, as well as prevailing wind directions. Area near locations are used in conjunction with indicator locations to provide confirmation of the validity of the computing models used to assign dose to the public. Area near location data is used to estimate atmospheric dispersion and doses to people in local population centres located further away from the site than the indicator locations, but less than 20 kilometres from the facility. Data from the area near locations may be used to calculate the average dilution available as a function of distance for a given monitoring period. Area far locations are located further away but potentially still under the influence of Bruce Power. Area far locations include the towns of Port Elgin, Paisley and Kincardine. Control locations are located outside the influence of Bruce Power but close enough to have similar background levels to Site. These samples are collected by Bruce Power when equivalent samples or analyses are not available through the Provincial background monitoring program.

Bruce Power on-site, area near and area far sampling locations are provided in Figure 28 and Figure 29.

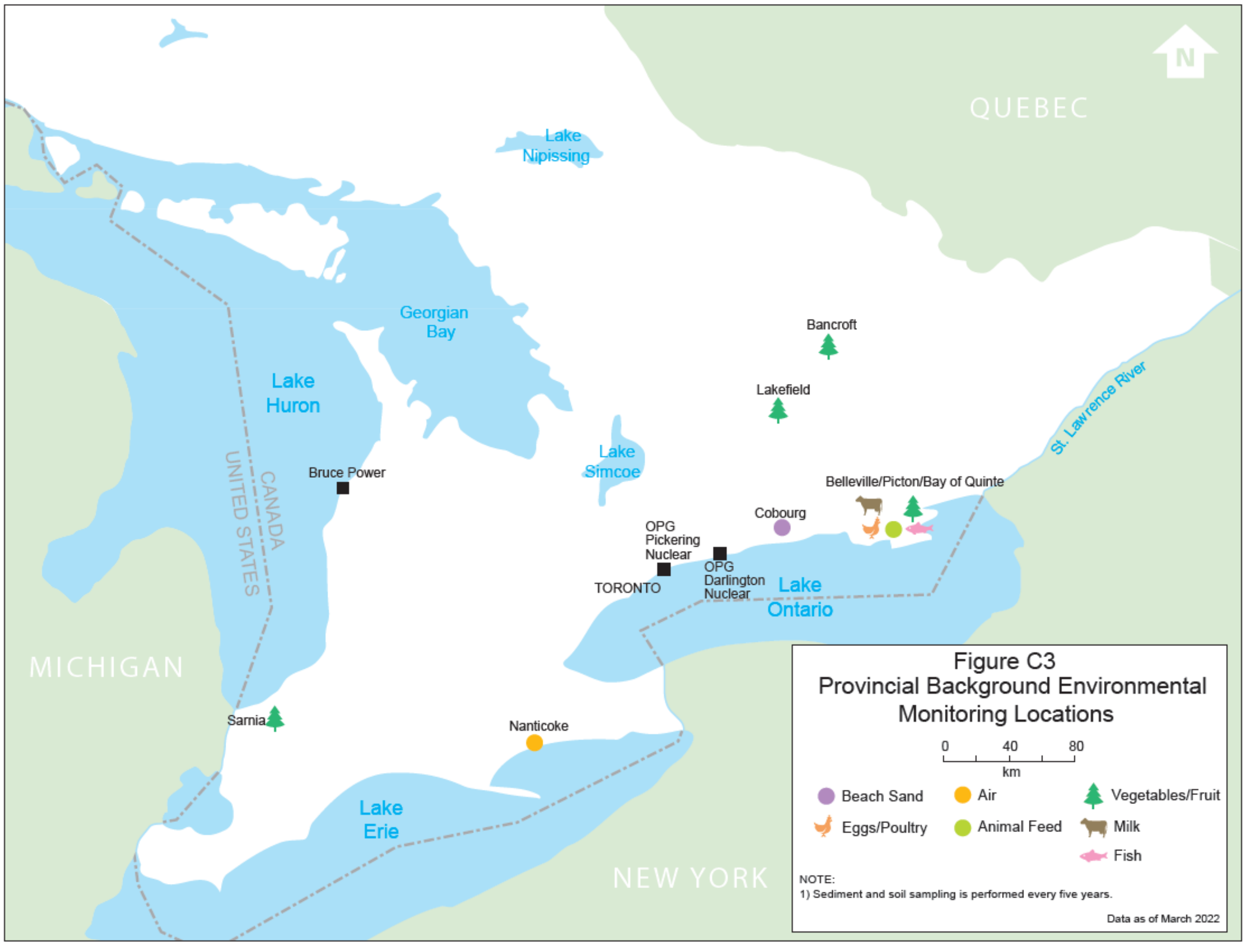


Figure 27 – Provincial Background Radiological Environmental Monitoring Locations

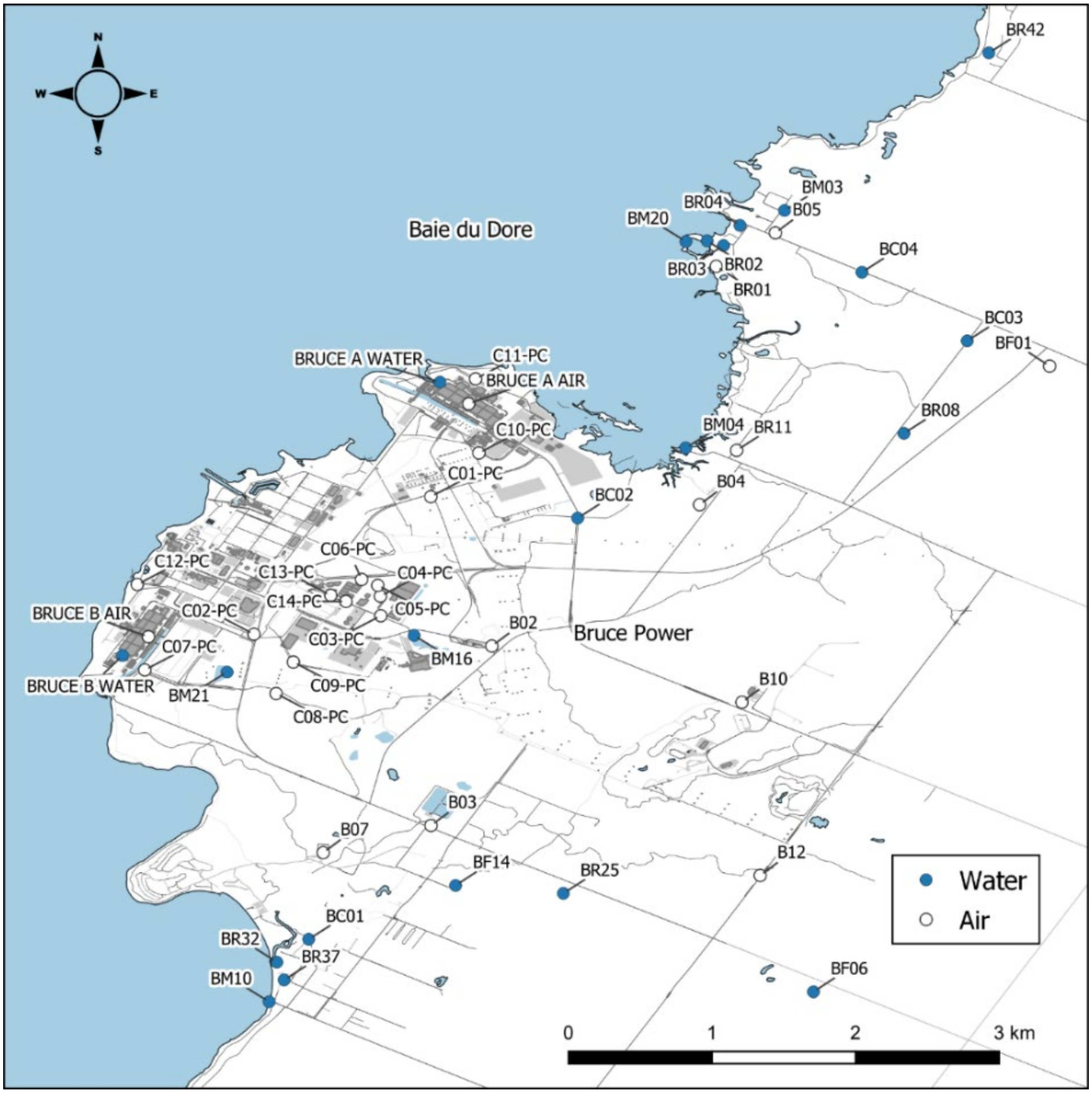


Figure 28 – Bruce Power On-Site and Area Near Radiological Environmental Monitoring Locations

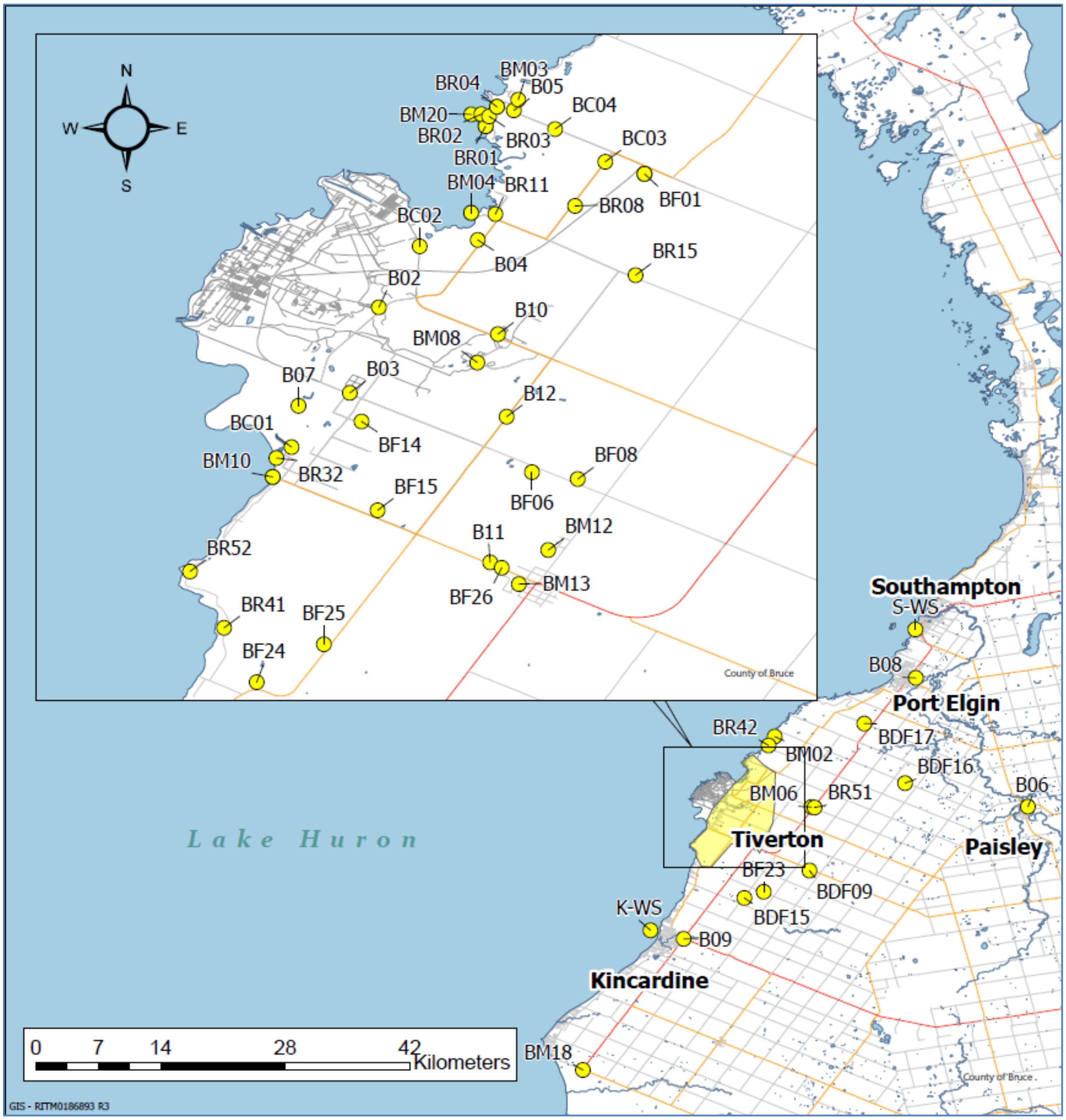


Figure 29 – Bruce Power Area Near and Far Radiological Environmental Monitoring Locations

For Radiological Environmental Monitoring data analysis, the actual measured value, uncertainty, critical level and detection limit are recorded in a data management system. The critical level or decision threshold (Lc) is the calculated value based on background measurements, below which the net counts measured from the sample are indistinguishable from the background at the 95% probability level. The detection limit (Ld) is the calculated value based on the decision threshold and the measurement system parameters (e.g., count time) above which the net counts measured from the sample are expected to exceed the decision threshold at the 95% confidence level. These definitions of critical level and detection limit are consistent with CSA N288.4-10 Annex D [R-7].

For Bruce Power Radiological Environmental Monitoring data, when the actual measured value is less than the associated critical level (<Lc), those values were taken as reported (i.e., not censored). In the calculation of averages where some measured values were reported as less than the critical level, the uncensored analytical results were used in the calculation. For instances where the annual *average* value is negative or where all individual analytical results were less than the critical level, the result is stated as “<Lc” for simplification. For provincial background data where the result was less than the detection limit (<Ld), the detection limit value was used in the annual average. When all of the results for a particular radionuclide-media pair were less than the detection limit, or where the annual average was negative, then “<Ld” was stated for the annual average.

The following sections provide the results of Radiological Environmental Monitoring carried out by Bruce Power in 2025 and previous years. The provincial background results are also provided where appropriate. The 2022 results of the CNSC Independent Environmental Monitoring Program in the Bruce County area are presented for comparison, as applicable, for additional demonstration that there is low radiological risk from Bruce Power operations to people and the environment.

Radiological Environmental Monitoring results are presented as monthly, quarterly or annual averages by location or location type (e.g., indicator, area near, area far, or background). The variance from the mean is presented as standard error bars on the figures. Where individual results are presented (e.g., animal products) the analytical uncertainty (±2σ) is provided along with the critical level (Lc).

5.1.1 Radiological Environmental Air Monitoring

Bruce Power monitors for external gamma radiation, tritium oxide and carbon-14 concentrations in air on a continuous basis at a variety of locations near and far from site. Airborne deposition of radioactive particulates is monitored through the sampling of surface water (Section 5.1.2) and soil (Section 5.1.4.3). The air results are used in the annual dose to public calculation for each of the representative persons that live near Bruce Power. In addition, the results inform the environmental monitoring and Environmental Risk Assessment programs to ensure that Bruce Power is appropriately monitoring and understanding its impact on the environment.

5.1.1.1 External Gamma in Air

Ambient external gamma radiation in air was measured using Harshaw Environmental Thermoluminescent Dosimeters at 10 air monitoring stations near and far from Bruce Power (Figure 28 and Figure 29). The dosimeters are exposed for three-month periods, collected quarterly and measured by the Ontario Power Generation’s Whitby Health Physics Laboratory. The annual dose rates are calculated as the sum of the quarterly results.

Provincial background dosimeters are located at various locations around Ontario (Figure 27) and are also collected quarterly and measured by the Whitby Health Physics Laboratory. The dosimeter locations throughout the province show the range of background radiation levels experienced by Ontario residents during the year. Bruce Power and provincial background results are detailed in Table 20.

The Bruce Power indicator sites B02, B03, and B04 are located closest to the Bruce Power site and the average external gamma dose in air was 50 nanogray per hour for 2025, with the maximum occurring at B03 with a result of 53 nanogray per hour, as shown below in Table 20. For comparison, the average of the seven provincial background sites was slightly higher at 59 nanogray per hour.

Thermoluminescent dosimeter measurements alone cannot resolve the very low gamma doses in air associated with radiological emissions from the Bruce Power site or those observed provincially. This includes radioactive noble gases such as argon-41, xenon-133 and xenon-135. As a result, a conservative modelling method of estimating noble gas activity in the environment using emissions data and atmospheric dilution factors is used in the annual dose estimates. This demonstrates that the impact of Bruce Power on the surrounding environment, with regards to gamma radiation in air, is *de minimus* or negligible.

Table 20 – 2025 Annual External Gamma Dose Rate Measurements

Location Type	Sample Location	Total Exposure Time (days)	Total Measured Dose in Air (microgray)	Annual Average Dose Rate in Air (nanogray per hour)	Annualized Exposure (microgray)
Indicator	B02-TLD	354	446	52	460
Indicator	B03-TLD	355	450	53	463
Indicator	B04-TLD	355	383	45	394
Area Near	B05-TLD	355	387	45	398
Area Near	B07-TLD	355	381	45	392
Area Near	B10-TLD	355	523	61	538
Area Near	B11-TLD	355	475	56	489
Area Far	B06-TLD	355	402	47	414
Area Far	B08-TLD	355	385	45	396
Area Far	B09-TLD	355	403	47	415
Background	Bancroft	360	611	71	620
Background	Barrie	363	530	61	533
Background	Lakefield	360	519	60	527
Background	Niagara Falls	365	402	46	402
Background	North Bay	365	522	60	522
Background	Thunder Bay	356	534	63	548
Background	Windsor	370	462	52	456
Indicator	Average	355	426	50	439
Area Near	Average	355	442	52	454
Area Far	Average	355	397	47	408
Background	Average	363	511	59	515

The annual average external gamma dose rates for Bruce Power indicator, area near and area far sites over time are shown in Figure 30, along with the annual average provincial background dose rate. External gamma values have remained relatively constant over time. Both Bruce Power and provincial measurements show similar trends, although Bruce Power is consistently below the provincial background average. A general linear model ($\alpha=0.05$) was performed by site over the last 10 years and identified that there is no statistically significant change over time ($p>0.05$), or difference by site over time ($p>0.05$). An analysis of variance ($\alpha=0.05$) shows a statistically significant difference in the means by site ($p<0.001$). The results showed that the provincial site had the highest mean gamma in air, that the indicator and area near sites had no significant difference from each other and that the area far site had the lowest mean gamma in air.

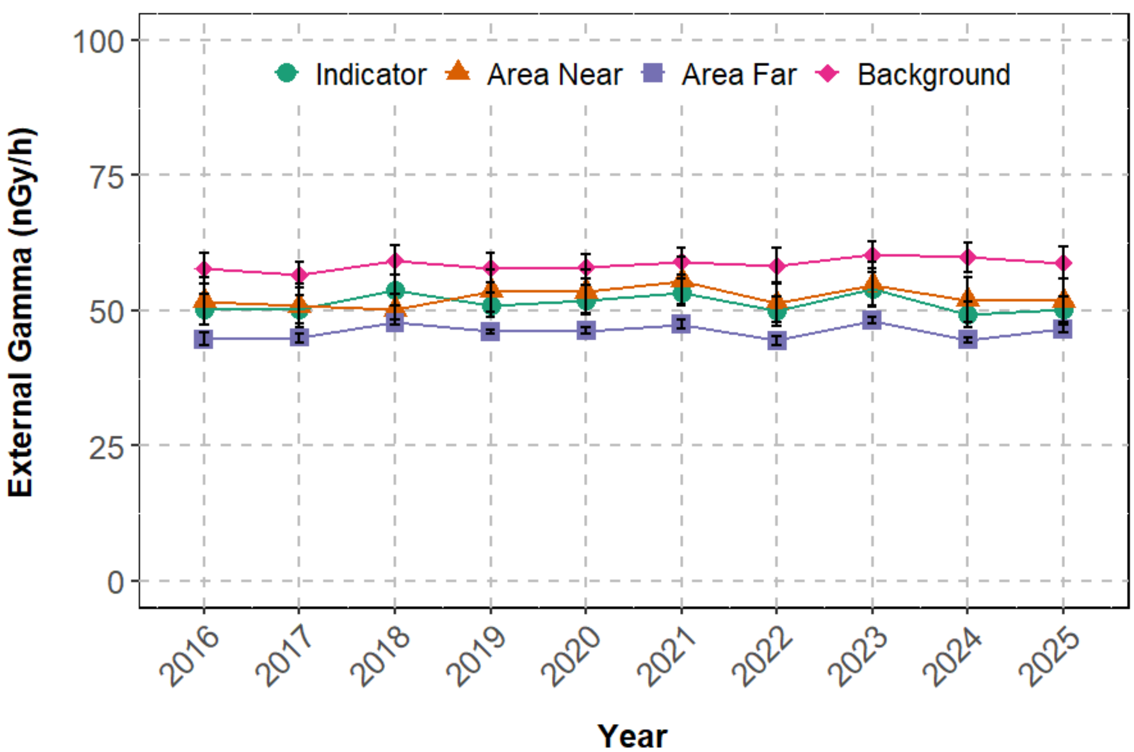


Figure 30 – Annual Average External Gamma Dose Rates (nanogray per hour) at Bruce Power Indicator, Area Near, Area Far and Provincial Background Locations Over Time (± Standard Error).

Health Canada also monitors total external gamma dose in the local area [R-91]. The Fixed Point Surveillance network monitors radiation dose to the public in real-time due to radioactive materials (natural and manmade) in the terrestrial environment, whether they are airborne or on the ground. The radiation dose from all external gamma sources, which includes natural background from mineral deposits in the ground or radon gas in the air, is provided as Total Air Kinetic Energy Released in Matter. The contributions to external dose from three radioactive noble gases argon-41, xenon-133 and xenon-135 are reported in nanogray per month (1 nanogray = 0.000001 millisieverts). There are eight Fixed Point Surveillance network monitors in the area near Bruce Power, including at the site boundary, the Visitor's Centre (Infocentre), Scott Point, Kincardine, Inverhuron, Port Elgin, Tiverton, and Shore Road. For 2025, there were equipment or data issues for most of the year at the Scott Point, Inverhuron and Shore road locations. For the months that were available for 2025, the results for argon-41, xenon-133 and xenon-135 were less than the limit of detection (3 to 6 nanogray per month) at all locations [R-92]. Doses at these levels are considered negligible.

The CNSC Independent Environmental Monitoring Program does not monitor for external gamma using the same approach used by Bruce Power, Ontario Power Generation or Health Canada, but instead measures individual gamma emitting radionuclides in air. Therefore, the results are not comparable; however, they are presented to show all of the monitoring results in the Bruce Area and to demonstrate that radiological risk is low. The 2022 CNSC Independent Environmental Monitoring Program monitored for cesium-137 in air at Baie du Doré, Inverhuron, Tiverton and Neyaashiinigmiing locations. All results were < 0.000052 becquerels per cubic metre, which are well below the guideline/reference level of 2.56 becquerels per cubic metre. The CNSC also measured iodine-131 at these locations in 2022, and all results were < 0.00086 becquerels per cubic metre, much lower than the guideline/reference level of 0.228 becquerels per cubic metre [R-93].

5.1.1.2 Tritium Oxide in Air

Tritium oxide in air is measured at 10 locations near Bruce Power (Figure 28 and Figure 29) using active air samplers that pass air at a continuous rate through molecular sieves, where water vapour from the atmosphere is absorbed. The molecular sieves are changed out on a monthly basis and the water is extracted and analyzed for tritium by liquid scintillation counting. The results are obtained by multiplying the specific activity of tritium in the extracted water by the average absolute humidity measured for the sampling period. The average absolute humidity is determined by dividing the mass of water collected on the molecular sieve by the volume of air sampled as measured by an integrated flow meter.

Monthly samples are averaged by location for the year and are shown in Table 21, along with the provincial background value measured in Nanticoke (Figure 27). The monthly results for 2025 are shown in Figure 31.

Table 21 – 2025 Annual Average Tritium Oxide in Air

Location Type	**Sample Location**	**Tritium Oxide (becquerels per cubic metre)**
Indicator	B02-ST	2.3
Indicator	B03-ST	1.8
Indicator	B04-ST	2.7
Area Near	B05-ST	1.3
Area Near	B07-ST	1.6
Area Near	B10-ST	1.5
Area Near	B11-ST	0.8
Area Far	B06-ST	0.1
Area Far	B08-ST	0.2
Area Far	B09-ST	0.3
Indicator	Average	2.3
Area Near	Average	1.3
Area Far	Average	0.2
Background	Nanticoke	0.04

Note:

1. Sample count = 12 in all cases, except B10-ST and B11-ST with sample count = 11.
2. For calculation of averages the uncensored analytical result was used.

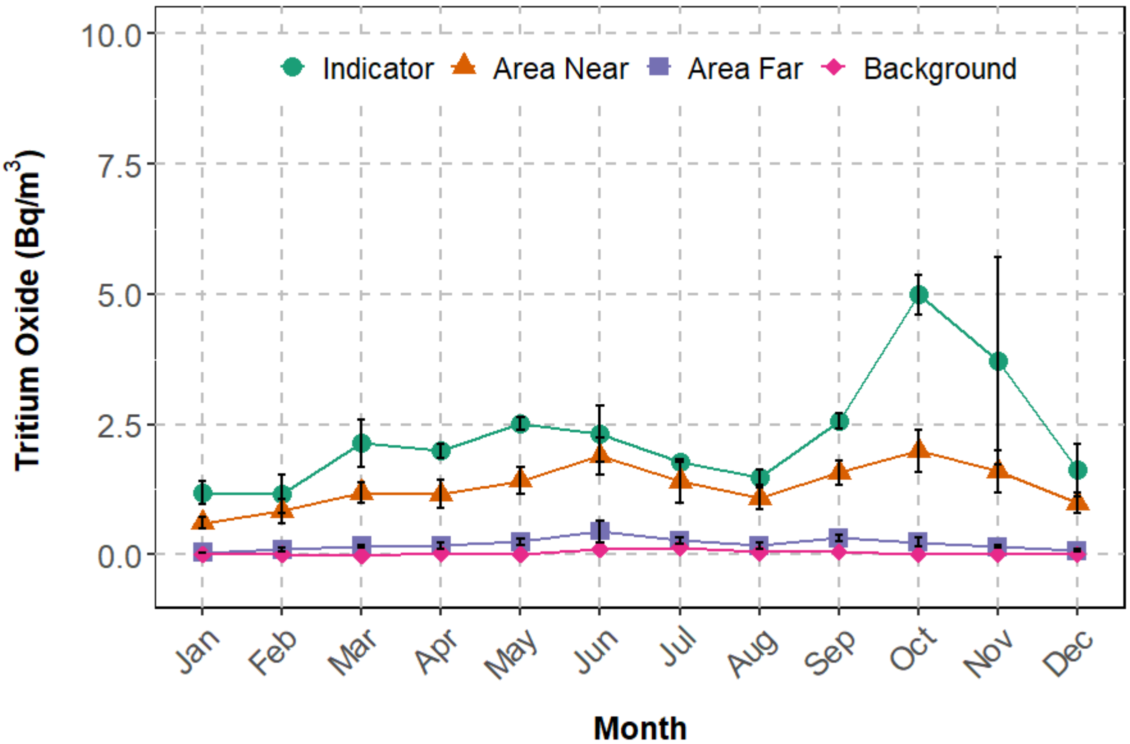


Figure 31 – 2025 Monthly Average Tritium Oxide in Air Concentrations (becquerels per cubic metre) at Bruce Power Indicator, Near, Far and Provincial Background Locations (± Standard Error); reference level = 340 becquerels per cubic metre.

As illustrated in Figure 31, the monthly average tritium oxide levels in air for 2025 were marginally higher at indicator sites closest to Bruce Power (B02, B03, B04), with sites further away (area near and area far) being progressively lower. The average for the area far location was close to the provincial background value each month, which was consistently lower than all Bruce Power results. In 2025 tritium oxide levels at indicator and area near locations were generally low, with a maximum value of 5.0 becquerels per cubic metre observed at the indicator location in October. The higher values in October and November are coincident with planned maintenance activities involving reactor system components (e.g., moderator, calandria) in Unit 2 at Bruce A (see Section 4.1.2). The tritium oxide concentrations measured in air near Bruce Power were well below the CNSC reference level of 340 becquerels per cubic metre.

The historical trend of the annual average tritium oxide in air is shown in Figure 32 for indicator, area near, area far and provincial background locations. Concentrations of tritium oxide in air are higher closer to site and decrease with distance, with area far averages being very similar to background. The annual averages fluctuate with changes to airborne tritium emissions from the site each year, which are related to maintenance work on reactor systems or equipment deficiencies. For example, in 2022 there were equipment deficiencies in the vapour recovery systems at Bruce A, as well as work completed to support the planned vacuum building outage at Bruce A, that contributed to tritium releases to air that year. All historical airborne tritium releases have been well below any reportable or regulatory limits and tritium measurements in air around Bruce Power have consistently been a small fraction of the CNSC reference level of 340 becquerels per cubic metre. These levels are not harmful to people or the environment.

A general linear model ($\alpha=0.05$) was performed by site over the last 10 years and identified that there is not a statistically significant change over time, or a significant difference by site ($p>0.05$). An analysis of variance ($\alpha=0.05$) shows that there is a significant difference in the means by site between the indicator, area near and area far sites, and the mean for area far site is not significantly different to provincial background ($p<0.001$).

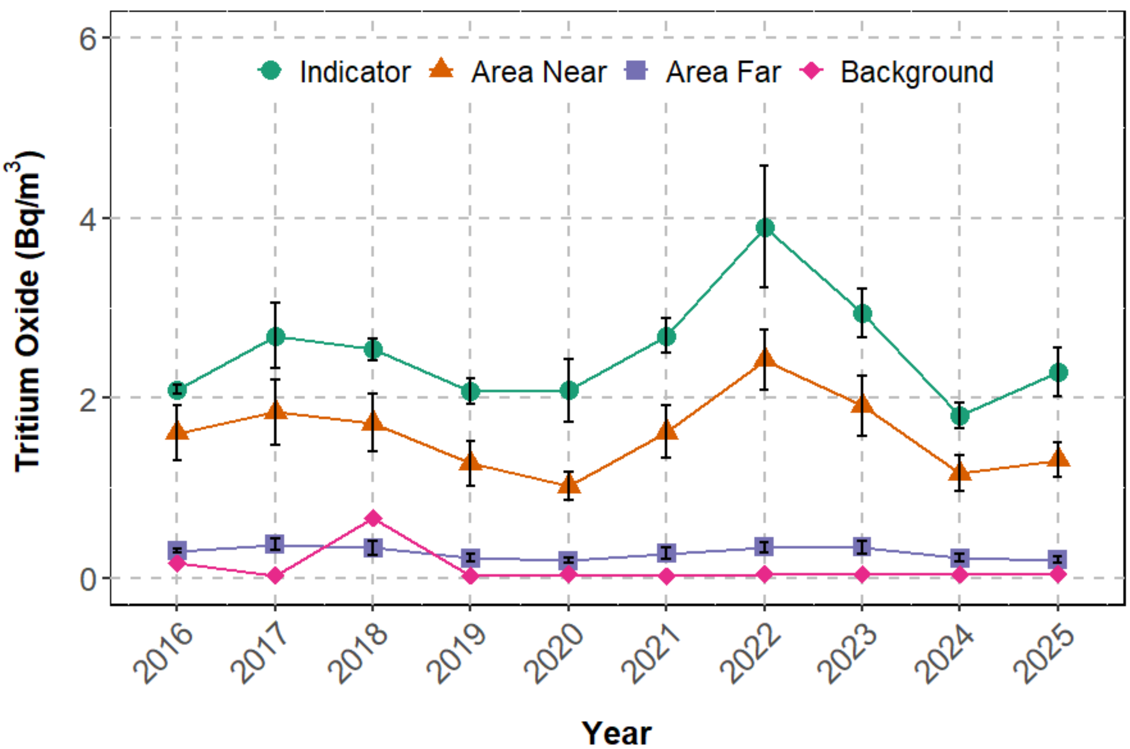


Figure 32 – Annual Average Tritium Oxide in Air Concentrations (becquerels per cubic metre) at Bruce Power Indicator, Area Near, Area Far and Provincial Background Locations Over Time (± Standard Error); reference level = 340 becquerels per cubic metre.

The CNSC Independent Environmental Monitoring Program measured air samples for tritiated water (tritium oxide) and elemental tritium at four locations near Bruce Power in 2022 including Inverhuron, Baie du Doré, Tiverton and Neyaashiinigmiing [R-93]. All results for elemental tritium were less than the limit of detection value of 2.0 becquerels per cubic metre. Two locations had values greater than the detection limit for tritiated water measured in air. These include Baie du Doré at 8.5 becquerels per cubic metre and Tiverton at 6.1 becquerels per cubic metre. All results were well below the guideline/reference level of 340 becquerels per cubic metre for tritiated water and were not expected to cause a human health impact.

5.1.1.3 Carbon-14 in Air

Carbon-14 in air is monitored using passive air samplers that contain mixed soda lime pellets that absorb carbon dioxide from the atmosphere at a controlled rate. The absorbent material is collected on a quarterly basis. The carbon dioxide is released from the pellets by titration with acid and then analyzed by liquid scintillation counting for carbon-14 content. There are eight sampling locations near Bruce Power (Figure 28, Figure 29), with a duplicate sampler at B05 at Scott Point. There are 14 passive samplers on-site situated around Bruce A, Bruce B and Ontario Power Generation Western Waste Management Facility. The Provincial Environmental Monitoring Program has five carbon-14 samplers, shown in Figure 27, to measure background levels.

The average carbon-14 in air results are shown for each quarter of 2025 in Figure 33. The indicator and area near values are very similar to or below background the first two quarters, but carbon-14 was higher near Site for the third and fourth quarters. This is coincident with the timing of the elevated carbon-14 emissions in July 2025 due to spent resin management issues experienced at Bruce A (See Section 4.1.2).

The 2025 annual average carbon-14 concentrations are provided in Table 22 for the off-site locations and in Table 23 for the on-site locations. The average carbon-14 concentration at the indicator location in 2025 was slightly higher than the average provincial background value (Table 22). The individual area near sites located near Bruce A (e.g., BF01-PC, BR01-PC and BR11-PC) were higher than the carbon-14 levels measured at the background locations.

The carbon-14 results from the on-site passive samplers are typically higher than off-site locations due to their proximity to the operating facilities. Those circling the Ontario Power Generation Western Waste Management Facility are generally higher than other areas on-site, including monitors near the Bruce A and Bruce B stations, due to off gassing of spent resin storage containers. Since 2022, Ontario Power Generation has been installing carbon dioxide scrubbers at various locations to reduce emissions from this source. The carbon-14 results measured on-site are not used in dose to public calculations, however they are assessed in the Environmental Risk Assessment for ecological receptors.

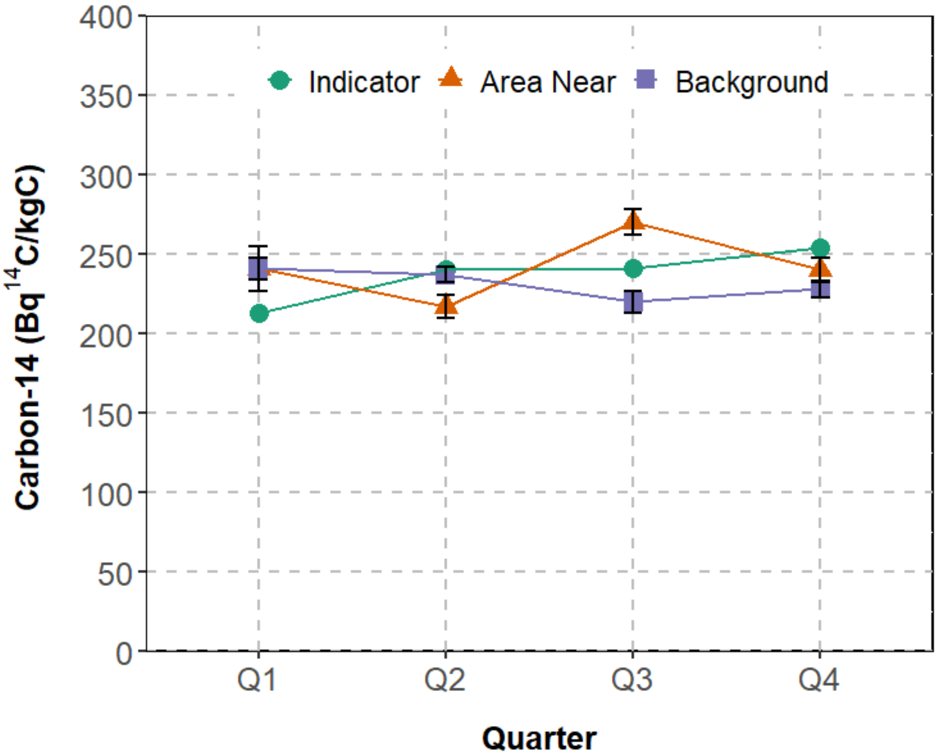


Figure 33 – 2025 Quarterly Average Carbon-14 in Air Concentrations (becquerels carbon-14 per kilogram carbon) at Bruce Power Indicator, Area Near and Provincial Background Locations (± Standard Error).

Table 22 – 2025 Annual Average Carbon-14 in Air from Passive Samplers Off-Site

Location Type	Sample Location	Carbon-14 (becquerels carbon-14 per kilogram carbon)
Indicator	B03-PC	237
Area Near	B05-PC	236
Area Near	B11-PC	225
Area Near	BF01-PC	263
Area Near	BF14-PC	238
Area Near	BF23-PC	217
Area Near	BR01-PC	248
Area Near	BR11-PC	273
Background	Bancroft	236
Background	Barrie	221
Background	Lakefield	232
Background	Nanticoke	237
Background	Picton	233
Area Near	Average	242
Background	Average	231

Note:

1. Sample count = 4 in all cases, except B05-PC sample count = 8.
2. For calculation of averages the uncensored analytical result was used.

Table 23 – 2025 Annual Average Carbon-14 in Air from Passive Samplers On-Site

Location Type	Sample Location	Carbon-14 (becquerels carbon-14 per kilogram carbon)
On-Site	C01-PC	418
On-Site	C02-PC	292
On-Site	C03-PC	6843
On-Site	C04-PC	844
On-Site	C05-PC	652
On-Site	C06-PC	1795
On-Site	C07-PC	327
On-Site	C08-PC	423
On-Site	C09-PC	283
On-Site	C10-PC	516
On-Site	C11-PC	1289
On-Site	C12-PC	381
On-Site	C13-PC	957
On-Site	C14-PC	1023

Note:

1. Sample count = 4 in all cases, except C06-PC sample count = 3.
2. For calculation of averages the uncensored analytical result was used.

The annual average carbon-14 in air concentrations for the last ten years are shown in Figure 34. The Bruce Power annual averages are typically above the provincial annual average, with trends in both being relatively stable in recent years. The 2025 averages at all locations are slightly higher than the previous year. A general linear model ($\alpha=0.05$) was performed by site over the last 10 years and identified a statistically significant change by year ($p<0.001$), but not by site ($p>0.05$). An analysis of variance ($\alpha=0.05$) by site shows that the means for indicator and area near sites are not significantly different from one another, with both means being significantly higher than provincial background ($p<0.001$).

The CNSC Independent Environmental Monitoring Program carried out near Bruce Power in 2022 did not monitor for carbon-14 in air.

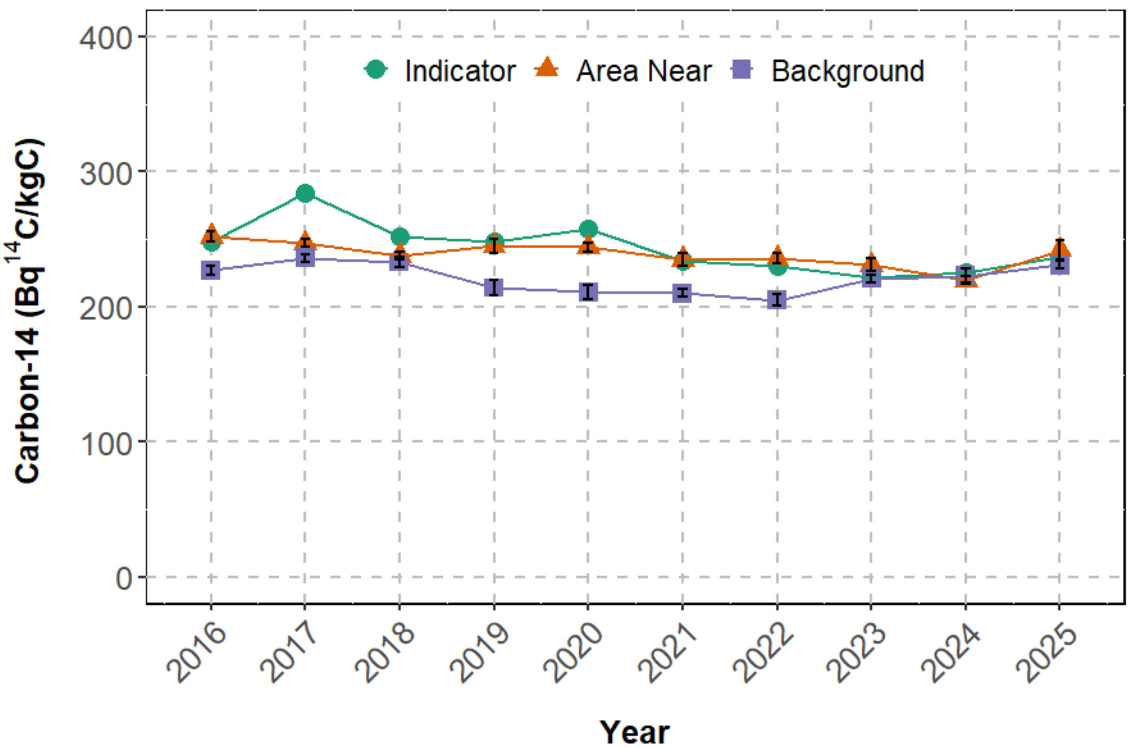


Figure 34 – Annual Average Carbon-14 in Air Concentrations (becquerels carbon-14 per kilogram carbon) at Bruce Power Indicator, Area Near and Provincial Background Locations Over Time (± Standard Error)

5.1.1.4 Air Monitoring Summary

Bruce Power monitors external gamma radiation and tritium oxide and carbon-14 concentrations in air on a continuous basis at locations near Site. All results for 2025 were within normal ranges and similar to historical values. No human health impacts are expected from these levels in the environment.

A summary of each radionuclide group is provided here:

- External gamma results for 2025 were less than provincial background and have remained relatively constant over the last decade. The external radiation levels measured in the area by the CNSC and Health Canada were negligible.
- Tritium levels in air are low and rapidly dissipate with distance from the site. The 2025 values were slightly higher than the previous year due to planned maintenance activities in the fall, however the annual averages were well below the CNSC reference level and are not a risk to human health or the environment.
- For 2025, carbon-14 levels measured in air were slightly higher at locations near Bruce A due to the elevated emissions from Bruce A occurring in July, however results at most locations were similar to background locations. There are no health concerns expected at these levels.

5.1.2 Radiological Environmental Water Monitoring

Bruce Power regularly collects drinking water samples from the local municipal water supply plants and municipal and residential wells near Site for use in calculating dose to members of the public each year. Surface water samples are also collected from Lake Huron and local streams off-site, as well as at locations within the Bruce Power Site boundary. Both drinking water and surface water are monitored for tritium oxide, gross beta and gross gamma radiation. Bruce Power water sampling locations are shown in Figure 28 and Figure 29.

Background levels of tritium oxide in lake water are a combination of natural cosmogenic sources (produced by the action of cosmic rays) and residual fallout from historical nuclear weapons testing. The Atomic Energy Canada Limited developed a mathematical model for estimating background tritium activity in Lake Huron from cosmogenic sources and fallout from nuclear weapons testing [R-94]. Natural Lake Huron tritium levels in the absence of historical and current CANDU tritium releases are estimated to be 1.5 becquerels per litre. This value is used to subtract background from values measured locally for the dose to public calculation.

The provincial background environmental monitoring program monitors tritium oxide and gross beta in samples collected at water supply plants, municipal drinking water locations and lakes within Ontario. Provincial background sampling locations are shown in Figure 27.

The routine monitoring of the on and off-site waterbodies informs the environmental monitoring and Environmental Risk Assessment programs to ensure that Bruce Power is appropriately monitoring and understanding its impact on the environment.

5.1.2.1 Municipal Water Supply Plants

Municipal drinking water is sampled at two municipal water supply plants on Lake Huron – one in Southampton (22 kilometres northeast of Bruce A) and one in Kincardine (15 kilometres south-southwest of Bruce B). Water samples are collected twice per day during regular business hours and weekly composite samples are analyzed for tritium oxide by liquid scintillation counting. Monthly composite samples are analyzed for gross beta radiation by proportional counting. The Ontario Drinking Water Standard for tritium is 7000 becquerels per litre (annual average), however Bruce Power has a long standing commitment with the municipalities to maintain an annual average tritium concentration at the water supply plants below 100 becquerels per litre, and this value was set as an administrative level. [R-95].

The 2025 annual average tritium and gross beta results for drinking water samples collected near Bruce Power and provincial background locations are listed in Table 24. The 2025 annual weekly average for tritium at the Kincardine water supply plant was 5.6 becquerels per litre and at the Southampton water supply plant was 9.6 becquerels per litre. These values are well below the Ontario Drinking Water Standard and CNSC reference level (7000 becquerels per litre), as well as the committed administrative level of 100 becquerels per litre. The average annual tritium concentration at the provincial water supply locations ranged between less than detect and 4.4 becquerels per litre.

The gross beta results at the local water supply plants for 2025 (0.06 becquerels per litre) were similar to historical and provincial background results (0.06 – 0.1 becquerels per litre) and were well below the CNSC reference level of 1 becquerels per litre.

Table 24 – 2025 Annual Average Tritium Oxide and Gross Beta Concentrations in Drinking Water at Municipal Water Supply Locations

Location Type	Sample Location	Tritium Oxide (becquerels per litre)	Gross Beta (becquerels per litre)
Bruce Power	Kincardine	5.6	0.06
Bruce Power	Southampton	9.6	0.06
Background	Brockville	3.6	0.1
Background	Burlington	4.4	0.1
Background	Goderich	4.3	0.1
Background	Kingston	4.2	0.1
Background	Niagara Falls	1.6	0.1
Background	Windsor	3.7	0.1
Background	St. Catherine's	2.9	0.1
Background	Thunder Bay	<Ld	0.06
Background	North Bay	2.4	0.1
Background	Parry Sound	2.6	0.06
Background	Average	3.1	0.1

Note:

1. Bruce Power: For calculation of averages where the result was less than critical level (Lc), the uncensored analytical result was used.

2. Provincial background: For calculation of averages where the result was less than the minimum detection level (Ld), the uncensored analytical result was used. '<Ld' stated in table when all results were <Ld.

The impact of Bruce Power discharges to Lake Huron on the local water supply plants varies from year to year and is dependent on a variety of factors including operational activities, the distance from the discharge points, lake current direction and general dispersion conditions in the lake. The Southampton water supply plant has marginally higher annual average tritium oxide concentrations each year compared to Kincardine due to the predominant lake currents near Bruce Power travelling northward.

The tritium concentrations at the water supply plants over the last ten years are shown in Figure 35. Tritium oxide concentrations are consistently low and stable from year to year, with Southampton being slightly higher than Kincardine and provincial averages. All results are below 15% of the administrative level of 100 becquerels per litre. These values are very low and pose no risk to human health from these levels.

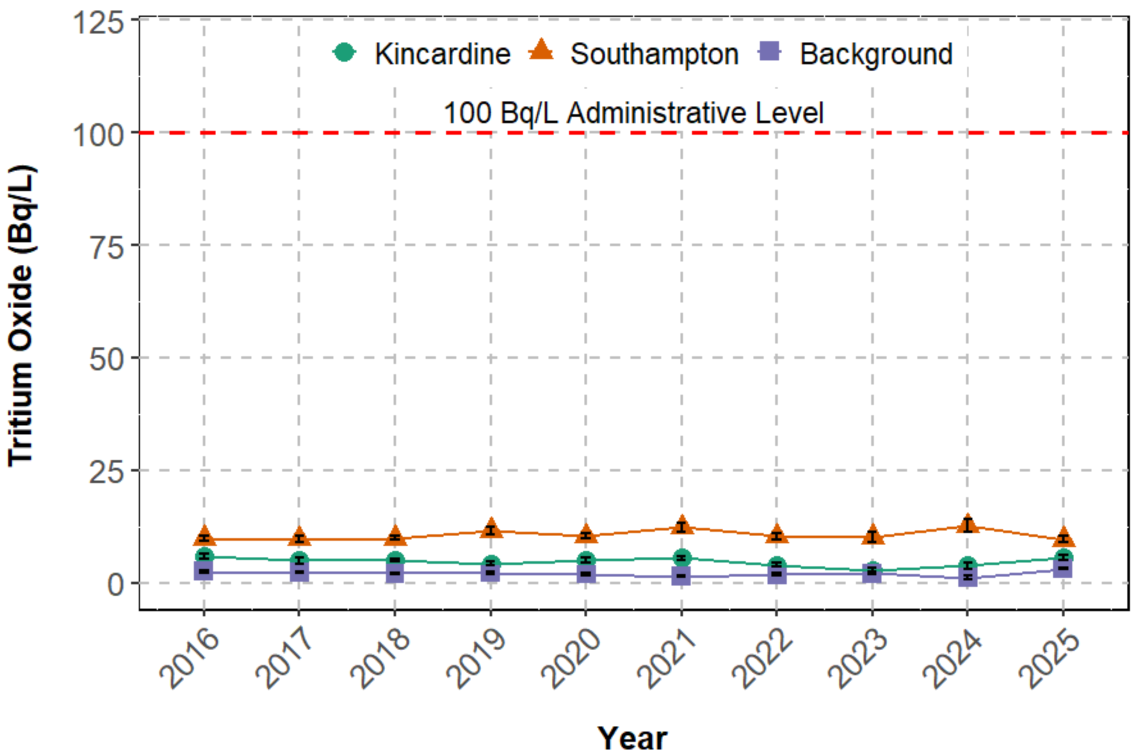


Figure 35 – Annual Average Tritium Oxide Concentrations (becquerels per litre) at the Municipal Water Supply Plants near Bruce Power and Provincial Background Locations Over Time (± Standard Error). Reference level = 7000 becquerels per litre; Administrative level = 100 becquerels per litre.

5.1.2.2 Municipal and Residential Wells

In addition to the water supply plants in Southampton and Kincardine, drinking water is also collected at a number of municipal and local residential wells. Four municipal wells, located at Scott Point (BM03-WW), Underwood (BM06-WW) and Tiverton (BM12-WW, BM13-WW), are sampled semiannually. Seven deep residential wells are also sampled semiannually, while six shallow residential wells are sampled bimonthly, based on occupant availability. Water samples are analyzed for tritium oxide by liquid scintillation counting. Two representative locations, one to the north of Bruce Power at Scott Point (BR02-WW) and one to the south at Inverhuron (BR32-WW), are also analyzed semiannually for gross beta and gross gamma radiation. Annual average tritium oxide and gross beta results are shown in Table 25. Results for CANDU related -gamma emitting radionuclides cobalt-60, cesium-134 and cesium-137 from the gamma scan completed on semi-annual samples taken from shallow wells at Scott Point (BR02-WW) and Inverhuron (BR32-WW) are not shown as the levels were indistinguishable from background (i.e., less than the critical level or not identified).

Table 25 – 2025 Annual Average Tritium Oxide and Gross Beta Concentrations in Drinking Water at Area Near Well Locations

Location Type	Sample Location	Tritium Oxide (becquerels per litre)	Gross Beta (becquerels per litre)
Municipal Well	BM03-WW	<Lc	Not Applicable
Municipal Well	BM06-WW	<Lc	Not Applicable
Municipal Well	BM12-WW	<Lc	Not Applicable
Municipal Well	BM13-WW	<Lc	Not Applicable
Residential Deep Well	BF01-WW	11.3	Not Applicable
Residential Deep Well	BF14-WW	<Lc	Not Applicable
Residential Deep Well	BF23-WW	<Lc	Not Applicable
Residential Deep Well	BM02-WW	<Lc	Not Applicable
Residential Deep Well	BR01-WW	<Lc	Not Applicable
Residential Deep Well	BR08-WW	<Lc	Not Applicable
Residential Deep Well	BR25-WW	<Lc	Not Applicable
Residential Shallow Well	BF06-WW	<Lc	Not Applicable
Residential Shallow Well	BR02-WW	<Lc	0.09
Residential Shallow Well	BR03-WW	106.0	Not Applicable
Residential Shallow Well	BR04-WW	<Lc	Not Applicable
Residential Shallow Well	BR32-WW	21.2	0.3
Residential Shallow Well	BR41-WW	14.4	Not Applicable
Residential Shallow Well	BR42-WW	26.9	Not Applicable

Note: For calculation of averages where the result was less than critical level (Lc), the uncensored analytical result was used. ‘<Lc’ stated in table when all results were less than the critical level.

For shallow wells, the source of tritium oxide may be attributed to deposition of airborne tritium emissions from Bruce Power or precipitation washout migrating into the shallow wells. The deep wells are less likely to be affected by airborne deposition. Tritium oxide concentrations for all municipal and deep residential wells were less than the critical level for detection and indistinguishable from background, except at BF01-WW. Typically, the semiannual samples collected at BF01-WW have tritium oxide levels below the critical level (<Lc), however the sample collected for March 2025 was 31.4 becquerels per litre. While this value is very low, it was unexpected. The location was resampled as part of the May sampling campaign and the tritium result was normal (below the critical level). The second semiannual sample collected for September was also below detection, confirming that the March sample result was anomalous. For transparency, the outlier was maintained, and the three samples were averaged to give a value of 11.3 becquerels per litre for 2025.

Tritium oxide results in shallow wells are typically above detection limits, although 3 out of 7 wells had results less than the critical level in 2025. The other four wells had annual averages ranging between 14.4 and 106.0 becquerels per litre, which is well below the Ontario Drinking Water Standard of 7000 becquerels per litre. The average gross beta result for BR02 and BR32 were in line or slightly higher than the background locations (0.06 to 0.1 becquerels per litre) (Table 24), which is a small fraction of the CNSC reference level of 1 becquerels per litre.

The CNSC Independent Environmental Monitoring Program that collected samples near Bruce Power in 2022 did not include drinking water from the municipal water supply plants or residential wells. However, samples of lake water were collected, and these results are discussed in the section below.

5.1.2.3 Lakes and Streams

Water samples are collected from Lake Huron, ponds and streams in the vicinity of Bruce Power and measured for radiological contaminants. Waterbodies may be impacted by deposition of airborne radiological emissions from the Site or by precipitation washout migrating into waterways. Lake water may also be impacted by waterborne effluent from discharge points on the Bruce Power site. Samples of lake, pond and stream water are collected from the shore on a bi-monthly basis when free of ice. Surface water is analyzed for tritium oxide by liquid scintillation counting and gross beta by proportional counting. Composites of lake water samples are also analyzed for gross gamma semi-annually using gamma spectroscopy.

Bruce Power sampling locations are shown on Figure 28. On-site sample locations within the Bruce Power perimeter fence include two ponds and one stream (B31 Pond – BM16-WL, Former Sewage Lagoon – BM21-WL and Stream C – BC02-WC). Off-site samples are collected from three stream locations near Bruce Power, which include Little Sauble River (BC01-WC) to the south and two locations on Underwood Creek (BC03-WC and BC04-WC) to the north. Lake water is sampled at Inverhuron (BM10-WL) to the south, Baie du Doré (BM04-WL) to the northeast, and Scott Point (BM20-WL) to the north. The stream indicator location is Stream C (BC02-WC) located on the north side of the Bruce Power boundary and flows into Baie du Doré. The lake indicator location (BM04-WL) is sampled from the eastern shore of Baie du Doré at the end of Concession Road 6.

The 2025 annual average tritium oxide and gross beta results are shown in Table 26. Gamma results for 2025 are not shown as all results for CANDU related radionuclides cobalt-60, cesium-134 and cesium-137 were indistinguishable from background (i.e., less than the critical level or not identified in the gamma scan).

Background lake water is collected by Ontario Power Generation on a quarterly basis at three locations (Bancroft, Belleville and Cobourg) as shown in Figure 27 and analyzed for tritium oxide and gross beta radiation. Samples are not collected when the lake is frozen (typically the first and fourth quarters).

Table 26 – 2025 Annual Average Tritium Oxide and Gross Beta Concentrations in Ponds, Lakes and Streams

Location Type	Sample Location	Tritium Oxide (becquerels per litre)	Gross Beta (becquerels per litre)
On Site Pond	BM16-WL (B31 Pond)	99.4	Not applicable
On Site Pond	BM21-WL (Former Sewage Lagoon)	820.2	Not applicable
Indicator Stream	BC02-WC	76.5	0.1
Area Near Stream	BC01-WC	33.2	0.3
Area Near Stream	BC03-WC	29.4	0.2
Area Near Stream	BC04-WC	64.6	0.1
Indicator Lake	BM04-WL	72.2	0.1
Area Near Lake	BM10-WL	9.8	0.1
Area Near Lake	BM20-WL	61.0	0.1
Background Lake	Bancroft (Clark Lake)	3.1	0.1
Background Lake	Belleville (Bay of Quinte)	2.4	0.1
Background Lake	Cobourg (Lake Ontario)	3.3	0.1

Note:

1. Bruce Power: For calculation of averages where result was less than critical level (Lc) the uncensored analytical result was used.

2. Provincial background: For calculation of averages where the result was less than the minimum detection level (Ld), the uncensored analytical result was used.

The 2025 Bruce Power results for lake and stream water show similar trends as those observed for shallow wells and air monitoring; tritium oxide values decrease with increasing distance from Bruce Power. All values were well below the Ontario Drinking Water Standard and CNSC reference level for tritium oxide in drinking water (7000 becquerels per litre). The gross beta results are consistently low and show little variation with proximity to Bruce Power. The indicator lake results for gross beta align with what is measured at Bancroft (Clark Lake), Belleville (Bay of Quinte) and Cobourg (Lake Ontario). All gross beta concentrations measured in surface water near Bruce Power were well below the CNSC reference level of 1 becquerel per litre.

Annual average tritium oxide concentrations in lake and stream water samples measured at Bruce Power indicator and area near locations over time are shown in Figure 36. For 2025 the indicator stream and lake results decreased from the previous year, whereas the area near stream and lake results remained consistent. The higher tritium oxide concentrations observed in 2022 were attributed to the higher airborne tritium releases that year due to equipment deficiencies and planned maintenance activities at Bruce A. By contrast, the higher value for indicator stream observed in 2024 could not be attributed directly to airborne releases, as tritium oxide emissions at Bruce A and Bruce B were lower than previous years (see Section 4.1.2.1), as were the tritium oxide concentrations measured at indicator locations off-site (Section 5.1.1.2). It is possible that due to the dry summer conditions, tritium deposited onto land, accumulated and was then washed into the stream with increased precipitation in the late summer – early fall period. There may have been less dilution than in previous years. Regardless, the tritium oxide concentrations measured in surface water at locations near Bruce Power are still very low and a small fraction of the Ontario Drinking Water Standard of 7000 becquerels per litre.

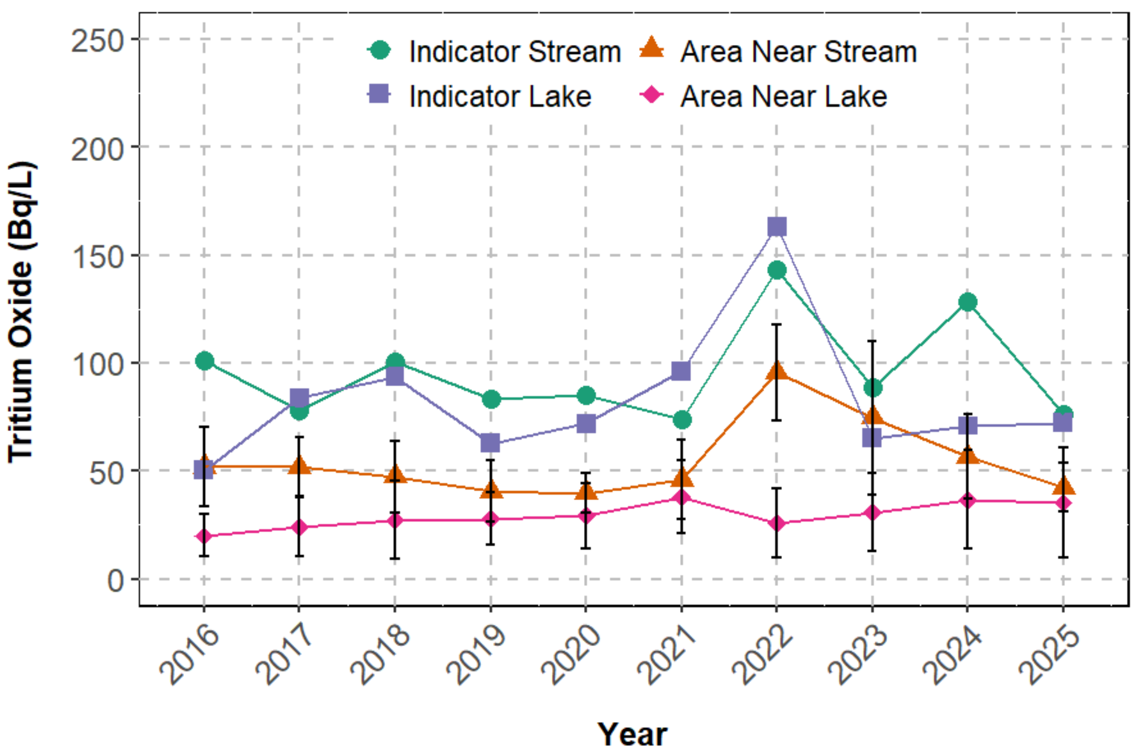


Figure 36 – Annual Average Tritium Oxide Concentrations (becquerels per litre) in Lake Huron and Streams Near Bruce Power Over Time (± Standard Error). Canadian Nuclear Safety Commission reference level = 7000 becquerels per litre.

The CNSC Independent Environmental Monitoring Program for 2022 included surface water sampling at five locations near Bruce Power including the Saugeen River in Southampton and the shores of Southampton beach, Port Elgin beach, Baie du Doré and Kincardine beach. The following radionuclides or radionuclide groups were measured in the surface water samples: tritiated water (tritium oxide), gross alpha, gross beta, cobalt-60 and cesium-137. The CNSC found that tritiated water concentrations were in the range of 3.6 becquerel per litre to 68.2 becquerel per litre and below the guideline/reference level of 7000 becquerel per litre. All gross alpha, gross beta, cobalt-60 and cesium-137 results were less than the limit of detection. These results are consistent with what Bruce Power reports and indicate that no human health impacts are expected from radionuclides in surface water from the local area [R-93].

5.1.2.4 Water Monitoring Summary

Bruce Power regularly monitors tritium oxide, beta and/or gamma emitters in drinking water and surface water at a variety of locations on and off site, including from municipal water supply plants and residential wells, from Lake Huron, streams and ponds. All results were well below the CNSC reference levels, indicating that there is no risk to members of the public or the environment.

A summary is provided here:

- Drinking water is sampled twice daily at the municipal water supply plants in Kincardine and Southampton during business hours. Concentrations of tritium oxide are consistently well below the Ontario Drinking Water Standard and annual averages are a fraction of the commitment made to the municipalities.

- Radionuclide concentrations in drinking water from local municipal and residential wells remain low and well below the CNSC reference levels for tritium oxide and gross beta radiation.

- Annual average tritium oxide concentrations in Lake Huron and local streams quickly decrease with distance from Bruce Power and all results are well below the CNSC reference level for drinking water.

5.1.3 Aquatic, Animal and Agricultural Products Monitoring

Bruce Power collects a variety of food types each year, including milk, fish, animal products (e.g. eggs, honey, meat) and agricultural products (e.g., fruit, vegetables, grains) and measures for radioactivity. Sample type and location may vary from year to year depending on sample availability and participation from local farmers and residents. The results are used in the annual dose to public calculation for the representative persons that live near Bruce Power. Additionally, the results inform the Environmental Monitoring and Environmental Risk Assessment programs to ensure that Bruce Power is monitoring appropriately and understanding its impact on the environment.

5.1.3.1 Fish

Bruce Power monitors fish in Lake Huron for radionuclide concentrations as part of the Radiological Environmental Monitoring Program. Samples of benthic forager (bottom feeders) and pelagic forager (open water) fish species are collected near Bruce Power and further afield at locations along the western shore of Lake Huron well away from Bruce Power for use as a control. The control sampling locations were updated in 2017 due to importation policies that came into effect that year. Starting in 2017, control fish are collected on the Canadian side of Lake Huron north of Tobermory or within Georgian Bay, by a contractor assisted by members of the Saugeen Ojibway Nation.

The analysis of two types of fish species provides some insight into potential radiological impacts from Bruce Power operations on the lakebed where benthic species inhabit, and through open water ecosystems where pelagic fish inhabit. The target fish species representing benthic and pelagic foragers are as follows:

- White Sucker (*Catostomus commersoni*) represents a benthic forager species. Brown Bullhead (*Ictalurus nebulosus*) is the alternate benthic species. Sample collection is conducted in the spring.
- Lake Whitefish (*Coregonus clupeaformis*) represents a predominantly pelagic forager that feeds on a wide variety of organisms from invertebrates to small fish, to plankton. Round Whitefish (*Prosopium cylindraceum*) is the alternate pelagic species. The secondary alternative is Lake Trout (*Salvelinus namaycush*). Collection is conducted in the fall when adults are near shore to spawn.

Eight composite fish samples (each composed of at least 3 individuals) for each species and location are analyzed for tritium oxide and carbon-14 by liquid scintillation counting and for cobalt-60, cesium-134, cesium-137 by gamma spectrometry. A composite of the eight fish samples for each species and location is measured for organically bound tritium by liquid scintillation counting. The fish flesh ventral to the lateral line is included in the samples prepared for analysis. The sample preparation and analysis method for each radionuclide group is outlined in Table 27.

Table 27 – Fish Preparation and Methods

Analyte	Sample	Preparation	Method
Cobalt-60, Cesium-134, Cesium-137	Composite of at least 3 fish, run once	Skinned, filleted, and flesh sliced	Gamma spectrometry
Carbon-14	Composite of at least 3 fish, run once	Freeze dried flesh combusted	Liquid scintillation counting
Tritium oxide	Composite of at least 3 fish; reported result is the average of two samples run once	Water from freeze dried flesh	Liquid scintillation counting
Organically Bound Tritium	Composite of 8 composite fish samples; reported result is the average of one sample run twice	Solid residue (washed to remove free tritium oxide) combusted	Liquid scintillation counting

The preferred pelagic species, lake whitefish, are typically collected in November and December when they migrate to nearshore areas to spawn. Collecting samples during this period is inherently constrained by seasonal conditions, as late fall and early winter weather on Lake Huron and Georgian Bay can include sustained high winds and the onset of ice, which limit safe access for commercial fishers to set nets.

In 2025, prolonged adverse weather conditions during the spawning period prevented the supplier from successfully obtaining lake whitefish for the Radiological Environmental Monitoring Program. As a result, pelagic fish monitoring results are not available this year.

The 2025 annual average results for fish are provided in Table 28 and Table 29 for Bruce Power area near and control fish. The provincial background annual average results are shown for benthic and pelagic fish from Lake Huron and benthic fish from Lake Ontario for comparison.

Table 28 – 2025 Annual Average Radionuclide Concentrations for Fish

Location Type	Sample Type, Location	Tritium Oxide (becquerels per litre)	Carbon-14 (becquerels carbon-14 per kilogram carbon)	Organically Bound Tritium (becquerels per litre)	Organically Bound Tritium Uncertainty (±2σ) (becquerels per litre)
Bruce Power Area Near	Benthic, Lake Huron	5.3	228	6.2	3.7
Bruce Power Area Near	Pelagic, Lake Huron	No sample	No sample	No sample	No sample
Bruce Power Control	Benthic, Lake Huron	3.6	242	10.9	3.8
Bruce Power Control	Pelagic, Lake Huron	No sample	No sample	No sample	No sample
Background	Benthic, Lake Ontario	2.4	221	26.0	2.2
Background	Benthic, Lake Huron	5.2	239	64.0	3.2
Background	Pelagic, Lake Huron	3.7	230	60.0	3.1

Note:

1. Sample count = 8 for each location and sample type.

2. Bruce Power: For calculation of averages where result was less than critical level (Lc), the uncensored analytical result was used. ‘<Lc’ is stated in table when all results were less than the critical level.

3. Provincial background: For calculation of averages where the result was less than the minimum detection level (Ld), the minimum detection level was used. ‘<Ld’ is stated in table when all results were less than the detection limit.

4. Organically bound tritium analysis is completed on one composite sample of the replicates of each group and the raw analytical data is provided. ±2σ is the uncertainty associated with the analytical measurement. For Bruce Power, the detection limit was 8.3 becquerel per litre and the critical level was 4.2becquerel per litre. For provincial background the limit of detection was 1.7 becquerel per litre.

Table 29 – 2025 Annual Average Gamma Spectroscopy Results for Fish

Location Type	Sample Type, Location	Cobalt-60 (becquerels per kilogram)	Cesium-134 (becquerels per kilogram)	Cesium-137 (becquerels per kilogram)
Bruce Power Area Near	Benthic, Lake Huron	<Lc	<Lc	0.2
Bruce Power Area Near	Pelagic, Lake Huron	No sample	No sample	No sample
Bruce Power Control	Benthic, Lake Huron	<Lc	<Lc	0.2
Bruce Power Control	Pelagic, Lake Huron	No sample	No sample	No sample
Background	Benthic, Lake Ontario	<Ld	<Ld	0.2
Background	Benthic, Lake Huron	<Ld	<Ld	0.1
Background	Pelagic, Lake Huron	<Ld	<Ld	0.2

Note:

1. Sample count = 8 for each location and sample type.
2. Bruce Power: For calculation of averages where result was less than critical level (Lc), the uncensored analytical result was used. ‘<Lc’ stated in table when all results were less than the critical level or not identified on the gamma scan.
3. Provincial background: For calculation of averages where the result was less than the minimum detection level (Ld), the minimum detection level was used. ‘<Ld’ stated in table when all results were less than the detection limit.

Tritium Oxide in Fish

The 2025 annual average concentration of tritium oxide in benthic fish was 5.3 becquerels per litre for area near, 5.2 becquerels per litre for the Lake Huron provincial background group, and 3.6 becquerels per litre for the control group. There were no pelagic fish available for 2025.

The annual average tritium oxide concentrations in fish for the past 10 years are shown in Figure 37 for pelagic fish and Figure 38 for benthic fish. There has been little variation in tritium oxide levels in pelagic fish over the years, except for the higher result for the control group in 2018 for reasons unknown. In 2022 and 2025, samples of pelagic fish were not available from the supplier. The annual average tritium oxide concentration for benthic fish collected near Bruce Power was below those from the control and background locations in 2025. The higher annual average in 2021 was attributed to elevated waterborne releases from Bruce B during the spring sample collection period.

A general linear model could not be used for tritium oxide results in benthic fish as the variance was not homogenous. A Kruskal Wallis analysis of variance ($\alpha=0.05$) showed a statistically significant difference in the medians ($p<0.001$) by site. The benthic area near fish had a higher median than the control and provincial fish.

The CNSC Independent Environmental Monitoring Program for 2022 included fish samples collected from the Saugeen River in Southampton [R-93]. Fish species included Lake Trout and Lake Whitefish. The tritiated water (tritium oxide) results ranged from 2.5 to 8.2 becquerels per kilogram fresh weight, which are well below the guideline/reference level of 488,000 becquerels per kilogram fresh weight. No human health impacts are expected from these measured values.

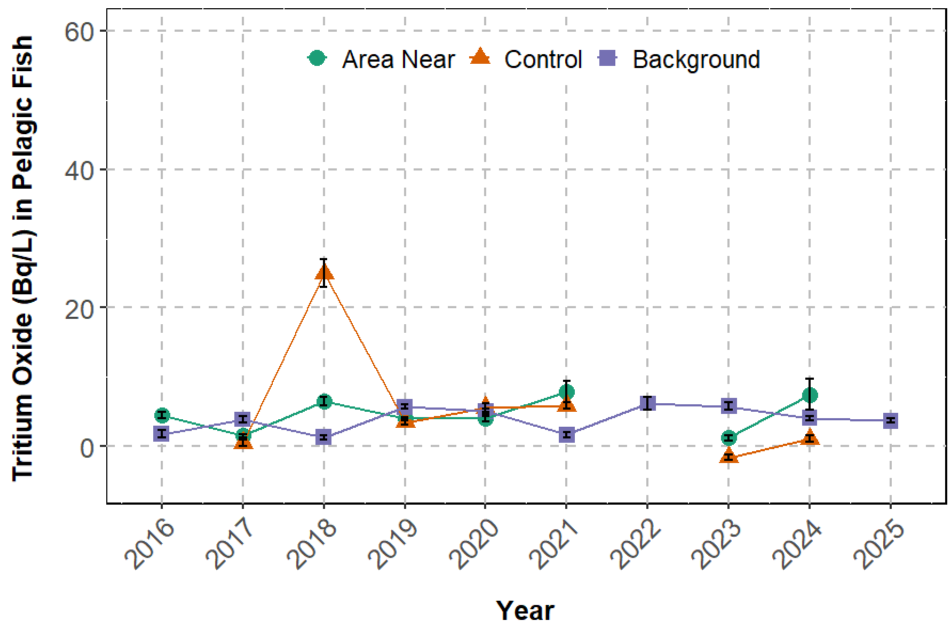


Figure 37 – Annual Average Tritium Oxide (becquerels per litre) in Pelagic Fish Tissue by Year Over Time (± Standard Error).

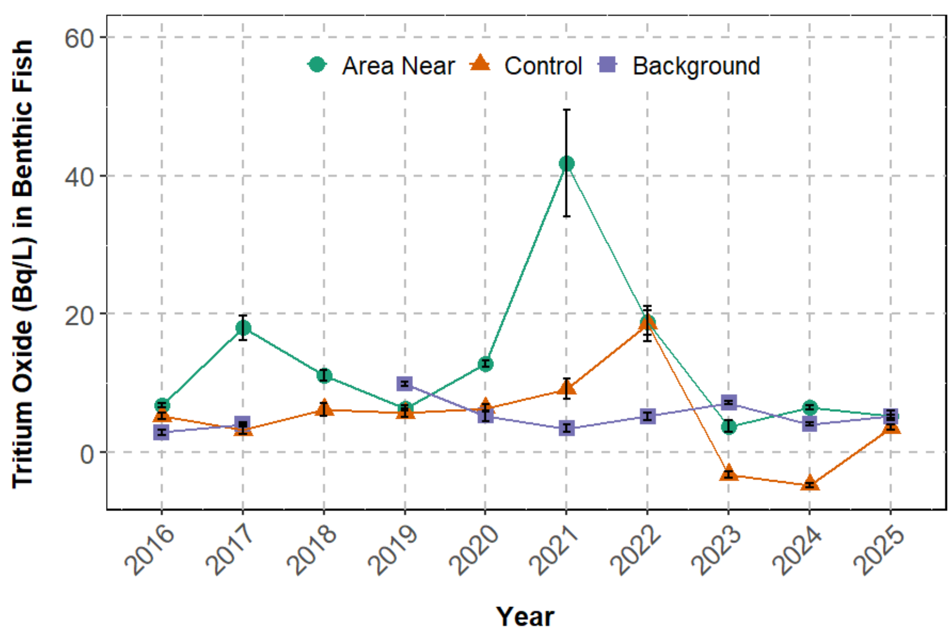


Figure 38 – Annual Average Tritium Oxide (becquerels per litre) in Benthic Fish Tissue by Year Over Time (± Standard Error)

Carbon-14 in Fish

The 2025 annual average concentration of carbon-14 in benthic fish collected near Bruce Power and at the control location was 228 and 242 becquerels carbon-14 per kilogram carbon, respectively. The average provincial results for Lake Huron benthic fish was higher than area near, but similar to the control, at 239 becquerels carbon-14 per kilogram carbon. No pelagic fish were available for 2025.

The annual average carbon-14 concentrations over time are shown in Figure 39 for pelagic fish and Figure 40 for benthic fish. The carbon-14 levels measured in fish tissue of both species' types collected from Lake Huron have remained steady over time and very similar to background values. Pelagic fish were not available from the supplier in 2022 and 2025.

A general linear model (α=0.05) was performed over the last 10 years and identified that there is no statistically significant change by site over time for benthic fish ($p>0.05$). An analysis of variance (α=0.05) for benthic fish shows that there is not a significant difference in the means between the area near and provincial sites, or between area near and control sites, but there is a significant difference between the provincial and control locations.

The CNSC Independent Environmental Monitoring Program near Bruce Power did not analyze for carbon-14 in fish.

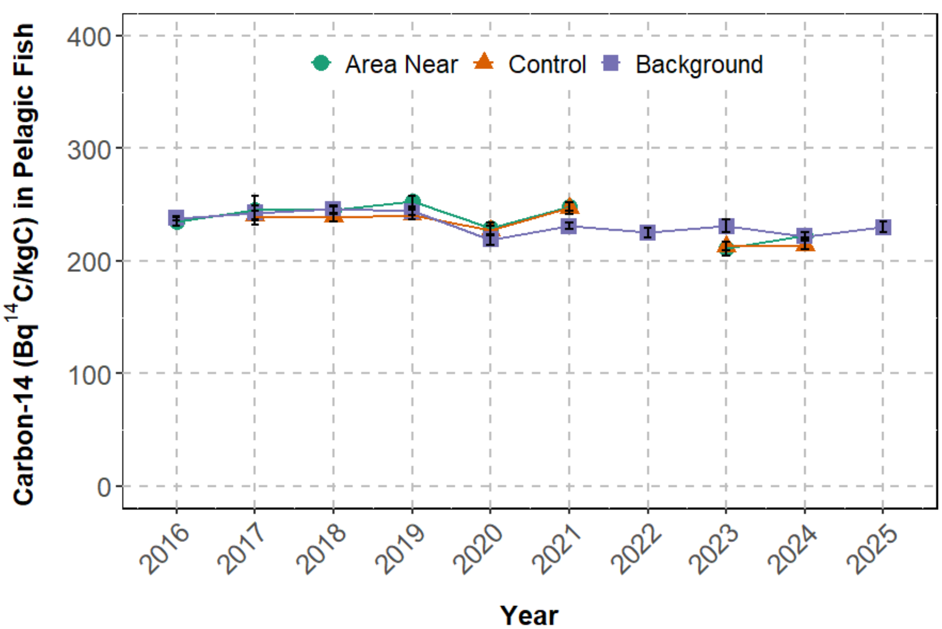


Figure 39 – Annual Average Carbon-14 (becquerels carbon-14 per kilogram carbon) in Pelagic Fish Tissue by Year Over Time (± Standard Error).

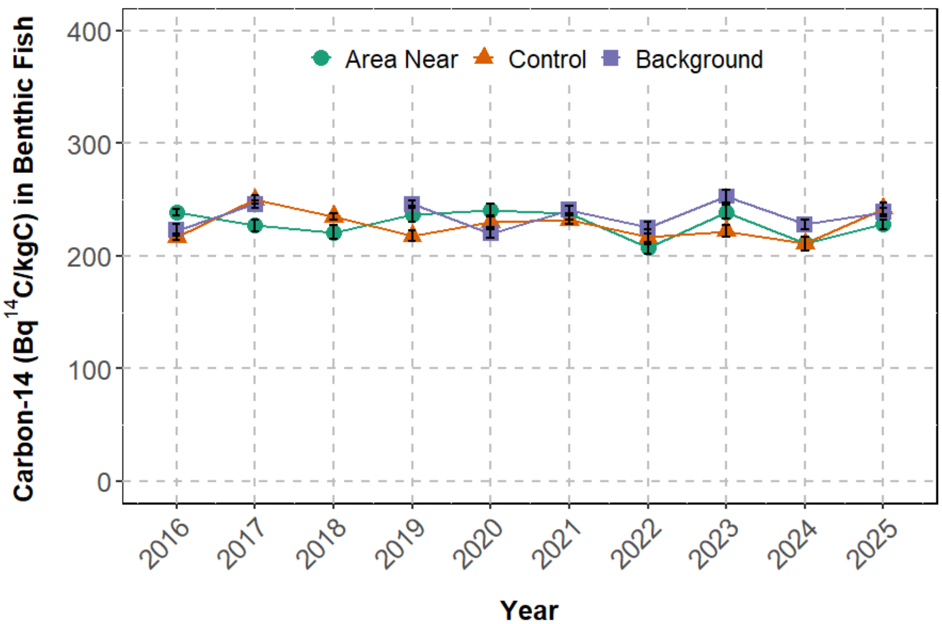


Figure 40 – Annual Average Carbon-14 (becquerels carbon-14 per kilogram carbon) in Benthic Fish Tissue by Year Over Time (± Standard Error)

Cobalt-60 and Cesium-134 in Fish

All cobalt-60 and cesium-134 concentrations in benthic fish samples measured by Bruce Power in 2025 were less than the critical level or not identified on the gamma scan, indicating that these concentrations are indistinguishable from background and considered negligible. All fish measured by the province had cobalt-60 and cesium-134 concentrations less than the minimum detection limit (<Ld) and annual averages were stated as <Ld. No pelagic fish were available in 2025.

Cesium-137 in Fish

The 2025 annual average concentration of cesium-137 in benthic fish collected near Bruce Power and at the control location was 0.2 becquerel per kilogram. The provincial average cesium-137 results for Lake Huron benthic fish were very similar at 0.1 becquerel per kilogram. These values are very low and well below the CNSC reference level of 1040 becquerels per kilogram fresh weight. No pelagic fish were available in 2025.

The annual average cesium-137 results for the last ten years for pelagic and benthic fish are shown in Figure 41 and Figure 42, respectively. Generally, the cesium-137 concentrations in fish tissue of pelagic and benthic fish collected in Lake Huron are very low and have remained steady over time.

A general linear model could not be used for cesium-137 in benthic fish as the variance was not homogenous. A Kruskal Wallis analysis of variance (α= 0.05) showed no significant difference in the medians for benthic fish by site (p>0.05).

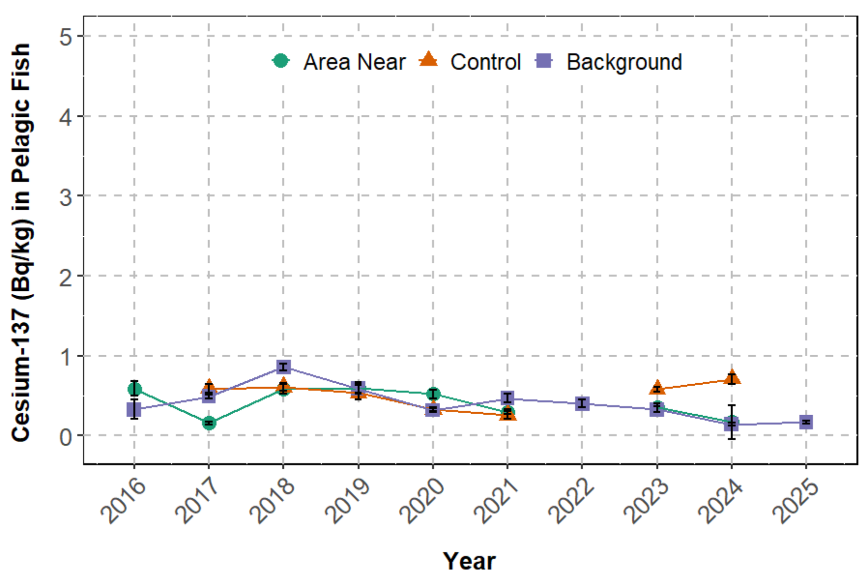


Figure 41 – Annual Average Cesium-137 (becquerels per kilogram) in Pelagic Fish Tissue by Year Over Time (± Standard Error). Reference level = 1040 becquerels per kilogram fresh weight

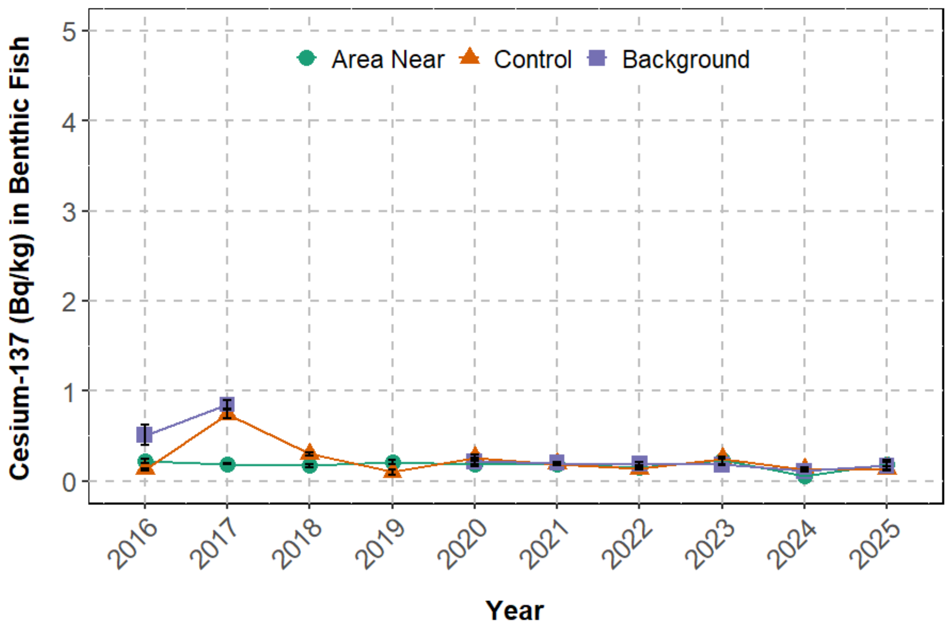


Figure 42 – Annual Average Cesium-137 (becquerels per kilogram) in Benthic Fish Tissue by Year Over Time (± Standard Error). Reference level = 1040 becquerels per kilogram fresh weight

The CNSC Independent Environmental Monitoring Program for 2022 measured cesium-137 concentrations in 3 fish samples collected from the Saugeen River in Southampton [R-93]. Fish species included Lake Trout and Lake Whitefish. All results were below the detection limit value of 0.8 becquerels per kilogram fresh weight, and well below the guideline/reference level of 1,040 becquerels per kilogram fresh weight.

Organically Bound Tritium in Fish

Tritium is present in two forms within the tissue of plants and animals. These forms include tritiated water present in tissue as free water, and organically bound tritium present in the organic molecules within the tissue. The biological half-life (i.e., the amount of time the radionuclide stays within the body of the plant or animal) is longer for organically bound tritium and therefore poses a higher exposure risk to the plant or animal. Both free tritium and organically bound tritium were measured in fish samples collected at area near and control locations. The measured organically bound tritium results are not used in the dose to public calculations, but are instead modelled based on the measured free water tritium oxide concentrations, which is industry best practice and outlined in CSA N288.1 [R-96].

Organically bound tritium is measured on a composite sample of the available replicate fish samples collected for each type (pelagic and benthic) and location (area near and control) by Bruce Power. The result is based on the arithmetic mean of the activity of the single composite sample counted twice. There were no pelagic fish samples available for 2025. For benthic fish, the organically bound tritium result was higher for the far field control location (10.9 becquerels per litre) compared to the area near fish (6.2 becquerels per litre).

In 2025, organically bound tritium results for benthic fish caught in Lake Huron for the provincial environmental monitoring program were higher than Bruce Power's near field fish at 64.0 becquerels per litre. For pelagic fish, the provincial background results were 60.0 becquerels per litre.

Historically, provincial background results for organically bound tritium in fish have been higher than the Bruce Power results. The methodology used to prepare fish samples for measurement of organically bound tritium is not standardized, and Bruce Power uses a different methodology than Ontario Power Generation. It was established in 2022 that the provincial results include both exchangeable and non-exchangeable tritium, whereas Bruce Power results include only the non-exchangeable organically bound tritium. Therefore, the annual results cannot be directly compared and are not included on graphs showing long term trends.

The organically bound tritium results for the past 10 years are presented in Figure 43 for pelagic fish and Figure 44 for benthic fish. Results for Bruce Power (area near and control) pelagic and benthic fish were not available in 2017 and pelagic fish were not available in 2022 and 2025. For pelagic fish over time, the trends show that levels of organically bound tritium are very low and often there is little difference between the area near and control fish. The results for benthic fish are similar but can be slightly more variable from year to year.

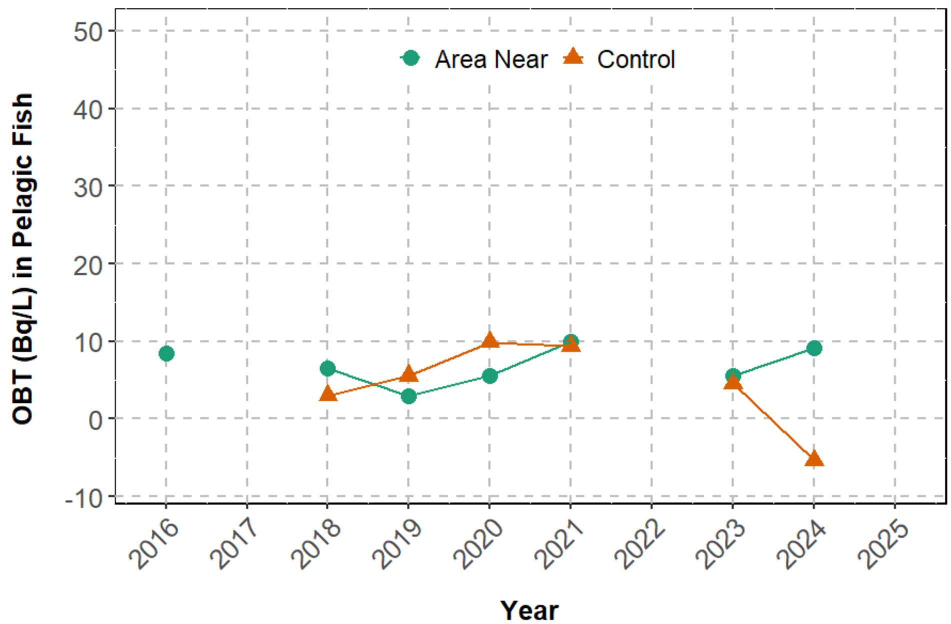


Figure 43 – Annual Organically Bound Tritium (becquerels per litre) for Pelagic Fish Tissue from Area Near and Control Locations Over Time

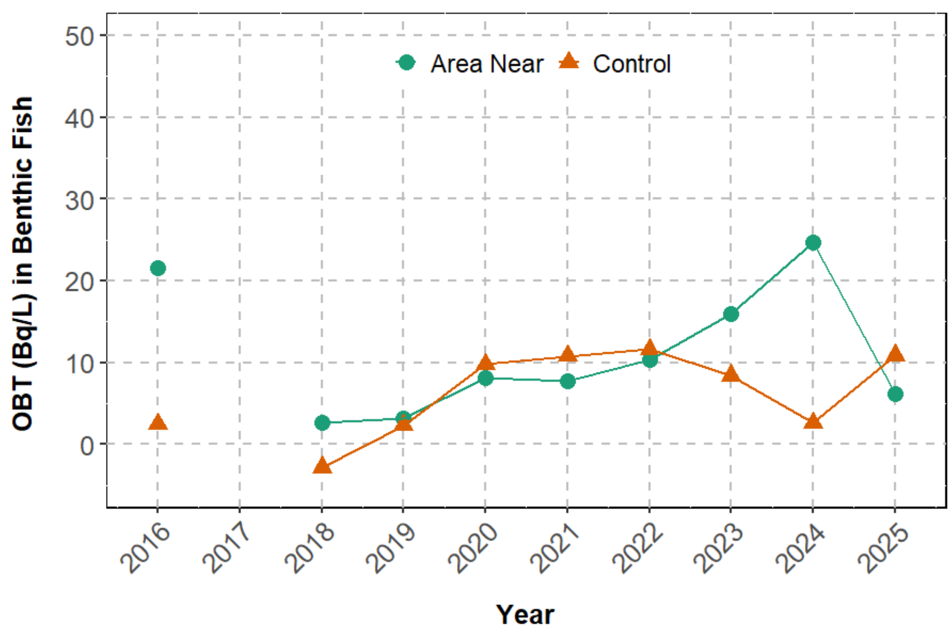


Figure 44 – Annual Organically Bound Tritium (becquerels per litre) for Benthic Fish Tissue from Area Near and Control Locations Over Time

The CNSC Independent Environmental Monitoring Program for 2022 included fish samples collected from the Saugeen River in Southampton [R-93]. The fish types included Lake Trout and Lake Whitefish. One of the three samples had an organically bound tritium result greater than the detection limit at 2.8 becquerels per kilogram fresh weight, a value well below the guideline/ reference level of 1,040 becquerels per kilogram fresh weight. No health impacts are expected at these low levels.

Fish Monitoring Summary

Bruce Power regularly monitors tritium oxide, organically bound tritium, carbon-14 and CANDU related gamma emitters in samples of pelagic (whitefish) and benthic (suckers) fish collected in the near shore by Bruce Power and farther afield at a control location. Measured radionuclide levels were similar to background samples and all results were well below the CNSC reference levels, indicating that there is no risk to members of the public or the environment.

A summary is provided here:

- Samples of whitefish and suckers collected near Bruce Power had levels of tritium oxide, carbon-14 and cesium-137 that were very similar to provincial background values, indicating that fish caught near Bruce Power are not different to those caught elsewhere in Lake Huron.
- Tritium oxide levels in suckers collected near Bruce Power show more interannual variability than whitefish, however the values remain low and were similar to background levels in recent years.
- Although no whitefish were available in 2025 due to adverse weather conditions during the spawning window in November/December, radionuclide levels from fish caught in previous years are very low and often indistinguishable from background fish in Lake Huron, especially levels of carbon-14 and CANDU-related gamma emitters like cobalt-60, cesium-134 and cesium-137.

5.1.3.2 Animal Products

Bruce Power samples animal products including honey, eggs and livestock. Sampling locations are shown in Figure 29. Honey (harvested in area near and area far locations) is collected on an annual basis, while eggs are collected twice each year (spring and fall). Samples of animal meat are collected once per year from local farms, as available. In 2025 samples included beef, chicken, and rabbit meat.

On occasion, Bruce Power collects samples from wild animal fatalities that occur on-site (i.e., vehicular collisions) or from donations made by local hunters. In 2025, deer meat from a location near MacGregor Park, and bear meat from a location near Scott’s Point Road, were provided by local hunters.

Animal products are analyzed for tritium oxide and carbon-14 by liquid scintillation counting, and the 2025 results are listed in Table 30. Animal tissue samples are also analyzed by gamma spectroscopy and the 2025 results for cobalt-60, cesium-134 and cesium-137 are shown in Table 31. The tritium oxide results are an average of two subsamples, and the carbon-14 and gamma results represent a single count of a single sample. As there is only one sample of each type measured, the analytical (uncensored) result is provided.

Ontario Power Generation measures for background tritium oxide and carbon-14 concentrations in eggs (3 locations sampled quarterly) and poultry (8 samples) obtained from Picton, Ontario. The sampling location is shown in Figure 27, and the annual average values for 2025 are provided in Table 30.

In 2025, honey collected from a hive located near Bruce Power had a slightly higher concentration of tritium oxide compared to the honey sample collected farther afield (14.0 and 9.2 becquerels per litre, respectively), which is consistent with previous years. Similarly, the 2025 carbon-14 concentration at the area near location was slightly higher than the area far location (221 and 212 becquerels carbon-14 per kilogram carbon, respectively). All tritium oxide and carbon-14 results were lower than previous years. The CANDU-related radionuclides cobalt-60, cesium-134 and cesium-137 were less than the critical level and indistinguishable from background, which is consistent with historical samples.

The 2025 average tritium oxide result measured in eggs obtained from a farm located near Bruce Power was slightly higher than the provincial background average (11.1 and 3.7 becquerels per litre, respectively), although the average carbon-14 result was slightly lower (216 and 226 becquerels carbon-14 per kilogram carbon, respectively). For chicken sampled from the same local farm, the tritium oxide concentration was marginally higher than the provincial background average (4.7 and less than the detection limit of 3.9 becquerels per litre, respectively), as was the carbon-14 concentration (231 and 226 becquerels carbon-14 per kilogram carbon, respectively). In general, the tritium oxide and carbon-14 levels measured in eggs and poultry samples in 2025 were very low.

Samples of beef and rabbit meat have been sampled from local farms for the last few years. Provincial background values are not available for these sample types, but local results are trended to monitor changes over time. For beef, the 2025 results for tritium oxide and carbon-14 were slightly higher than the previous year (e.g., tritium oxide was 19.1 becquerels per litre and carbon-14 was 208 becquerels carbon-14 per kilogram carbon in 2024). For rabbit, the tritium oxide value was lower in 2025, while the carbon-14 was higher (e.g., tritium oxide was 9.7 becquerels per litre and carbon-14 was 204 becquerels carbon-14 per kilogram carbon in 2024). All radionuclide levels, including gamma emitters cobalt-60, cesium-134 and cesium-137, were very low.

A local hunter has provided deer meat to the Radiological Environmental Monitoring Program for a number of years. The deer is caught near MacGregor Park each year. In 2025, tritium oxide (32.3 becquerels per litre) and carbon-14 (222 becquerels carbon-14 per kilogram carbon) concentrations were low and similar to what has been measured in previous years; the five year rolling average for tritium oxide was 34.5 becquerels per litre and for carbon-14 was 224 becquerels carbon-14 per kilogram carbon. As observed in other years, the gamma scan results for cobalt-60, cesium-134 and cesium-137 in 2025 were very close to or below the critical level and considered negligible. Low levels of cesium-137 occur in the environment due to historical weapons testing and other anthropogenic sources separate from Bruce Power.

In 2025 a local resident provided meat from a bear that was killed in a vehicle collision on Scott's Point Road near Site. The tritium oxide (34.9 becquerels per litre) and carbon-14 (225 becquerels carbon 14 per kilogram carbon) concentrations were similar to those measured in deer meat in 2025. Cobalt-60 and cesium-134 were not measured above the critical level and the cesium-137 result was at the critical level (0.06 becquerel per kilogram) but below the detection limit of 0.1 becquerel per kilogram. These radionuclide levels are negligible.

The 2022 CNSC Independent Environmental Monitoring Program included locally sourced ground beef from two locations that were analyzed for tritiated water (tritium oxide) and organically bound tritium [R-93]. The tritiated water results were 9.1 and 12.5 becquerels per kilogram fresh weight, which are well below the guideline/reference level of 159,000 becquerels per kilogram fresh weight. The results for organically bound tritium were below the limit of detection (<2.0 becquerels per kilogram fresh weight), and much lower than the guideline/reference level of 69,300 becquerels per kilogram fresh weight.

Table 30 – 2025 Annual Tritium Oxide and Carbon-14 Concentrations in Animal Products
(Table results are in becquerels per litre Bq /L and becquerels carbon-14 per kilogram carbon Bq-C14/Kg-C.)

Location Type	**Sample Label**	**Sample Type**	**Tritium Oxide** (Bq /L)	**Tritium Oxide Uncertainty (± 2σ)** (Bq /L)	**Tritium Oxide Critical Level (Lc)** (Bq /L)	**Carbon-14** (Bq-C14/Kg-C)	**Carbon-14 Uncertainty (± 2σ)** (Bq-C14/Kg-C)	**Carbon-14 Critical Level (Lc)** (Bq-C14/Kg-C)
Bruce Power	Near-Wildlife	Bear	34.9	3.9	2.8	225	26	15
Bruce Power	Near-Deer-AM	Deer	32.3	3.9	2.8	222	27	16
Bruce Power	Near-Beef-AM	Beef	24.0	3.5	2.8	218	26	15
Bruce Power	BF25-AM	Chicken	4.7	2.6	2.8	231	26	15
Bruce Power	BF26-AM	Rabbit	2.2	1.9	2.8	218	26	14
Bruce Power	BF25-EG (spring)	Eggs	7.1	2.7	2.7	215	24	12
Bruce Power	BF25-EG (fall)	Eggs	15.0	3.0	2.6	216	26	15
Bruce Power	Near-BR22-HO	Honey	14.0	3.0	2.7	221	27	15
Bruce Power	Far-BR22-HO	Honey	9.2	2.8	2.7	212	26	15
Background	Picton - Average	Eggs	3.7	-	-	226	-	-
Background	Picton - Average	Poultry	<Ld	-	-	226	-	-

Note:

1. Lc is critical level and 2σ is uncertainty in the analytical result.
2. Provincial background: Sample count = 3 for eggs and 8 for poultry. For calculation of averages where result was less than detection limit (<Ld), the uncensored analytical result was used. ‘<Ld’ stated in the table when all values were less than the detection limit.

Table 31 – 2025 Annual Gamma Radionuclide Concentrations in Animal Products Near Bruce Power
(Table results are in becquerels per litre Bq/L; Cobalt-60 is Co-60, Cesium is Cs.)

Sample Label	**Sample Type**	Co**-60** (Bq/L)	Co **-60 Uncertainty (± 2σ)** (Bq/L)	Co **-60 Critical Level (Lc)** (Bq/L)	**Cs-134** (Bq/L)	**Cs -134 Uncertainty (± 2σ)** (Bq/L)	**Cs -134 Critical Level (Lc)** (Bq/L)	**Cs -137** (Bq/L)	**Cs-137 Uncertainty (± 2σ)** (Bq/L)	**Cs -137 Critical Level (Lc)** (Bq/L)
Near-Wildlife-AM	Bear	<Lc	-	-	<Lc	-	-	0.06	0.07	0.06
Near-Deer-AM	Deer	<Lc	-	-	<Lc	-	-	0.2	0.07	0.05
Near-Beef-AM	Beef	<Lc	-	-	<Lc	-	-	<Lc	-	-
BF25-AM	Chicken	<Lc	-	-	<Lc	-	-	<Lc	-	-
BF26-AM	Rabbit	<Lc	-	-	<Lc	-	-	<Lc	-	-
Far-BR22-HO	Honey	<Lc	-	-	<Lc	-	-	<Lc	-	-
Near-BR22-HO	Honey	<Lc	-	-	<Lc	-	-	<Lc	-	-

Note:

1. Lc is critical level and 2σ is uncertainty in the analytical result.
2. For honey, cobalt-60, cesium-134 and cesium-137 results in becquerels per litre.
3. When activity value was a negative number or less than the critical level, ‘<Lc’ is stated in the table.

5.1.3.3 Milk

Bruce Power re-established an agreement with the Dairy Farmers of Ontario in 2016 to ensure that milk samples may be collected from local dairy farmers on a weekly basis for use in the Radiological Environmental Monitoring Program. One weekly sample from all farm locations are composited together and analyzed for iodine-131 by gamma spectrometry. Samples are analyzed for iodine-131 more frequently than other radionuclides because of its shorter half-life. A second sample is collected from each farm each week and a monthly composite is analyzed for each individual farm for tritium oxide and carbon-14 by liquid scintillation counting. These radionuclides may be present in milk from the ingestion of feed and water and the inhalation of air by dairy cattle. For 2025 there were four farms participating in the Radiological Environmental Monitoring Program.

In fall 2025, milk sampling practices were found to be misaligned with Dairy Farmers of Ontario requirements, necessitating additional training for Health Physics Technicians. Sampling was paused to address these issues, resulting in missed samples in September through to December. Further disruptions occurred due to adverse weather, including road closures, for one week in December 2025 and January 2026.

The milk sampling locations for Bruce Power are shown in Figure 29 and the provincial background location (Belleville) are shown in Figure 27. Milk samples are collected quarterly for the provincial background monitoring program. The 2025 results for tritium oxide, iodine-131 and carbon-14 are shown in Table 32.

Table 32 – 2025 Annual Average Tritium Oxide, Iodine-131, Carbon-14 Concentrations in Milk

Location Type	Sample Location	Tritium Oxide (becquerels per litre)	Iodine-131 (becquerels per litre)	Carbon-14 (becquerels per litre)
Area Near	BDF09-MK	6.7	Not applicable	223
Area Near	BDF15-MK	5.1	Not applicable	208
Area Near	BDF16-MK	4.7	Not applicable	217
Area Near	BDF17-MK	5.5	Not applicable	209
Area Near	BDF-MK Composite	Not applicable	<Lc	Not applicable
Background	DF1 Belleville D	<Ld	<Ld	–
Background	DF1 Belleville E	<Ld	<Ld	–
Background	DF1 Belleville F	<Ld	<Ld	–
Area Near	Average	5.6	<Lc	214
Background	Average	<Ld	<Ld	234

Note:

1. Bruce Power: For calculation of averages where result was less than critical level (Lc) the uncensored analytical result was used. ‘<Lc’ stated in table when all values were less than the critical level or not identified on the gamma scan. Sample count is 11, except for I-131 which is 42.
2. Provincial background: For calculation of averages where result was less than detection limit (<Ld), the uncensored analytical result was used. ‘<Ld’ stated in table when all values were less than the detection limit. For provincial background sample count is 3.

For 2025, the average annual tritium oxide concentration in milk at local dairy farms was 5.6 becquerels per litre. Although this value was higher than the provincial background values (less than the minimum detection limit), this is well below the Ontario Drinking Water Standard for tritium (7000 becquerels per litre). Bruce Power and provincial annual average tritium concentrations in milk over time are shown in Figure 45. For 2025 there was a slight increase from the previous year, but results are still very low. A general linear model could not be used for tritium oxide in milk as the variance was not homogenous. A Kruskal Wallis analysis of variance ($\alpha=0.05$) showed a statistically significant difference in the medians by site ($p<0.001$). The area near site had a higher median than the provincial location.

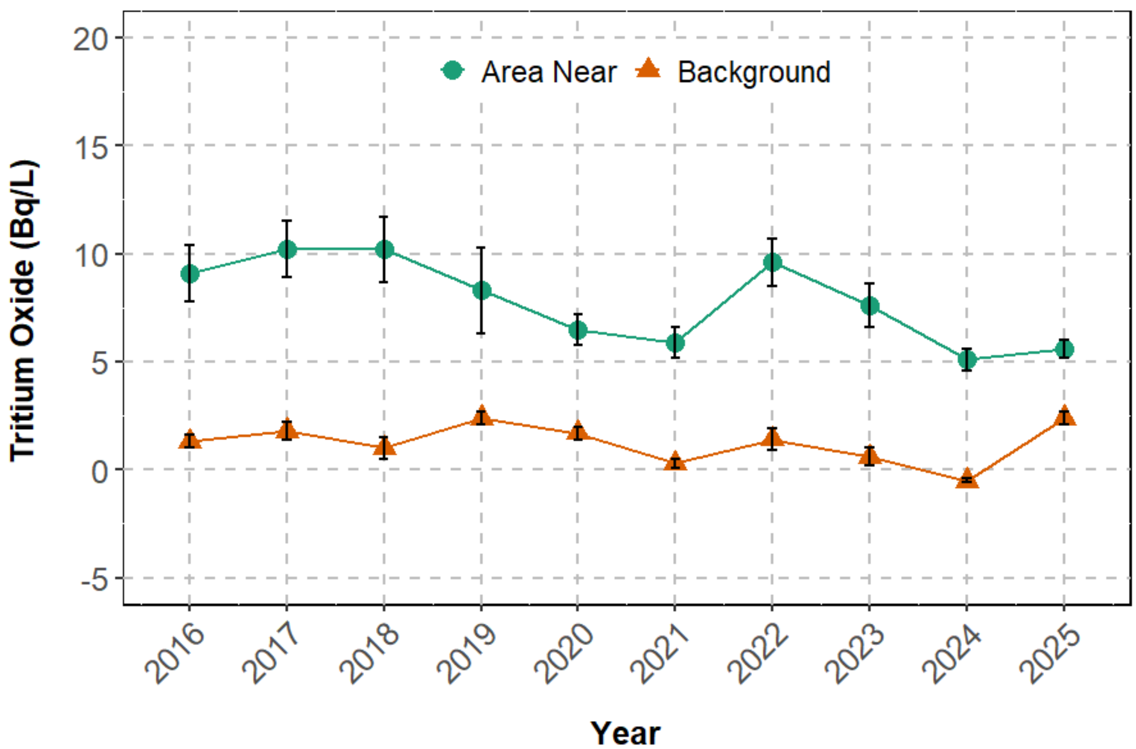


Figure 45 – Annual Average Tritium Oxide Concentration (becquerels per litre) in Milk Samples Collected Near Bruce Power and Provincial Background Locations Over Time (± Standard Error)

The annual average carbon-14 result for area near milk samples in 2025 was 214 becquerels carbon-14 per kilogram carbon, which was lower than the provincial background average of 234 becquerels carbon-14 per kilogram carbon. There is little variability in carbon-14 in milk at both locations, and the area near and background averages for 2025 were similar to previous years (e.g., for 2024, 213 and 223 becquerels carbon-14 per kilogram carbon, respectively). Annual iodine-131 concentrations in milk for both Bruce Power and provincial samples are consistently negligible. For milk samples collected locally, all weeks were below the critical level or not identified on the gamma scan, and therefore indistinguishable from background.

For the 2022 CNSC Independent Environmental Monitoring Program, milk was collected at a location near Tiverton and analyzed for tritiated water (tritium oxide), iodine-131, cesium-137 and organically bound tritium [R-93]. The result for tritiated water was 9.6 becquerels per kilogram fresh weight, which is well below the guideline/reference level of 5,560 becquerels per kilogram fresh weight. For organically bound tritium the result was 5.7 becquerels per kilogram fresh weight, much less than the guideline/reference level of 2,260 becquerels per kilogram fresh weight. The results for iodine-131 and cesium-137 were less than the limit of detection. These results are very low and not expected to have an impact on human health.

5.1.3.4 Agricultural Products

Local farms and residents supply Bruce Power with samples of various grains, fruits and vegetables grown on lands in the vicinity of Bruce Power. Sample locations are shown in Figure 29. These agricultural products are collected annually in specific wind sectors around the Bruce Power site and are analyzed for tritium oxide and carbon-14 by liquid scintillation counting. The commercial alcohol plant at the Bruce Eco-Industrial Park, formerly the Bruce Energy Centre, also provides Bruce Power with samples of corn mash (used for animal feed) for tritium oxide analysis on a quarterly basis.

The annual average tritium oxide and carbon-14 results for agricultural products measured by Bruce Power are provided in Table 33. For 2025, the types of grains collected were corn and soybeans and fruit samples consisted of apples. Bruce Power collects a variety of vegetable types, dependent on availability from local gardens, and include above ground, leafy and below ground vegetables. In 2025 the above ground variety included tomatoes and cucumber, the leafy group included rhubarb, kale, and herbs, and the below ground vegetables were potato and horseradish. Where multiple samples within a group (i.e., above ground) were found at the same location, the samples were combined into a composite sample for analysis.

Provincial background samples for fruits and vegetables include two sets of composite samples from each location. For 2025 there were two fruit locations (Bancroft and Lakefield) and one vegetable location (Lakefield) available. For animal feed, sampling consists of semiannual collection of four samples from one location (Belleville). Sampling locations are shown in Figure 27 and the annual averages are provided in Table 33.

Table 33 – 2025 Annual Average Data for Agricultural Products

Location Type	Sample Type	Tritium Oxide (becquerels per litre)	Carbon-14 (becquerels carbon-14 per kilogram carbon)
Area Near	Grains	72.9	223
Area Near	Corn Mash	24.3	Not applicable
Area Near	Fruit	55.2	283
Area Near	Vegetables	30.4	253
Background	Animal Feed	3.5	231
Background	Fruit Composite	2.9	215
Background	Vegetable Composite	2.0	230

Note:

1. Bruce Power - For calculation of averages where result was less than critical level the uncensored analytical result was used.

2. Provincial background – For calculation of averages where the result was less than the minimum detection level, the uncensored analytical result was used.

Tritium oxide and carbon-14 content in agricultural products may vary each year based on the operational activities and associated radiological airborne emissions that occur during the growing season. The annual average trends of tritium oxide in fruits and vegetables over time are shown in Figure 46 and Figure 47, respectively. Fruit and vegetables near Bruce Power have consistently higher tritium oxide concentrations than at provincial background locations. The 2025 annual average for fruit harvested near Bruce Power decreased in comparison to the previous year (55 versus 76 becquerels per litre in 2024) and in line with values observed historically. The annual average tritium oxide concentration for vegetables in 2025 was very similar to the previous year (30 versus 32 becquerels per litre for 2024), whereas in grains 2025 value was higher (73 versus 47 becquerels per litre for 2024).

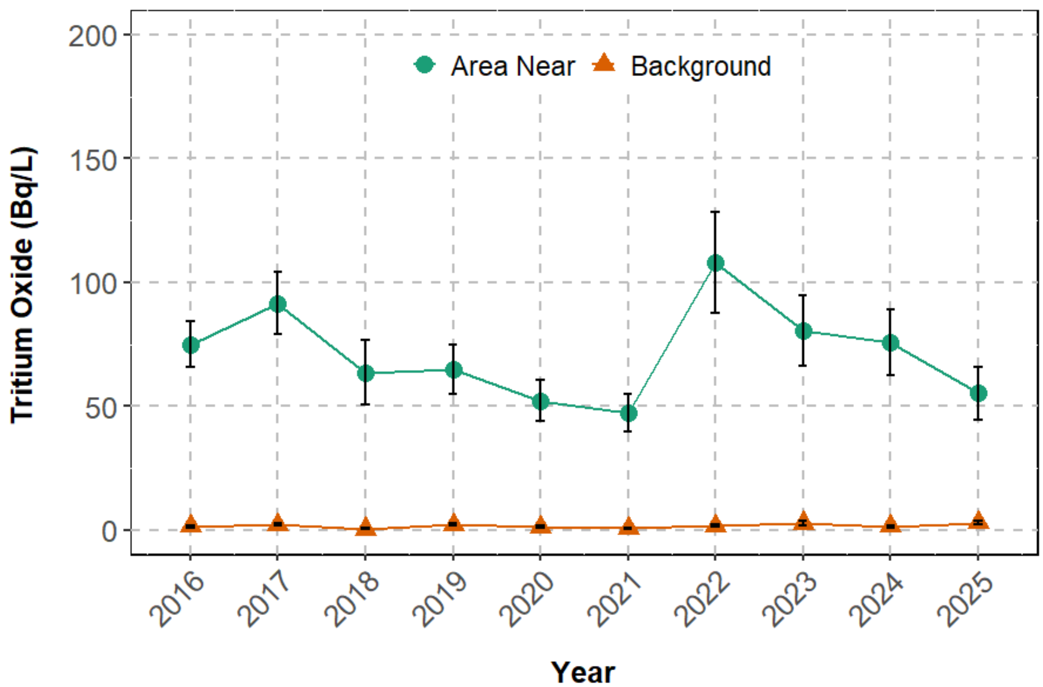


Figure 46 – Annual Average Tritium Oxide (becquerels per litre) in Fruit at Bruce Power and Provincial Background Locations Over Time (± Standard Error)

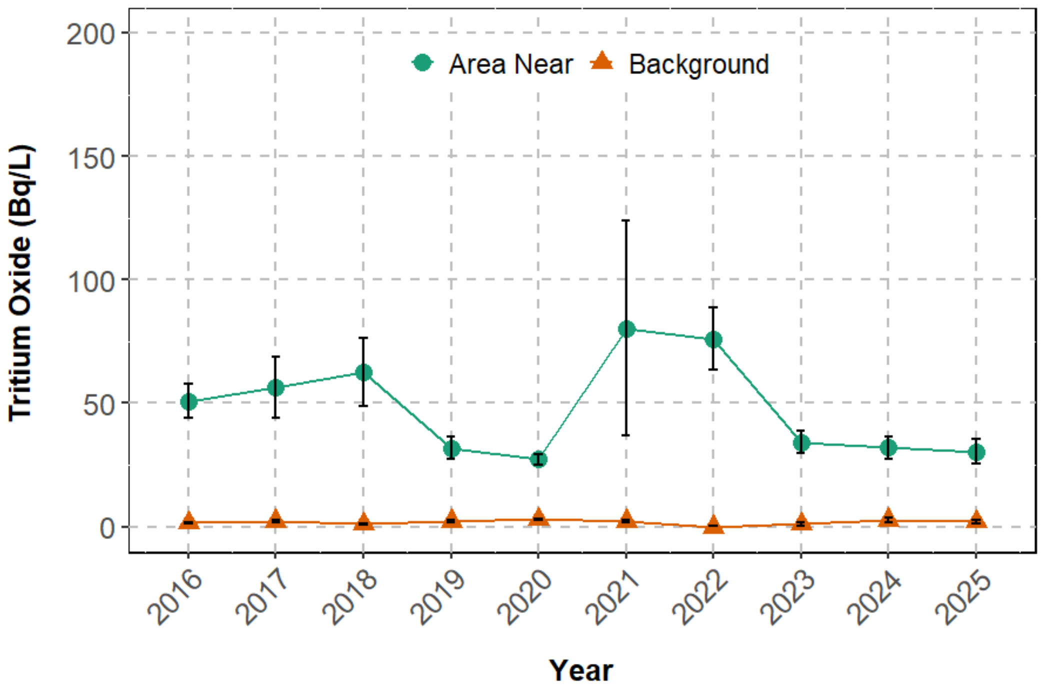


Figure 47 – Annual Average Tritium Oxide (becquerels per litre) in Vegetables at Bruce Power and Provincial Background Locations Over Time (± Standard Error)

The annual average trend of carbon-14 in fruit and vegetables over time is shown in Figure 48 and Figure 49, respectively. Average carbon-14 values in fruit and vegetables collected near Site increased in 2025 compared to previous years. The average carbon-14 concentration in fruit was 283 becquerels carbon-14 per kilogram carbon, and the average concentration in vegetables was 253 becquerels carbon-14 per kilogram carbon. These are the highest observed in the last 10 years and may be attributed to the elevated carbon-14 emissions from Bruce A in July 2025 due to resin management issues experienced in Unit 2 (see Section 4.1.2). Although these values are above the provincial background values and higher than previous years, they are still low and dose to members of the public consuming these items remain negligible (see Section 3.0).

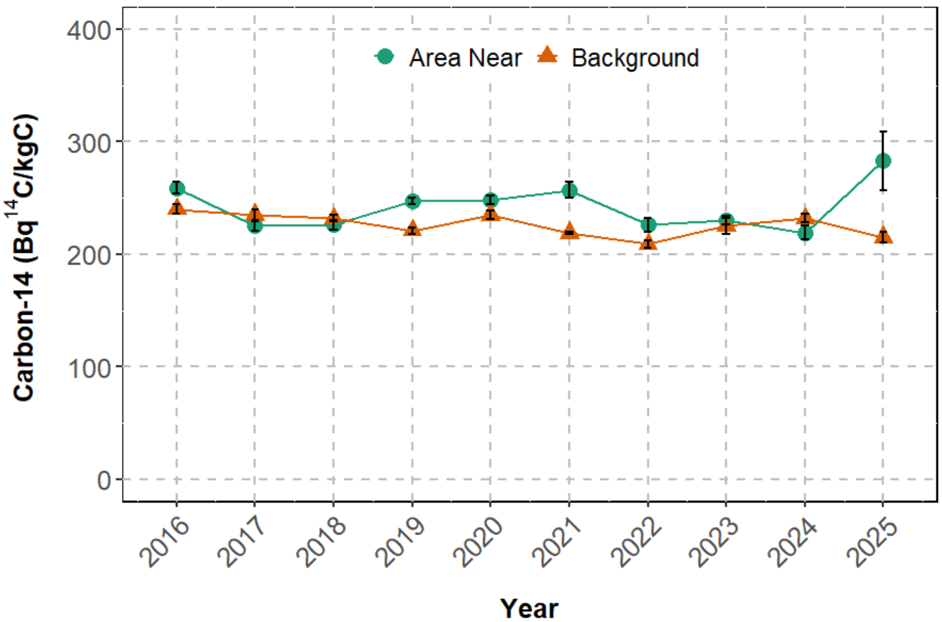


Figure 48 – Annual Average Carbon-14 (becquerels carbon-14 per kilogram carbon) in Fruit at Bruce Power and Provincial Background Locations Over Time (± Standard Error)

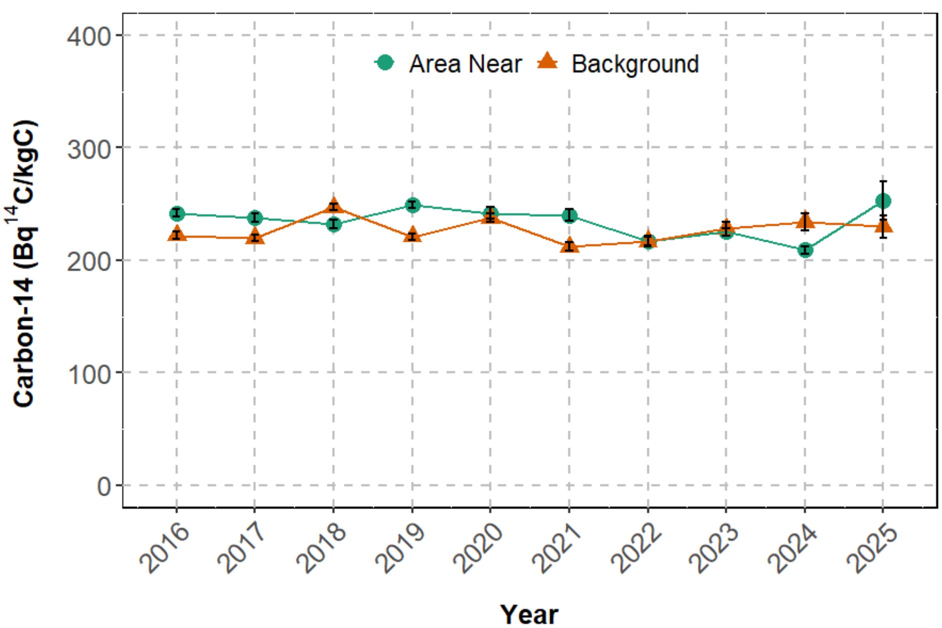


Figure 49 – Annual Average Carbon-14 (becquerels carbon-14 per kilogram carbon) in Vegetables at Bruce Power and Provincial Background Locations Over Time (± Standard Error)

As part of the 2022 CNSC Independent Environmental Monitoring Program a variety of agricultural products were sampled including fruits, vegetables and vegetation [R-93]. A fruit sample was collected at Saugeen Shores (strawberries) and was analyzed for cesium-137, tritiated water (tritium oxide) and organically bound tritium. The results for cesium-137 and organically bound tritium were below the limits of detection, and the tritiated water result was 14.7 becquerels per kilogram fresh weight, which is well below the guideline/reference level of 123,000 becquerels per kilogram fresh weight.

Samples of kale and carrots grown in Saugeen Shores were analyzed for tritiated water (tritium oxide) and organically bound tritium. The results for tritiated water ranged from 5.1 to 18.8 becquerels per kilogram fresh weight and were well below the guideline/reference levels of 104,000 (for kale) or 279,000 (for carrots) becquerels per kilogram fresh weight. The organically bound tritium results were less than detection for carrots and 11.3 becquerels per kilogram for kale and were also below the guideline/reference level (45,200 or 121,000 becquerels per kilogram for kale and carrots, respectively). These results indicate that the tritium levels in fruits and vegetables sampled near Bruce Power are very low.

Locations where vegetation was collected included Baie du Doré, Inverhuron, Kincardine, Southampton and Neyaashiinigmiing (also known as Cape Croker). Samples included plantain, Eastern white cedar, cat tails (roots and leaves), milkweed, creeping juniper and Balsam fir and were analyzed for cesium-137. All results, for all sample types and locations, had cesium-137 values that were less than the limit of detection (<1.8 becquerel per kilogram fresh weight).

5.1.3.5 Aquatic, Animal and Agricultural Products Summary

Bruce Power regularly monitors for radioactivity in fish, animal meat, honey, eggs, milk, fruit and vegetables, grains, and animal feed at a variety of locations near Bruce Power. All results in 2025 were within historical levels and where applicable were well below the CNSC reference levels, indicating that there is no impact to members of the public from consuming foods grown locally to Bruce Power.

A summary is provided here:

- Tritium oxide, carbon-14, cesium-137 and organically bound tritium measured in benthic fish near Bruce Power were very similar to background levels. No human health impacts are expected from these low levels.
- Levels of tritium oxide in milk are low and typically just above background concentrations. The annual average decreased in 2025 compared to the previous year. As seen in other years, all other radionuclides measured in milk (i.e., carbon-14, iodine-131) were indistinguishable from background.

- Concentrations of tritium oxide and carbon-14 are slightly higher in fruits and vegetables grown near Bruce Power compared to provincial background locations, varying with operational activities that occur near harvest time. Annual averages of tritium oxide in 2025 were lower than those from the previous year, but carbon-14 were higher. Regardless of the small fluctuations from year to year, the values are small and the dose to public remains negligible.

5.1.4 Beach Sand, Soil and Sediment Monitoring

Samples of soil and sediment are collected once every five years, while beach sand is collected annually. Samples are dried, sieved and analyzed for gamma emitting radionuclides using gamma spectroscopy. The results are used in the annual dose to public calculation and inform the Environmental Monitoring and Environmental Risk Assessment programs to ensure that Bruce Power is appropriately monitoring and understanding its impact on the environment.

Sampling locations in the vicinity of Bruce Power and further afield along the shore of Lake Huron are shown in Figure 28 and Figure 29. Sediment and garden soil samples from off-site locations were last collected in 2024 and will be sampled again in 5 years. Beach sand from nearby beaches is sampled annually and results are provided below. Sediment samples collected from on-site waterbodies located within the Site perimeter were collected in 2025, along with surface water samples for the upcoming ecological risk assessment.

5.1.4.1 Beach Sand

Beach sand was collected in 2025 at Baie du Doré, Inverhuron and Scott Point. The annual results for CANDU related radionuclides cobalt-60, cesium-134 and cesium-137 are shown in Table 34, along with the provincial background results. The provincial radiological environmental monitoring program collected 8 beach sand samples from Cobourg and the average is provided.

Table 34 – 2025 Beach Sand Data

Location Type	Location	Cobalt-60 (becquerels per kilogram)	Cesium-134 (becquerels per kilogram)	Cesium-137 (becquerels per kilogram)	Cesium -137 Uncertainty (± 2σ) (becquerels per kilogram)	Cesium -137 Critical Level (Lc) (becquerels per kilogram)
Area Near	BM04-SO Baie du Doré	<Lc	<Lc	0.9	0.1	0.1
Area Near	BM10-SO Inverhuron	<Lc	<Lc	0.4	0.1	0.1
Area Near	BM10-SO (duplicate) Inverhuron	<Lc	<Lc	0.5	0.2	0.1
Area Near	BR04-SO Scott Point	<Lc	<Lc	4.9	0.5	0.1
Background	Cobourg Average	<Ld	<Ld	0.3	-	-

Note:

1. Bruce Power - '<Lc' stated in table when value was less than the critical level or not identified on the gamma scan.

2. Provincial background – Sample count for Cobourg is 8. For calculation of averages where the result was less than the minimum detection level (Ld), the minimum detection level was used. '<Ld' stated in table when all values were less than the detection level.

As in other years, the annual average cobalt-60 and cesium-134 values in beach sand at the area near locations are less than the critical level and indistinguishable from background. The area near values for cesium-137 were very low, but slightly higher than the provincial background average for Cobourg.

The ten-year trends for cesium-137 in beach sand in the local area are shown in Figure 50. Although levels were slightly higher near Bruce Power compared to background, they were well below the CNSC reference level for sand (58.6 becquerels per kilogram dry weight). Low levels of cesium-137 occur in the environment due to historical weapons testing and other anthropogenic sources separate from Bruce Power. Cesium-137 levels are marginally higher to the north of Site at Scott Point (BR04-SO) and Baie du Doré (BM04-SO), which is consistent with the predominant lake current direction moving in the northerly direction and the position of the point in relation to the sill at the mouth of Baie du Doré.

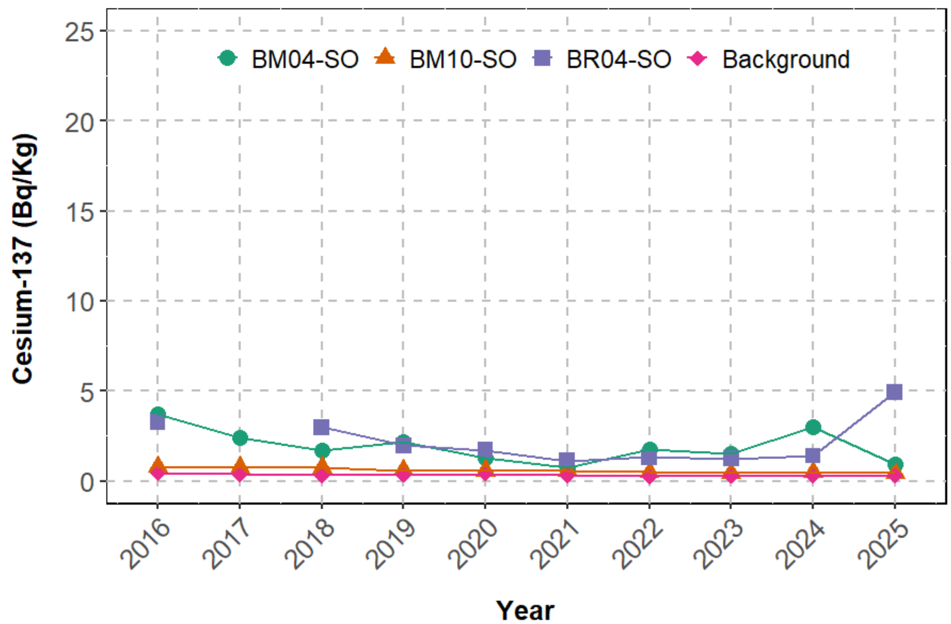


Figure 50 – Cesium-137 in Beach Sand (becquerels per kilogram) at Bruce Power and Provincial Background Locations Over Time; Canadian Nuclear Safety Commission reference level = 58.6 becquerels per kilogram dry weight.

5.1.4.2 Sediment

Sediment was collected from the on-site waterbodies located within the Site perimeter fence, dried, sieved and measured for CANDU-related gamma emitters, including cobalt-60, cesium-134 and cesium-137. The sampling locations include the north and south sides of the Former Sewage Lagoon (FSL1, FSL2 or BM21), the Bruce Learning Center pond (B31 or BM16), the Supply Chain building stormwater pond (B16) and Stream C (BC02), which are shown on Figure 51. Surface water was collected at the same time and measured for tritium oxide by liquid scintillation counting and gamma emitters by gamma spectroscopy. The results for sediment are shown in Table 35 and for surface water in Table 36.

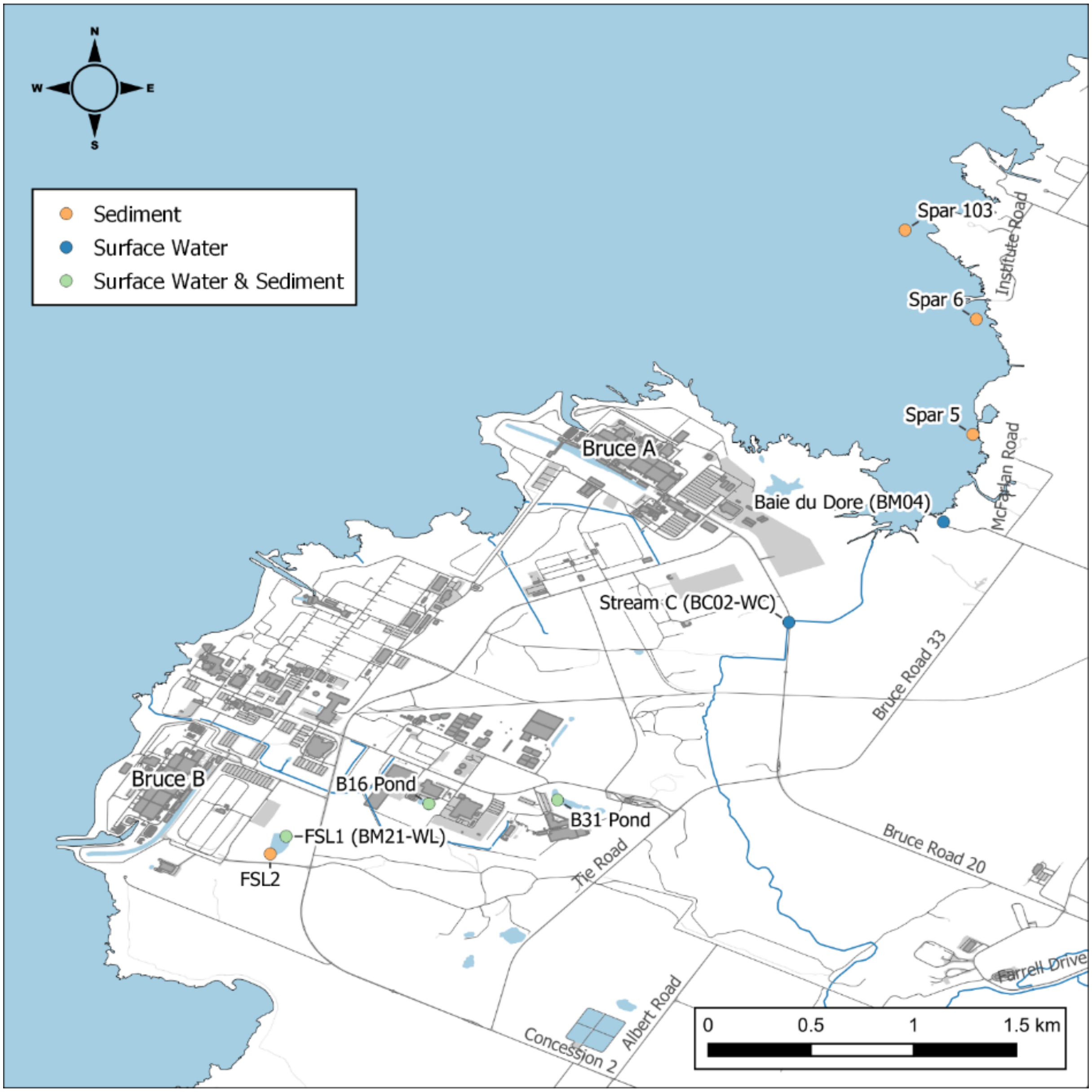


Figure 51 – On-site Sediment and Surface Water Sampling Locations

Table 35 – 2025 On-site Sediment Data

Location	Cobalt-60 (becquerels per kilogram)	Cesium-134 (becquerels per kilogram)	Cesium-137 (becquerels per kilogram)	Cesium -137 Uncertainty (± 2σ) (becquerels per kilogram)	Cesium -137 Critical Level (Lc) (becquerels per kilogram)
B16 Pond-SD	<Lc	<Lc	<Lc	-	-
BM16-SD B31 Pond	<Lc	<Lc	5.8	0.6	0.1
BM21-SD FSL1 (North side)	<Lc	<Lc	18.5	1.5	0.2
BM21-SD FSL1 (North side) duplicate	<Lc	<Lc	9.9	0.9	0.1
BM21-SD FSL2 (South side)	<Lc	<Lc	0.4	0.1	0.1
BC02-SD Stream C	<Lc	<Lc	1.4	0.3	0.1

Note:

1. ‘<Lc’ stated in table when value was less than the critical level or not identified on the gamma scan.

Table 36 – 2025 On-site Surface Water Data

Location	Tritium Oxide (becquerels per litre)	Tritium Oxide Uncertainty (± 2σ) (becquerels per litre)	Tritium Oxide Critical Level (Lc) (becquerels per litre)	Cobalt-60 (becquerels per kilogram)	Cesium-134 (becquerels per kilogram)	Cesium-137 (becquerels per kilogram)
B16 Pond-WL	186	8	3	<Lc	<Lc	<Lc
BM16-WL B31 Pond	59.1	4.7	2.9	<Lc	<Lc	<Lc
BM21-WL FSL1 (North side)	795	15	3	<Lc	<Lc	<Lc
BM21-WL FSL1 (North side) duplicate	790	15	3	<Lc	<Lc	<Lc
BC02-WL Stream C	62.0	4.8	2.9	<Lc	<Lc	<Lc

Note:

1. ‘<Lc’ stated in table when value was less than the critical level or not identified on the gamma scan.

Cobalt-60 and cesium-134 were not identified in sediment samples collected on-site. Cesium-137 concentrations were low, with the highest value of 18.5 becquerels per kilogram being at the north end of the Former Sewage Lagoon. This is consistent with previous results. For comparison, the CNSC reference level for sediment is 37,300 becquerels per kilogram dry weight. Surface water collected from these water bodies did not contain cobalt-60, cesium-134 or cesium-137, and tritium oxide levels were in line with regular bimonthly sampling done at these locations (Section 5.1.2.3). The Former Sewage lagoon had the highest tritium oxide concentration, which is expected due to its close proximity to an operating station (Bruce B).

5.1.4.3 Beach Sand, Soil, Sediment Summary

Bruce Power regularly collects samples of sediment and beach sand in depositional areas along the Lake Huron shoreline and measures for CANDU related gamma emitting radionuclides, as well as in garden soil collected at residential locations in the predominant wind directions from the site.

- In 2025, beach sand was collected from area near locations and levels of cobalt-60 and cesium-134 were below the critical level at all locations and considered negligible. The cesium-137 concentrations were low and comparable to previous years.
- Sediment and surface water were sampled from on-site waterbodies in 2025 and cobalt-60 and cesium-134 were not identified. Tritium oxide and cesium-137 results established that the Former Sewage Lagoon had the maximum values on site and these will be assessed in the next ecological risk assessment. The values from 2025 are consistent with previous sampling results that were evaluated in the last risk assessment, which did not identify any radiological risks to aquatic receptors.
- Low levels of cesium-137 are prevalent in the environment due to historical nuclear weapons testing, and this is observed in the soil, sediment and beach sand near Bruce Power, as well as provincial background locations.

5.1.5 Radiological Environmental Monitoring Program Summary

The main objectives of the Radiological Environmental Monitoring Program, which are listed in Section 5.0, are to (i) obtain concentrations of radioactivity in environmental media each year, (ii) calculate radiation exposure doses to representative persons and demonstrate they are below the legal limit, and (iii) check the effectiveness of emission and effluent controls in place and provide public assurance of the efficacy of these measures. The Radiological Environmental Monitoring data collected in 2025 is provided in Section 5.1 and the dose calculated from this information is described and compared to the legal dose limit in Section 3.0. The results demonstrate that radionuclide concentrations in the environment remain very low and that the emissions and effluent controls in place are effective and adequate. For 2025, the environmental monitoring results obtained were effective in meeting the Radiological Environmental Monitoring Program objectives.

Following the 2022 Environmental Risk Assessment, the Radiological Environmental Monitoring Program was reviewed in 2023. This process was used to evaluate the data collected, to reassess environmental risks and to determine whether the objectives of the program had been achieved. In addition, the need for and adequacy of the Radiological Environmental Monitoring Program was reviewed. Through this process it was determined that the program objectives were met by the current design, that environmental risks were found to be negligible, and that there were no changes in requirements to measure radionuclides in the environment. In conclusion, the design of Radiological Environmental Monitoring was confirmed to be adequate, and no changes were required.

The next periodic review will occur after the next Environmental Risk Assessment has been completed, which is typically updated on a 5-year frequency.

5.1.6 Quality Assurance/Quality Control

5.1.6.1 Meteorological Data Analysis

The meteorological data analysis was conducted in accordance with the Kinectrics Quality Assurance program [R-97]. The Kinectrics Quality Assurance program is ISO 9001 registered and the scope of the ISO 9001:2015 registration covers "consulting, scientific and engineering services to nuclear and other industries to support siting, safety, licensing, design and operations by providing specialized: asset management, project management, procurement, software, environmental, integrated analytical and engineering solutions and services". The Kinectrics Quality Assurance program is regularly audited by organizations such as CANDU Procurement Audit Committee (CANPAC) and has consistently been assessed as compliant with requirements of CSA N299.1-16 [R-98] and CSA N286-12 [R-24].

5.1.6.2 Public Dose Calculations

The Public Dose calculations for 2025 were conducted in accordance with the Calian Nuclear Quality Assurance program. Calian has implemented and maintains a Quality Management System that is certified to the ISO 9001:2015 Standard [R-99].

The 2025 public dose calculations were conducted using the IMPACT 5.6.0 software. All inputs to the IMPACT model were verified based on Bruce Power environmental and emissions and effluents data. A verification tool was utilized to ensure that all numerical entries to the IMPACT model were inputted correctly, and the results of this IMPACT model verification were recorded. The results of the IMPACT calculation were independently verified.

The development of IMPACT 5.6.0 has been guided by, and subject to, an overall Tool Qualification program, which follows the CSA N286.7-16 guidelines for quality assurance in software development for nuclear power plants [R-100].

5.1.6.3 Provincial Background – Ontario Power Generation Whitby Laboratory

The Ontario Power Generation Whitby Laboratory performed the thermoluminescent dosimeter gamma analyses and the provincial sample analyses. Details regarding the Ontario Power Generation Quality Assurance and Quality Control program are described in the Ontario Power Generation report *2025 Results of Environmental Monitoring Programs for Darlington and Pickering Nuclear* [R-105].

5.1.6.4 Bruce Power Health Physics lab

The Bruce Power Health Physics Lab operates a comprehensive Quality Assurance program, which includes quality control samples, blank/background samples, process control samples, and externally generated proficiency testing samples.

Sample Availability

The Bruce Power Health Physics Lab collected 950 environmental samples in 2025 against a target of 1005 for an overall sample availability of 95%. This meets the sampling criteria of greater than 90% for the Radiological Environmental Monitoring Program. Typically, sample unavailability is due to seasonal conditions (such as variations in agricultural yields or frozen streams/ponds) or due to the nature of seasonal residences closed for certain months of the year, making some samples such as wells, unavailable for sampling. Details of the sample availability for 2025 are presented in Table 37 below.

Table 37 – 2025 Sample Availability Data

Sample Types	Collection Frequency	Planned	Actual	% Complete
Air Emissions	Monthly (tritium)	120	119	99%
Air Emissions	Quarterly (carbon-14)	172	171	99%
Environmental Gamma	Quarterly (gamma)	44	44	100%
Precipitation	Monthly (tritium, beta)	80	80	100%
Water Supply Plants	Weekly Composite (tritium)	96	96	100%
Water Supply Plants	Monthly Composite (beta)	24	24	100%
Resident Well & Lake Water	Bi-Monthly (tritium, beta)	66	60	91%
Resident Well & Lake Water	Semi-Annually (tritium, beta, gamma)	32	32	100%
Local Streams	Bi-Monthly (tritium)	36	31	86%
Local Streams	Semi-Annually (beta)	8	8	100%
Site Ground Water	Semi-Annually (tritium)	80	78	98%
Fish	Annually (tritium, carbon-14, gamma, organically bound tritium)	32	16	50%
Sediment	Every 5 years (gamma)	11	11	100%
Milk	Weekly Composite (gamma)	53	42	79%
Milk	Monthly Composite (tritium, carbon-14)	96	88	92%
Fruits & Vegetables	Annually (tritium, carbon-14)	33	26	79%
Honey	Annually (tritium, carbon-14, gamma)	2	2	100%
Eggs	Annually (tritium, carbon-14)	2	2	100%
Grains	Annually (tritium, carbon-14)	6	5	83%
Grains	Quarterly (tritium)	4	4	100%
Animal Meat	Annually (tritium, carbon-14, gamma)	4	5	125%
Soil & Sand	Every 5 years and annually (gamma)	4	6	150%
Overall Site Sample Availability	–	1005	950	95%

Note: Samples may have been unavailable because of seasonal conditions (e.g., freezing of water samples and seasonal residences that are closed for certain months of the year).

Laboratory Analysis Summary

A total of 1234 laboratory analyses were conducted in support of the Bruce Power Radiological Environmental Monitoring Program in 2025, with a completion rate of 92%. This meets the analysis criteria of greater than 90%. The analyses included tritium, gross beta, carbon-14, iodine-131, thermoluminescent dosimeter gamma (under contract to Ontario Power Generation), gamma spectrometry and organically bound tritium. Table 38 provides a summary of the number of samples analyzed for each analysis method.

Table 38 – 2025 Laboratory Analysis Summary

Laboratory Analysis	Planned	Actual	% Complete
Tritium oxide	628	589	94%
Gross Beta	146	140	96%
Carbon-14	296	271	92%
Iodine-131	53	42	79%
Thermoluminescent Dosimeter Gamma	44	44	100%
Gamma Spectrometry	63	50	79%
Organically Bound Tritium	4	2	50%
Total	1234	1138	92%

Note: Thermoluminescent dosimeter gamma analysis was completed by Ontario Power Generation, Whitby.

Laboratory Quality Assurance and Quality Control

The purpose of inter-laboratory proficiency testing is to provide independent assurance to Bruce Power, the CNSC, and interested parties that the laboratory's analytical performance is adequate, and the accuracy of the measurements meets required standards. Table 39 presents a summary of the Bruce Power Radiological Environmental Monitoring Quality Assurance and Quality Control Program.

Table 39 – Summary of the Quality Assurance and Quality Control Program by Radionuclide and Medium

Check	Type	Tritium as organically bound tritium	Tritium in water	Tritium in air	Gross beta in water	Carbon-14 in produce	Gamma spec of water	Gamma spec of sediment	Gamma spec of soil
Reality check	Historical	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes
Reality check	Relative	Yes	Yes	Yes	No	Yes	No	Yes	Yes
External benchmarks	Proficiency Testing	Not available	Eckert & Ziegler Analytics	Not available	Eckert & Ziegler Analytics	Not available	Eckert & Ziegler Analytics	Eckert & Ziegler Analytics	Eckert & Ziegler Analytics
Internal quality control	Bias	Quality control sample	Quality control sample	Quality control sample	Quality control sample (cesium-137)	Quality control sample (sawdust)	Mixed gamma quality control sample	Mixed gamma quality control sample	Mixed gamma quality control sample
Internal quality control	Precision	Quality control sample	Quality control sample	Quality control sample	Quality control sample (cesium-137)	Quality control sample (sawdust)	Mixed gamma quality control sample	Mixed gamma quality control sample	Mixed gamma quality control sample
Internal quality control	Background	Low tritium water	Low tritium water	Low tritium water	Blank	Limestone	Blank	Blank	Blank
Internal quality control	Process controls	Contamination	Contamination	Contamination	Contamination (low activity water)	Contamination (coal)	None	None	None

Laboratory Quality Control

Various quality control samples are utilized to estimate the precision and accuracy of analytical results and to indicate errors introduced by laboratory practices. There are two types of quality control samples used to accompany the analyses of the environmental samples collected for the Radiological Environmental Monitoring Program: process control samples and quality control samples.

1. Process Control Samples

   Process Control samples are low analyte samples that are treated as actual samples and go through the same handling process. These are intended to detect contamination and specific sources of error. The following main process control samples are used for Radiological Environmental Monitoring samples:

   - Low tritium reference water samples kept open to the air during sample handling to detect contamination from tritium in ambient air.
   - Coal (low carbon-14) samples to detect anomalies with carbon-14 analyses.
   - Low activity water samples run as low gross beta samples to detect contamination.
   - Blank thermoluminescent dosimeters to detect radiation exposure during shipping to and from the Ontario Power Generation Whitby laboratory.

2. Quality Control Samples

   Quality control samples are samples which contain known values of the analyte (usually derived from traceable standards), which are included for analysis. Statistically based quality control charts are used to evaluate validity of environmental sample results; results are considered valid when the values for the accompanying quality control samples are within ± 3 standard deviations of the known or expected value for the respective control chart.

Proficiency Testing and Inter-laboratory Comparisons

The main purpose of inter-laboratory comparison programs is to provide independent assurance to Bruce Power, the CNSC, and interested parties that the laboratory's analytical proficiency is adequate, and the accuracy of the measurements meets required standards. The comparison program forms a crucial part of the overall laboratory Quality Assurance program and demonstrates that the laboratory is performing within acceptable limits as measured against external unbiased standards.

The proficiency testing service is operated by Eckert & Ziegler Analytics Inc. of Atlanta, Georgia. On a quarterly basis Eckert & Ziegler Analytics provides samples containing known quantities of radionuclides to the Bruce Power Health Physics Laboratory. The samples are environmental matrices which are analogous to the samples collected for the Radiological Environmental Monitoring Program.

These samples include:

- Tritium in water
- Beta emitters in water
- Gamma emitters in milk (includes Iodine-131)
- Gamma emitters in water
- Gamma emitters in soil
- Iodine-131 in iodine cartridge (annually)
- Gamma emitters on particulate filter (annually)

Upon completion of analysis, the Bruce Power analytical values are submitted to Eckert & Ziegler Analytics, which subsequently provides a final report for Bruce Power, detailing the expected values and the ratio of the laboratory value to the expected value.

All results obtained from Eckert & Ziegler Analytics shall meet the following self-imposed pass/fail investigation criteria:

$$\frac{(V_L + 1\sigma_L)}{V_A} \geq 0.75 \quad \text{AND} \quad \frac{(V_L - 1\sigma_L)}{V_A} \leq 1.2$$

Where:

V_L = Bruce Power value
σ_L = Bruce Power one sigma uncertainty value
V_A = Analytics Supplier value

The acceptance criteria were reviewed in 2025 and found to be comparable to industry standards. The criteria continue to meet the needs of the program.

The results for the proficiency testing are presented in APPENDIX D. All sample results for 2025 met the acceptance criteria and were acceptable.

5.1.7 Updates to Radiological Environmental Monitoring

The following changes were made to Radiological Environmental Monitoring in 2025:

- A dairy farm moved their operation to a neighboring farm in spring 2025. The sample point BDF01 was discontinued, and the new location was identified as BDF17.
- Upgrades to the ten off-site environmental monitoring sheds continued in 2025, and six locations are now complete. The remaining four will be relocated and this requires new land agreements with the local municipalities. These discussions are ongoing and are expected to be finalized in 2026-2027.
- The need for monitoring precipitation for radionuclides has been reviewed and found to no longer be required for the Radiological Environmental Monitoring Program. Precipitation collection was discontinued in 2025.

5.2 Conventional Environmental Monitoring

The CSA standard N288.4, Environmental monitoring programs at Class I nuclear facilities and uranium mines and mills outlines the following objectives for environmental monitoring programs [R-106]:

- measure the concentration of hazardous substances and physical stressors in the environment to allow for the assessment of potential biological effects from stressors arising from the facility;
- demonstrate compliance with limits on hazardous substances and physical stressors in the environment; and
- verify that the facility has effective containment and effluent control measures in place.

The Bruce Power Conventional Environmental Monitoring program monitors conventional contaminants, physical stressors, potential biological effects, and pathways for both human and non-human biota. Non-radiological chemical stressors from historic and current operations are monitored (with future effects predicted using models as needed) in local surface waters, sediments, soil, and/or air using an activity-centered, risk-based approach. Effects on wildlife from physical stressors are documented using numerous Biological Effects Monitoring approaches.

Chemical stressors that have the *potential* for environmental impact are referred to as Chemicals of Potential Concern. Chemicals of Potential Concern are routinely monitored at Bruce Power, and they are chosen based on known controlled releases from the facility. Controlled effluents and emissions are regulated and are described in Bruce Power's Conventional Effluents and Emissions Monitoring program (see Section 4.2). A second pathway to the environment is through an uncontrolled release (i.e., spill). If a spill was to occur and a contaminant reached the environment, the location and frequency of Chemicals of Potential Concern monitoring may change on a case-by-case basis, as dictated by remediation activities and/or follow-up monitoring.

Routine monitoring for conventional Chemicals of Potential Concern occurs in surface waters (annually) and sediments (every 5 years) because they have the highest probability of impact from facility operations such as station effluents, storm water discharges, and Centre of Site operations (e.g., sewage treatment and discharges). Soil has a low probability of being impacted by chemical stressors at Bruce Power, primarily because Chemicals of Potential Concern are not discharged directly to soil under normal operations. This has been repeatedly demonstrated in past Environmental Risk Assessments [R-8]. Sediments and soils were sampled in 2021 to inform an updated Environmental Risk Assessment. For a detailed assessment of risk to potential receptors please refer to the 2022 Environmental Risk Assessment [R-8].

The impact of air emissions on the surrounding environment is assessed annually in the Conventional Environmental Monitoring Program and in recurring Environmental Risk Assessments which have demonstrated that these impacts are very low [R-8]. The transport of Chemicals of Potential Concern through the air to surface water (and potentially sediment, soil or groundwater) occurs via deposition, runoff and percolation processes. Transport through air is short-lived and thus there is minimal interaction between Chemicals of Potential Concern and potential receptors.

5.2.1 Routine Lake Water Quality and Stream Water Quality Assessment

5.2.1.1 Lake Water Quality

Lake Huron surface water quality samples were taken from 1 metre below the lake surface at five long-term monitoring locations near Bruce Power on May 5, 2025, August 14, 2025, and Oct 1, 2025 (Figure 52). These locations are representative of near field, wildlife habitat and reference areas. The interfaces between Lake Huron and the Bruce A and Bruce B discharges (LWQ1 and LWQ2, respectively) were sampled to sufficiently characterize the effluent from facility operations. Baie du Doré was sampled as it is a wildlife habitat area (LWQ5). Sampling locations at the southern (LWQ8) and northern (LWQ7) limits are reference locations. The results of these water quality analyses are presented in APPENDIX E alongside the historical trend observed between 2020 and 2025. These data continue to show that Bruce Power has effective containment and effluent control measures in place, and that facility operations have little-to-no effect on the water quality in Lake Huron [R-8].

Sample results are compared to several criteria including:

- Provincial Water Quality Objectives as established by the Ontario Ministry of Environment, Conservation and Parks [R-107];
- The Canadian Council of Ministers of the Environment freshwater, long-term water quality guidelines for the protection of aquatic life [R-108];
- Ontario Drinking Water Standards as listed in *Ontario Regulation 169/03* [R-60];
- Health Canada Guidelines for Canadian Drinking Water Quality [R-109]; and
- Site-specific target levels, as developed in Table 38 of the 2022 Environmental Risk Assessment) [R-8].

All lake water quality parameters in 2025 were below the screening criteria, except for unionized ammonia, phenolics, total phosphorus, lead, and copper.

In August 2025, ammonia (unionized) was elevated downstream of the Bruce A discharge (LWQ1; 24.8 micrograms per litre), as well as the southern and northern reference sites (LWQ8; 18.7 micrograms per litre, and LWQ7; 28.6 micrograms per litre, respectively). These values were above the Canadian Council of Ministers of the Environment screening criteria and Site-Specific Target Level (both 16 micrograms per litre). In October, ammonia (unionized) was high in Baie du Doré (LWQ5; 400.4 micrograms per litre), as well as the southern (LWQ8; 130.1 micrograms per litre) and northern (LWQ7; 59.5 micrograms per litre) reference sites.

Ammonia inputs into Lake Huron from septic systems, agriculture and/or nearby industry (beyond Bruce Power) have been shown to impact water quality, as documented in nearby Provincial Water Quality Monitoring Network monitoring sites and off-site samples collected from within Stream C (upstream) [R-8]. Although Bruce Power contributes some ammonia to the lake, all releases in 2025 were within Environmental Compliance Approval limits (see Table 15, Table 16 and Figure 25 in Section 4.2.3.1). Higher levels were observed both at Baie du Dore and reference locations, indicative of a non-point source. A large-scale fish die-off occurred in Lake Huron throughout the winter and spring of 2025 [R-110]. Decomposition of these fish likely contributed to the high ammonia levels measured across multiple sites in 2025.

Results from 2025 indicate that phenolic concentrations were largely below the screening criterion (1.0 µg/L), with only a few samples above the threshold, in contrast to 2022 – 2024 when most sites were above 1.0 ug/L. In August 2025, phenolics were reported at 1.2 micrograms per litre upstream of the Bruce A discharge (LWQ1) and in October phenolics were reported at 1.1 micrograms per litre upstream of the Bruce B discharge (LWQ2). Prior to 2022, phenolics were not routinely analyzed in Lake Huron so there is no additional historical data to use for comparison. This Chemical of Potential Concern occurs naturally in aquatic environments because it is a breakdown product of aquatic vegetation decomposition. It can also originate from industrial effluent, domestic sewage and pesticides [R-111]. Given the prevalence of ammonia and phosphorous in Lake Huron from agricultural sources, it is possible that a similar situation may exist for phenolics.

In May 2025, phosphorus concentrations slightly exceeded the screening criterion (20 µg/L) at the southern reference site (LWQ-8; 24.1 µg/L). Higher concentrations were also observed in October 2025 upstream of the Bruce B discharge (LWQ-2; 69.6 µg/L). In addition to higher nutrient inputs expected from the lake-wide fish die-off event in the winter of 2025, phosphorus inputs to Lake Huron from across the lake fringe watersheds can reasonably account for the elevated phosphorus concentrations observed in surface water samples collected within Lake Huron in 2025 ([R-112]). All releases of phosphorous from Bruce Power effluent in 2025 were within environmental compliance approval limits.

High levels of lead were detected above screening criteria of 3.0 micrograms per litre in all sites in May 2025 (LWQ1; 3.25 micrograms per litre; LWQ2; 3.5 micrograms per litre; LWQ5; 5.79 micrograms per litre; LWQ7; 4.36 micrograms per litre; LWQ8; 9.21 micrograms per litre) and elevated copper was higher than the 2.2 micrograms per litre at the southern reference site (LWQ8;4.09 microgram per litre). Although lead and copper are included in the regular suite of metals analyzed in lake water through the conventional environmental monitoring program, they are not known contaminants that are emitted in Bruce Power effluent so they are not included in Bruce Power's Environmental Compliance Approvals and they are not routinely tracked as part of the Conventional Effluent Monitoring Program. The elevated levels detected at all monitoring sites suggests there was a widespread event, rather than a localized source, and may be the result of runoff from the catchment following spring thaw, or a storm event leading to suspended sediments. The elevated metals may have been released from the lake sediment if the dissolved oxygen was low (anoxia) as a result of decomposition of fish on the lake bed. However, this cannot be confirmed as oxygen levels were only recorded one metre below the surface, and not near the lake bed.

Historical lake water quality data collected between 2017 and 2021 are presented in the 2022 Environmental Risk Assessment , including a discussion of any exceedances of the screening criteria and characterization of the risk to potential receptors. These data were collected from the locations shown in Figure 52 retired monitoring locations, and from the Coastal Waters Monitoring Program stations in Baie du Doré and Inverhuron Bay. A similar discussion of exceedances from 2022 to 2026 and characterization of the risk to potential receptors will be included in the 2027 Environmental Risk Assessment.

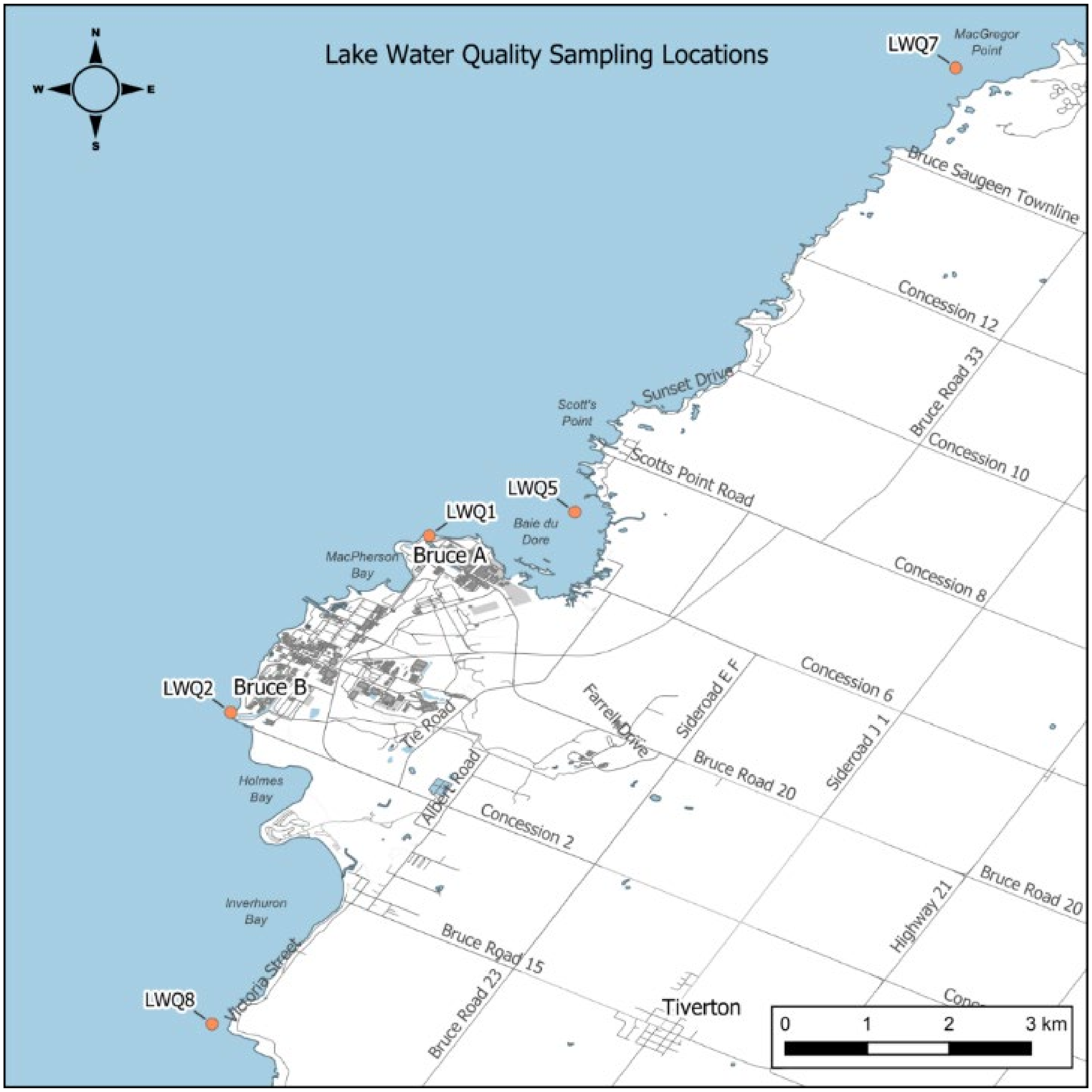


Figure 52 – Long-term Water Quality Monitoring Locations in Lake Huron

5.2.1.2 Water Quality in Stream C and On-site Drainage Features

Surface water quality samples were collected in 2025 on March 18, August 11, and October 29 at several locations across the Bruce Power site, including the long-term monitoring locations in 'Stream C' (Figure 53). Stream C is a small stream that originates off-site (headwaters on the Nipissing Bluff just east of site), flows through the site including Hydro One and Ontario Power Generation managed lands, and discharges to Baie du Doré. Two long-term monitoring locations exist in Stream C; one at the upstream boundary of the facility (SW1), and one at a downstream location near the discharge to Lake Huron (SW2). Additional on-site surface water monitoring locations include the Eastern Drainage Ditch (SW3), the pond adjacent to building B31 and the former Ontario Power Generation Construction Landfill #4 and the pond at the 'Former Sewage Lagoon' (FSL). The pond beside building B16 was removed from the sampling program after the 2022 Environmental Risk Assessment determined there was no unreasonable risk to aquatic and semi-aquatic wildlife that inhabit the pond. One sample taken by Ontario Power Generation in 2020 for their Western Waste Management Facility Environmental Risk Assessment ('Stream C Confluence') is shown for reference only and was not sampled by Bruce Power in 2025 (Figure 53).

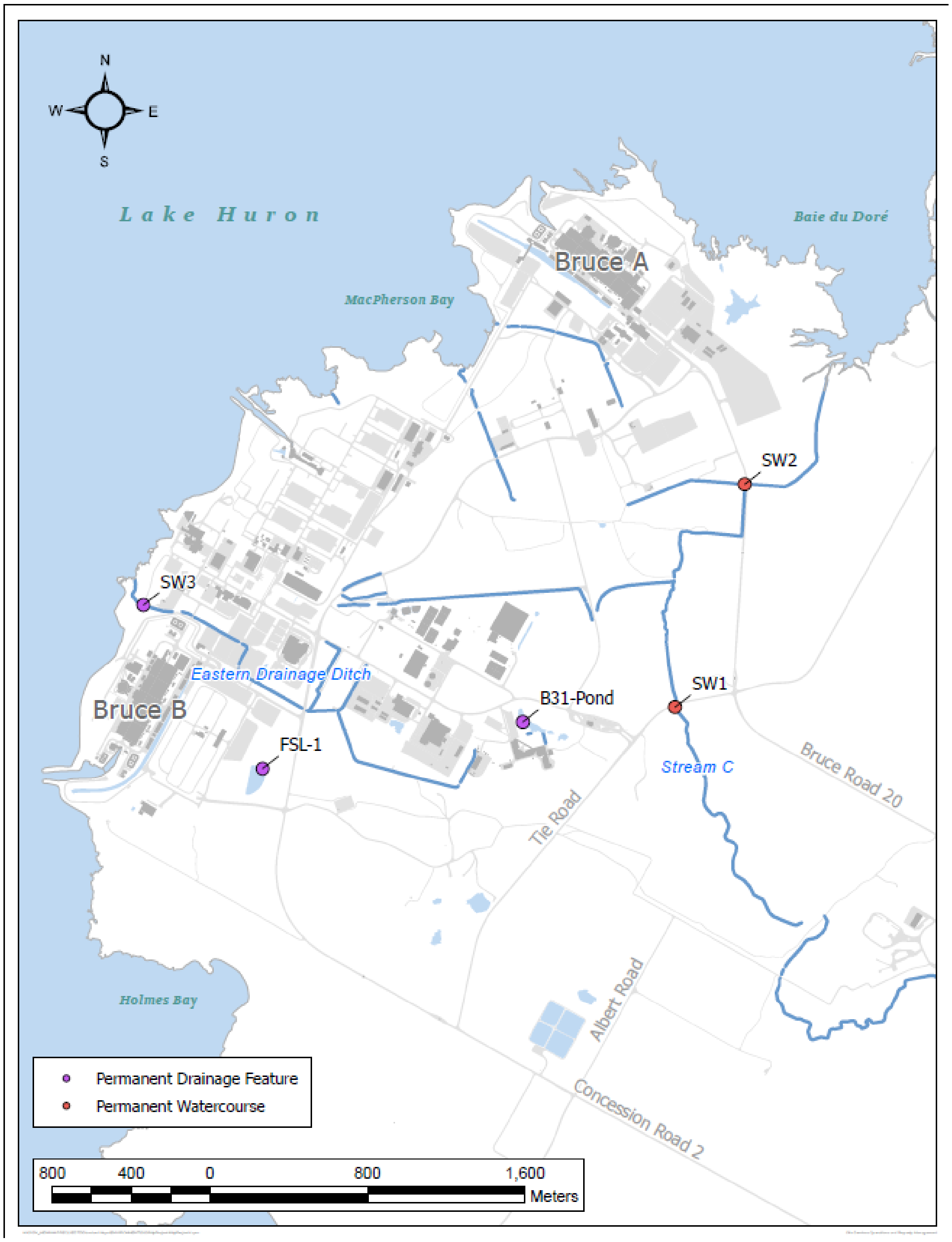


Figure 53 – Water Quality Monitoring Locations Sampled in 2025 from Stream C and Other On-site Drainage Features

Sample results are compared to several criteria including:

- Provincial Water Quality Objectives as established by the Ontario Ministry of Environment, Conservation and Parks [R-107];
- The Canadian Council of Ministers of the Environment freshwater, long-term water quality guidelines for the protection of aquatic life [R-108];
- Ontario Drinking Water Standards as listed in *Ontario Regulation 169/03* [R-60];
- Health Canada Guidelines for Canadian Drinking Water Quality [R-109]; and
- Site-specific target levels, as developed in Table 38 of the 2022 Environmental Risk Assessment.

In 2025, results above the screening criteria were recorded in some on-site surface water samples for the following Chemicals of Potential Concern: ammonia, phosphorous, chloride, fluoride, phenolics, aluminum, copper, iron, vanadium, zinc, and dissolved oxygen (APPENDIX F).

As mentioned in Section 5.2.1.1, phosphorous has been shown to be elevated in Lake Huron and other local surface water bodies due to run-off from agricultural activities. This is supported by the observation that phosphorous is elevated in the upstream portion of Stream C (SW1), prior to any influence from the Bruce Power site.

High ammonia levels were elevated in the former sewage lagoon (FSL) in March and October, and elevated in the pond adjacent to building B31 in August. High ammonia levels can be attributed to decomposition of organic matter, or agricultural run-off.

According to the 2022 Environmental Risk Assessment, elevated chloride levels are expected due to road salting practices as part of the facility’s general maintenance and safety programs and fluoride is naturally elevated in regional groundwater and surface water due to the geology of the region [R-113]. Fluoride is not a chemical constituent used or emitted from Bruce Power operations.

Prior to 2022, phenolics were not routinely analyzed in on-site surface water quality samples. In 2022 this parameter was added to the analysis package and in 2023 most of the samples collected in August and November showed elevated levels of phenolics. All samples collected in April were below the screening criteria. In 2024, phenolics in samples from Stream C in April were below the screening criteria, but all other samples were above the screening criteria. In 2025 phenolics were below screening criteria in March, but were slightly elevated in August at some sites (SW3, FSL, B31 pond), and in October at some sites (SW2, SW3). This Chemical of Potential Concern occurs naturally in aquatic environments due to the decomposition of aquatic vegetation or can originate from industrial effluent, domestic sewage or pesticides [R-111]. The seasonal trend (summer and fall) in this Chemical of Potential Concern suggests a relationship to growth and decay of aquatic vegetation.

Samples collected from Stream C (SW1, SW2) had elevated aluminum concentrations in March, August and October. All sites had aluminum concentrations above the screening criteria in August. Aluminum occurs naturally in surface water and groundwater due to weathering of minerals. It can also be released to the environment from construction materials, vehicles, electronics, pharmaceuticals and personal care products [R-114].

Iron was above the screening criteria in the upstream portion of Stream C (SW1) in March, August and October, while iron concentrations in the downstream portion of Stream C (SW2) remained below screening criteria in all seasons. The pond adjacent to building B31, as well as the eastern drainage ditch (SW3) also had elevated iron concentrations in August. According to Environment and Climate Change Canada, the concentrations of iron in Canadian surface waters are generally below 10 milligrams per litre, with Lake Huron measured as 0.7 milligrams per litre [R-115]. All surface water samples were well below 10 milligrams per litre in surface waters.

Vanadium concentrations in the Eastern Drainage Ditch (SW3) were above screening criteria in March and October but were below detection in August. Benthic invertebrates were collected in 2025 and analyzed for vanadium to determine the uptake factor from water and sediment to benthic invertebrates, as per a recommendation from Bruce Power's 2022 Environmental Risk Assessment. Concentration of vanadium in benthic invertebrates (0.40 - 1.50 mg/kg) was well below the concentration in the surrounding sediment (71.7 mg/kg). Results will be discussed further in Bruce Power's 2027 Environmental Risk Assessment.

Zinc is an essential element that is widely found in nature. In Ontario streams, zinc concentrations range from less than two micrograms per litre to 537 micrograms per litre [R-116]. Although the concentration of zinc found in the Eastern Drainage Ditch (SW3) was above the screening criteria in August, it was well within the range for Ontario streams.

Elevated levels of copper were found in the pond at building B31 in March and August, and upstream portion of Stream C in August. Copper can occur naturally through weathering of geological deposits, or fires, or through anthropogenic sources such as agricultural practices [R-111]

Finally, pH was high in the former sewage lagoon (FSL) in October, and dissolved oxygen was below the Canadian Council of Ministers water quality long-term concentration guideline in August for warm water biota (early life stages) in all sites except for the downstream location in Stream C, near the discharge to Lake Huron (SW2).

The full results of the 2025 water quality analyses are presented in APPENDIX F, Table 97 alongside the historical trend observed between 2020 and 2025.

Historical data from 2017 to 2021 is outlined in the 2022 Environmental Risk Assessment [R-117], including a discussion of any exceedances of the screening criteria and characterization of the risk to potential receptors. A similar discussion of exceedances from 2022 to 2026 and characterization of the risk to potential receptors will be included in the 2027 Environmental Risk Assessment.

5.2.1.3 Sediment Sampling

Collection of sediment samples began in November 2024 and continued into 2025. Results of those samples are included in APPENDIX G. Assessment of these results will be included in the 2027 Environmental Risk Assessment. Results of the last sediment sampling campaign (2021) are documented in the 2021 Environmental Protection Report [R-118] and the 2022 Environmental Risk Assessment .

Additionally, historical sediment data can be viewed using an interactive tool that has been developed for this purpose. The tool can be accessed through the following link:

https://wsp-shinyapps.shinyapps.io/ERA_screening_tables/

5.2.1.4 Soil Sampling

Collection of on-site soil samples began in December 2024 and continued through 2025. Results of those samples are included in APPENDIX H. Assessment of these results will be included in the 2027 Environmental Risk Assessment. Results of the last soil sampling campaign (2021) are documented in the 2021 Environmental Protection Report [R-118] and the 2022 Environmental Risk Assessment.

Additionally, historical soil data can be viewed using an interactive tool that has been developed for this purpose. The tool can be accessed through the following link:

https://wsp-shinyapps.shinyapps.io/ERA_screening_tables/

5.2.1.5 Quality Assurance and Quality Control

The external laboratory that analyzes samples for the Conventional Environmental Monitoring program is certified under The Canadian Association for Laboratory Accreditation and operates a Quality Assurance and Quality Control program in accordance with ISO 17025 for competence of testing and calibration laboratories.

The internal Bruce Power laboratory also operates a documented, comprehensive Quality Assurance and Quality Control program, which includes the use of blank samples, blind duplicate samples and spike samples.

Performance criteria are specific to each monitoring effort and are outlined in the annual Conventional Environmental Monitoring program plan. Data acceptance criteria are defined for chemical analyses and are analyte-group specific. These criteria are defined in terms of specific data quality metrics such as analyte detection limits, matrix spike recovery, precision and blank results. The detection limit of the method used to measure the concentration, intensity should be less than the benchmark value identified for that contaminant, physical stressor, or effect [R-106].

5.2.2 Fish Impingement, Entrainment and Offsetting Activities

Bruce Power uses cold, deep Lake Huron water in a once-through-cooling system to condense steam and supply operational needs. This cooling requirement can cause adult fish and larger juveniles to become trapped against water intake screens (impingement). Smaller aquatic organisms, like fish eggs and larvae, can fit through the intake screens and then be carried through the cooling water system before returning to the lake (entrainment).

Bruce Power has a *Fisheries Act* Authorization from Fisheries and Oceans Canada [R-119]. The Authorization requires Bruce Power to quantify fish losses through continued monitoring of fish impingement and entrainment and to measure fish gains obtained from approved offsetting measures. These monitoring results are reported annually to Fisheries and Oceans Canada. Bruce Power works closely with the CNSC, Fisheries and Oceans Canada and local Indigenous Nations and Communities to ensure the requirements of the Authorization are met and that all are well-informed of relevant fish impingement, entrainment, and fish offsetting activities.

5.2.2.1 Impingement and Entrainment – 2025

The total loss of fish due to impingement and entrainment at Bruce A and Bruce B Generating Stations in 2025 was 3,634 kilograms (Table 40) expressed as a Habitat Productivity Index metric [R-120] [R-121]). This was higher than losses in prior years (Figure 54),but remains below the administrative threshold of 4,500 kilograms per year, and well below the maximum loss permitted in Bruce Power's *Fisheries Act* Authorization (6,600 kilograms per year). The total nominal weight of fish impinged in 2025 was 4,734 kilograms. The total reported loss excludes the invasive Round Goby and the episodic event of Gizzard Shad impinged between January 28 and April 21, 2025 at Bruce A, and February 14 and April 14, 2025 at Bruce B, as described below. None of the fish impinged in 2025 were listed as Threatened or Endangered on Schedule 1 of the *Species at Risk Act* [R-122].

Impingement losses were measured consistently throughout 2025 by Bruce Power Operations who identified and quantified fish impinged in all unit pump houses a minimum of five days per week. The impingement monitoring program has several levels of Quality Assurance and Quality Control checks to ensure data integrity. Operators undergo training in fish identification and quantification prior to performing these tasks. The Quality Assurance and Quality Control program for fish impingement requires Operators to freeze Lake Whitefish, Round Whitefish and Deepwater Sculpin so that identification can be confirmed by field biologists who oversee the program. Frozen fish are bagged, labelled, and placed in freezers stored in each pump house until they are inspected by Bruce Power's field biologists. Operations staff will also freeze specimens that they would like the field biologists to perform a confirmatory identification. In October 2024, an Environmental Technician from the Saugeen Ojibway Nation joined the Bruce Power Environment team to support the Conventional Environmental Monitoring Program by focusing on fish impingement and entrainment monitoring with mentorship and guidance to Operators to assist in identification and quantification of impinged fish. Further incorporation of Indigenous knowledge of local fish in Lake Huron is improving the impingement monitoring program and improving awareness of Saugeen Ojibway Nation's concerns about Bruce Power's operational impacts on Saugeen Ojibway Nation Territory.

A new edition of CSA N288.9, Guideline for design of fish impingement and entrainment programs at nuclear facilities [R-123] was issued in December 2024. Revisions were completed by a technical committee that includes representatives from the regulator, utilities and consultants. A key update to the standard is the inclusion of criteria for identifying and documenting episodic events like the ones that occurred at Bruce Power in 2023 and 2025 (described below and in Section 5.2.2.1).

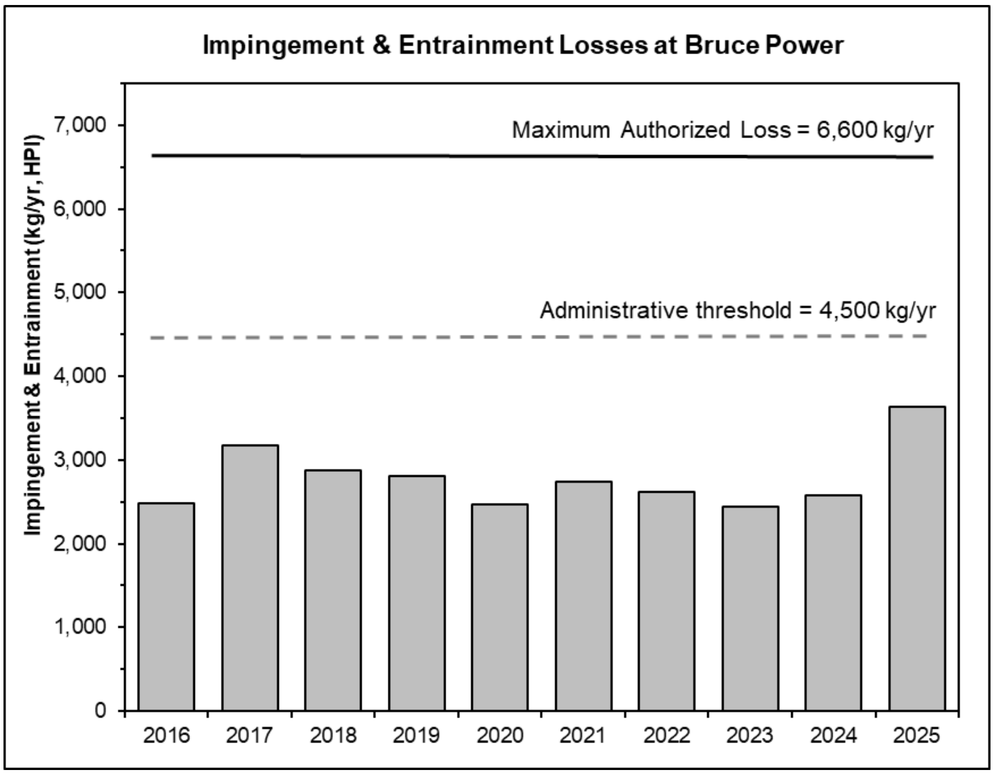


Figure 54 – Total Impingement and Entrainment Losses at Bruce Power (2016 - 2025)

Note: Calculated using the Habitat Productivity Index metric [R-120] [R-121]. Impingement was measured in all years. Entrainment was estimated in 2015 through 2025 using measured data from 2013 and 2014.

Table 40 – Impingement and Entrainment Fish Losses at Bruce A and Bruce B in 2025

Species	2025 Impingement Count (number)	2025 Impingement Nominal Weight (grams)	2013/2014 Entrainment[1] Count (number of age-1 equivalents)	2013/2014 Entrainment[1] Age-1 Weight (grams)	2025 Productivity Loss (HPI, kilograms per year)
Alewife	872	11,313	6	24	12,225
Bloater	0	0	14,124	790,944	510,368
Brown Trout	27	59,959	0	0	10,671
Buffalo	1	1,609	0	0	321
Bullhead	8	7,379	0	0	1,786
Burbot	784	1,266,452	9,089	78,165	635,697
Carp	17	39,704	0	0	6,942
Channel Catfish	54	139,903	0	0	23,590
Chinook Salmon	5	9,175	2,208	266,285	134,396
Cisco	464	11,703	17,545	538,632	438,968
Coho Salmon	3	10,510	0	0	1,595
Cyprinid	0	0	431	259	816
Deepwater Sculpin	2	17	2,610	3,654	8,603
Emerald Shiner	1,044	62,618	0	0	39,446
Freshwater Drum	58	158,170	0	0	26,196
Gizzard Shad (see Note)	4,804	1,255,522	0	0	472,499
Lake Chub	26	1,094	0	0	780
Lake Trout	62	213,066	0	0	32,544
Lake Whitefish	90	141,478	8,547	639,316	426,068
Largemouth Bass	4	8,131	0	0	1,493
Logperch	1	9	0	0	11
Longnose Sucker	304	267,340	0	0	65,796
Minnows	12	119	0	0	141
Northern Pike	4	11,391	0	0	1,858
Rainbow Smelt	16,329	94,099	16,898	152,082	322,434
Rainbow Trout	30	56,752	0	0	10,683
Redhorse sp.	58	58,662	0	0	13,748
Rock Bass	13	2,296	0	0	991
Round Goby	16,391	243,837	2,529	2,529	264,883

Species	2025 Impingement Count (number)	2025 Impingement Nominal Weight (grams)	2013/2014 Entrainment[1] Count (number of age-1 equivalents)	2013/2014 Entrainment[1] Age-1 Weight (grams)	2025 Productivity Loss (HPI, kilograms per year)
Round Whitefish	24	27,146	0	0	6,118
Salmonid	1	24	427	8,028	7,611
Sculpin sp.	1	8	0	0	10
Shiner sp.	255	20,102	0	0	11,508
Smallmouth Bass	37	22,203	0	0	6,247
Spottail Shiner	425	29,198	0	0	17,540
Suckers	27	18,839	5,089	26,972	56,151
Three spine Stickleback	136	823	0	0	1,157
Trout Perch	3	24	0	0	31
Walleye	400	511,716	75	8,730	118,602
White Bass	2	226	0	0	114
White Perch	202	6,353	0	0	5,016
White Sucker	161	129,675	0	0	32,912
Yellow Perch	1,329	78,860	10,512	81,994	170,400
Total (kg/year)					3,899
Total (less Round Goby) (kg/year)					3,634

Note: See Section 5.2.2.2 for discussion of high Gizzard Shad impingement event, which is excluded from these total losses.

Round Goby are excluded from the annual Habitat Productivity Index calculation because they are a species listed in the *Aquatic Invasive Species Regulations* (SOR/2015-121).

Entrainment losses were not measured in 2025; power generation facilities do not routinely measure entrainment because it is a very intensive effort. Instead, entrainment was conservatively estimated in 2025 based on the highest value observed (by species) in either the 2013 or 2014 entrainment monitoring programs. It is worth noting that these entrainment values are not pro-rated for actual cooling water flows experienced in recent years, and with units in Major Component Replacement, and maintenance outages with Condenser Cooling Water pumps offline, it is expected that the actual entrainment values were lower due to less flow. The 3634 kilogram total loss value for 2025 includes this conservative estimate of entrainment losses.

5.2.2.2 Episodic High-Impingement Event of Gizzard Shad

Between January 28 and April 21, 2025 at Bruce A, and February 14 and April 14, 2025 at Bruce B, Bruce Power experienced an unprecedented episodic event of high Gizzard Shad impingement. The event was associated with environmental conditions that included prolonged cold temperatures, supercooled nearshore waters, and an elevated Gizzard Shad population. Upon experiencing the unusual gizzard shad impingement – an unanticipated environmental condition that exceeded the station's existing prevention capacity – Bruce Power acted immediately to stabilize the plant and protect reactor safety, implemented mitigation to remove fish and prevent further ingress, and reported transparently to Fisheries and Oceans Canada, the CNSC and local Indigenous communities.

A root-cause investigation was completed and Bruce Power is executing strengthened prevention, detection, and response measures – enhanced physical barriers and deterrents, improved inspection routines, and expanded real-time monitoring capability – to reduce the likelihood of recurrence and improve readiness for episodic events. Bruce Power is continuing to work with regulators and Indigenous Nations and Communities, including SON, to incorporate learning and improve long-term monitoring and mitigation in a way that protects Lake Huron and sustains confidence in our operations. Throughout the event, Bruce Power maintained ongoing engagement with Indigenous Nations and Communities, including the Saugeen Ojibway Nation (SON), Historic Saugeen Métis, Métis Nation of Ontario Region 7, and Chippewas of Kettle and Stony Point First Nation. Short-term mitigation actions and longer-term research initiatives were developed collaboratively, informed in part by SON's review of the event.

The event was environmentally driven and occurred outside of normal operations. Population-level risk considerations, including a review of available literature on the characteristics of Gizzard Shad and their natural annual mortality rates, indicate episodic events involving high impingement of Gizzard Shad are unlikely to cause population-level effects in Lake Huron. Ongoing mitigation enhancements, monitoring, and research will continue to inform future risk management and will be incorporated into the 2027 Environmental Risk Assessment.

5.2.2.3 Truax Dam Removal Project Offsetting Activities – 2025

In August 2019, the Truax Dam (Saugeen River, Walkerton, Ontario) was successfully removed as part of Bruce Power's *Fisheries Act* Authorization Offsetting Plan. This project was completed in partnership between Bruce Power, the Lake Huron Fishing Club and the Municipality of Brockton, and represents the largest known dam removal to occur in the Province of Ontario in recent times (Figure 55). The successful dam removal in 2019 was a key step forward in Bruce Power's efforts to fully offset its fish losses from impingement and entrainment.

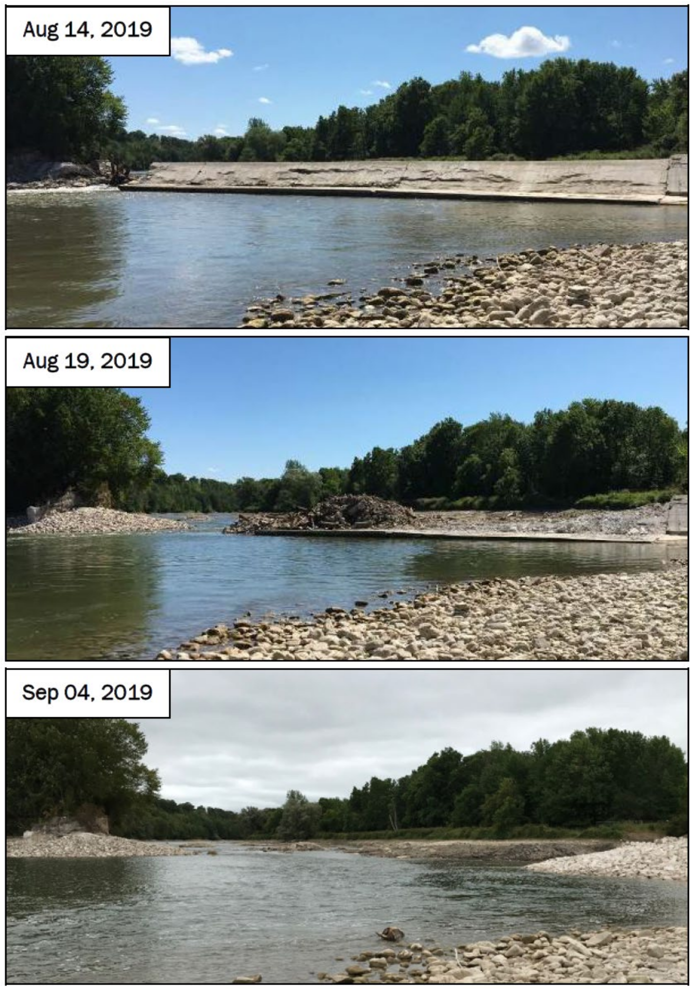


Figure 55 – Truax Dam, Walkerton, Ontario

Note: The original wooden dam was built in 1852 and later replaced by the concrete structure shown above in 1919. The dam posed a significant barrier to fish passage for more than a century before it was removed in the summer of 2019 over the course of 3 weeks

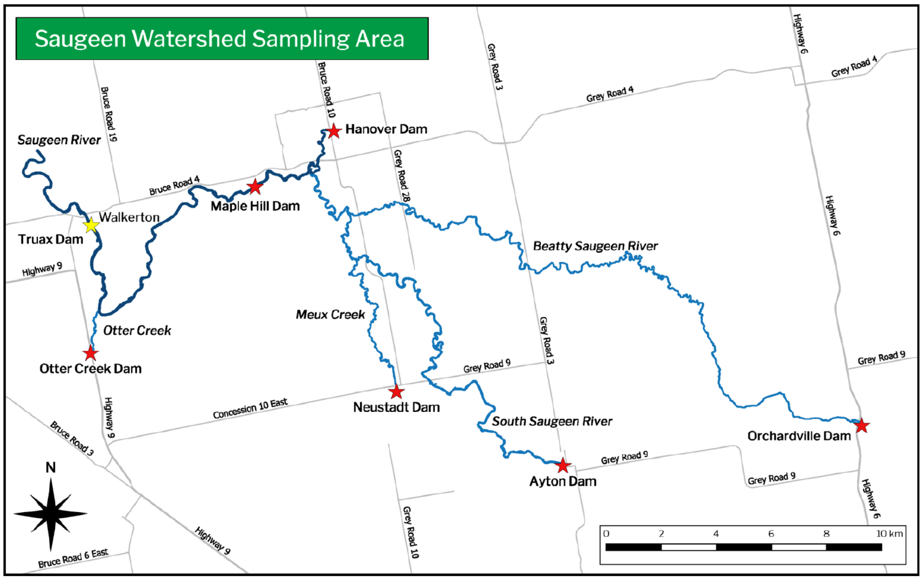


Figure 56 – Twenty-two Long-term Monitoring Sites are Located in the Saugeen (Upstream and Downstream of the Former Truax Dam) and within the South Saugeen and Beatty Saugeen Rivers and Otter and Meux Creeks

Note: Dams (red stars) are natural endpoints of the study area as fish cannot pass upstream of these structures. Control sites with independent fish communities are located outside of the study area, upstream of the Hanover and Otter Creek dams.

Fish and fish habitat monitoring upstream and downstream of the former Truax Dam began in 2018 and has continued since then to quantify the change in fish biomass that has occurred because of the dam removal. Twenty-two long-term monitoring locations were established in the study area where biologists carry out electrofishing surveys to measure changes in fish biomass and production (Figure 56). Additionally, habitat assessments and redd surveys are used to monitor changes in fish spawning, and underwater video and radio-telemetry studies are being done to track fish passage throughout the watershed. Complete habitat assessments were conducted at all sites in 2024. This data compliments the last complete habitat assessment performed in 2018, and partial assessments performed between 2019 and 2023, and in 2025.

In 2025, the largest increases in fish biomass production continued to be found within the main stem of the Saugeen River, particularly the sites immediately upstream of the Truax Dam footprint which were previously in the dam impoundment. Increases in production across all three river segments from the downstream barrier to Maple Hill Dam were able to be carried forward to assess offsetting gains for 2025, since the measurements were deemed statistically significant through a Before-After Control-Impact analysis. Although tributary production gains were not statistically significant in 2025, all tributaries had a positive change in post-removal biomass and production. Once statistically significant, relatively small changes in the tributaries will greatly impact the total offsets generated.

As a result of the removal of the Truax Dam, increase in Habitat Productivity Index for 2025 is 2518 kilograms per year. This value is subject to change after further methodology review and discussion with Fisheries and Oceans Canada are completed.

Fish production within the Saugeen River main stem is expected to continue to increase in future years as the warm-water fish community redistributes across the newly reconnected river system and as additional successful Salmonid spawning occurs within the newly formed habitat upstream of the dam footprint. Indeed, additional observations gathered through radiotelemetry studies of Rainbow Trout, Salmonid redd surveys and videography monitoring have demonstrated an almost instantaneous increase in Salmonid presence in the Saugeen River upstream of the Truax Dam to Carrick Dam and within Otter Creek. Increased fish production of Salmonids in the tributaries is also anticipated in future years.

A photographic collection of the Saugeen River watershed field work is found at [R-124]–[R-127].

Videographic surveys have confirmed significant increases in Rainbow Trout passage at Maple Hill Dam. Additional information is available at Biotactic's website (biotactic.com, [R-128]) or by following these website links:

Truax Dam Removal Monitoring on the Saugeen River at:
biotactic.com/BrucePublicSummary_Summer2024Final.pdf [R-129]

Migratory Patterns of Rainbow Trout at:
biotactic.com/migratory-patterns-of-rainbow-trout/ [R-130]

Rainbow Trout and Chinook Salmon redd counts continue to be higher than the numbers recorded before the dam was removed. An average of 33 Rainbow Trout redds were observed in Otter Creek pre-removal, increasing to 66 redds in 2023, 209 redds in 2024, and 223 redds in 2025. Correspondingly the number of juvenile Rainbow Trout captured increased from an average of 559 individuals pre-removal to 963 individuals in 2023 and 1,063 in 2024. Due to above average water temperatures in 2025, the number of captured juvenile Rainbow Trout declined to 309 (Table 41). Similarly, Chinook Salmon redds in Otter Creek increased from 8 counted in fall 2018 to 62 in fall 2024 and declined to 35 in fall 2025 (Table 42). Fewer redds were observed in fall 2022 compared to fall 2021, due to significantly decreased water levels at the mouth and throughout Otter Creek, which precluded the ability of fish to enter the tributary. This is reflected in the 2023 juvenile count, which dropped from 42 in 2022, to five in 2024 and then 15 in juveniles observed in Otter Creek in 2025. Importantly, no redds or juvenile Salmonids were found pre-removal in the dam headpond, however post-removal redd counts continue to remain elevated (Table 41). While an increase in redd counts cannot be directly correlated to increases in biomass, this provides additional evidence of the benefit of the removal of the Truax Dam to fish communities and will likely lead to further increases in fish biomass and production throughout the watershed.

A summary of redd surveys in the Saugeen River near the former Truax Dam site are provided in Table 41 and Table 42, and the link:
biotactic.com/salmonid-redd-counts-in-the-saugeen-river/ [R-131]

Table 41 – Rainbow Trout Spring Redd and Summer Juvenile Counts in the Main-stem and Otter Creek Baseline (2018 and 2019) and Post-dam Removal (2020 - 2024).

Year	Main stem	Main stem	Otter Creek	Otter Creek
	Redd counts	Juveniles	Redd counts	Juveniles
2018	0	0	45	312
2019	0	0	21	806
2020	31	15	46	488
2021	5	7	71	642
2022	5	63	92	1,128
2023	3	38	66	963
2024	27	36	209	1,063
2025	93	143	223	309

Table 42 – Chinook Salmon Fall Redd and Summer Juvenile Counts in the Main-stem and Otter Creek Baseline (2018) and Post-dam Removal (2019 - 2024).

Year	Main stem	Main stem	Otter Creek	Otter Creek
	Redd counts	Juveniles	Redd counts	Juveniles
2018	0	0	8	0
2019	3	0	10	13
2020	2	0	15	3
2021	28	0	73	2
2022	19	1	18	42
2023	26	0	55	3
2024	3	1	62	5
2025	5	1	35	13

5.2.2.4 Indigenous Nation and Community Offsetting Projects – 2025

Bruce Power continues to collaborate with local Indigenous Nations and Communities as part of the *Fisheries Act* Authorization to develop and implement offsetting projects. These projects provide an opportunity to work together in meaningful ways to improve fish and fish habitat in areas of the Lake Huron watershed that are of special importance to local Indigenous Nations and Communities. These projects are in addition to Bruce Power's support of the Saugeen Ojibway Nation Coastal Waters Monitoring Program, which is a nearshore/coastal monitoring program with the goal of building a comprehensive baseline inventory of aquatic habitat and wildlife in the Saugeen Ojibway Nation Territory [R-132].

Bruce Power and the Historic Saugeen Métis completed the offsetting project known as “Fisheries Habitat Restoration and Enhancement: Removal of *Phragmites australis* from the Fishing Islands”. The combination of western science and Indigenous knowledge produced an all-encompassing improved formula for dealing with compensating offsets. The Fishing Islands are an important harvest area for the Historic Saugeen Métis Community. Fish, aquatic plants and bird eggs are all part of the Métis way of life. Maintaining ecological integrity in this area is therefore of high importance to the Historic Saugeen Métis Community. The project plan was approved in 2021 and as per the *Fisheries Act* Authorization, annual reports were submitted to Fisheries and Oceans Canada in March 2022, and September 2023 to document work completed each year. In 2023, it was confirmed that no high density stands of Phragmites remained in the project area and the final project report was submitted to Fisheries and Oceans Canada in March 2024.The goals of this project were to: strengthen the role of the Historic Saugeen Métis community in fisheries related projects; incorporate Historic Saugeen Métis community knowledge of coastal habitats and fish interactions; restore near shore coastal habitats that are important to the Historic Saugeen Métis community; increase shoreline complexity and restore native plant diversity; improve near shore fish habitat; enhance local hydraulic conditions to favour certain functions of fish habitat; and promote restoration of degraded habitats.

This program was made possible by a number of partners including the Oliphant and Fishing Islands Phragmites Community Group, Bruce Power, Grey Sauble Conservation Authority, Township of South Bruce, Oliphant Campers Association, Bruce Peninsula Biosphere Association, Nature Conservancy of Canada and the Invasive Phragmites Control Centre as well as many seasonal and fulltime residents.

In collaboration with the Métis Nation of Ontario (Region 7), a project plan to improve fish habitat and restore connectivity in Bothwell’s Creek, near Leith, Ontario was developed and incorporated into the *Fisheries Act* Authorization in December 2023. Bothwell’s Creek has been used by the Métis Nation of Ontario (Region 7) community for fishing and recreation, however a decline in fish has been noticed over the past decade. Erosion, sedimentation, loss of riparian vegetation and a build-up of debris (e.g., fallen trees) are thought to be the leading causes of the observed decline in fish in the creek. The Métis Nation of Ontario (Region 7) assessed and removed debris that they identified as impediments to fish passage in 2022 and 2023. With the assistance of the Grey Sauble Conservation Authority, Bruce Power and the Métis Nation of Ontario (Region 7) held a community riparian tree planting event in May 2024. The event planted fifty white cedar trees along vulnerable stretches of the stream bank. A survival assessment in 2025 was completed, and the assessment identified that all trees had survived. An assessment will also occur in 2026. Photo-documentation is ongoing and will be provided to Fisheries and Oceans Canada in a final report by March 31, 2027. In addition to this project, Bruce Power and the Métis Nation of Ontario (Region 7) have also partnered with Trout Unlimited Canada to conduct water temperature monitoring and redd surveys in Bothwell’s Creek in 2024 and 2025 to better understand the health of the creek and guide future habitat rehabilitation work that will occur in 2026.

Bruce Power has been working with the Nawash Fisheries Assessment Program on a project plan that will provide high-resolution temporal data of lower food web dynamics in Stokes Bay, throughout the growing season. The goal of this research is to support research looking into drivers of plankton abundance, which ultimately impacts Lake Whitefish (*Coregonus clupeaformis* or Dikameg in the Saugeen Ojibway Nation dialect of Anishinaabemowin) recruitment.

It has been proposed that declining Dikameg recruitment may be at least partially due to reduced nutrient input and decreasing/changing plankton abundance leading to reduced fish biomass during a critical larval stage. While a direct cause of these changes has not been confirmed, evidence points to stressors such as invasive dreissenid proliferation. The goal of this project is to advance understanding of the lower food web that supports larval Dikameg and to understand drivers of plankton abundance, which ultimately impacts Dikameg recruitment. This project aims to quantify nutrient status, and plankton (phytoplankton and zooplankton) abundance and community composition in Stokes Bay. Stokes Bay is widely considered one of the most important Dikameg nursery habitats in Lake Huron due to its proximity to the critically important spawning shoals within the fishing islands and the morphology of the bay itself. Larval Dikameg collections from as far back as the 1970s have demonstrated high larval densities, and the importance of Stokes Bay to the SON fishery. This research will therefore provide the data needed to support rehabilitation strategies for Dikameg. A project plan will be submitted to DFO, prior to the commencement of field work.

5.2.3 Thermal Monitoring of Lake Temperatures

As part of nuclear electricity generation, high pressure steam is produced at Bruce A and Bruce B by means of nuclear fission producing thermal energy in the core, which is transferred to the heavy water heat transport system, which then heats demineralized light water in a closed loop system. This steam is used to produce electricity in the turbine generator systems and is then condensed to liquid water in the Condenser Cooling Water system before travelling back to boilers to be reheated to high pressure steam again. Steam condensation occurs in the Condenser Cooling Water system using a separate open loop of cool lake water that is drawn from offshore deep-water intakes, and warmer water is discharged back to the lake.

The temperature of water leaving the Bruce A and Bruce B discharge channels is monitored continuously to ensure it meets the specifications outlined in Ministry of Environment, Conservation and Parks Environmental Compliance Approvals, which are established to be protective of the environment and minimize impacts to aquatic organisms and their habitat. Because this warmer discharge water has the potential to be a physical stressor to aquatic organisms, Bruce Power has carried out extensive thermal and current monitoring over several years to characterize any potential risk from thermal effluent. Temperature and current monitoring in Lake Huron continued in 2025 in order to collect ongoing verification data for the thermal risk assessment. This data will be presented in the 2027 Environmental Risk Assessment.

A comprehensive thermal risk assessment was completed in the 2022 Environmental Risk Assessment (Section 7.2). As part of this thermal risk assessment, a low risk to some cold and cool water fish species and life stages was identified, based on modelled thermal benchmarks . Given the similar habitat available along the length of the Lake Huron coast and the mobility of older life stages, no population level effects are expected. Bruce Power will continue to execute thermal monitoring through logger deployments, as described in CSA N288.4-10 [R-106], and thermal modelling work to monitor the risk posed by thermal effluent in the Local Study Area.

The most recent thermal risk assessment was completed in July 2023 to support the application for thermal flexibility at Bruce A using an updated methodology [R-133]. The results of the 2023 thermal risk assessment are described in Section 7.2, and showed a low risk to specific life stages of cold water fish species.

Bruce Power's thermal monitoring field program will continue to deploy thermal loggers across the local study area and at reference locations throughout the proposed thermal flexibility period. The number of sites deployed and retrieved across the local study area may change due to safety considerations related to weather and substrate composition, results of the thermal risk assessment and the adoption of advanced thermal monitoring methods. All available thermal monitoring data, including results from CWMP, will continue to be incorporated into the thermal risk assessment.

In the summer of 2025, Bruce Power deployed four Sofar Spotter Buoys and Smart Mooring devices in Lake Huron. These buoys are fitted with data loggers that transmit real time wave and water temperature information to a digital application called Seagull. The Seagull application is hosted by the Great Lakes Observing System and is accessible to the public through the following link: seagull.glos.org/. While three buoys were retrieved in the Fall of 2025, one remained in place to trial the possibility of leaving these buoys in Lake Huron during the harsher winter months.

5.2.4 Biological Effects Monitoring

Bruce Power has implemented long-term monitoring of local wildlife for many years to establish, maintain, and trend baseline population conditions at the site. This program supports an understanding of natural population variability, enables the detection of changes over time, and confirms that facility operations remain protective of the environment. Collectively, the biological effects monitoring programs described below provide a comprehensive and enduring assurance that Bruce Power continues to operate safely, with due consideration of cumulative environmental effects associated with its operations and those of neighbouring facilities over multiple decades.

Many of the monitoring programs (including snake board studies, turtle nesting, migratory birds, breeding birds and amphibians) are completed in collaboration with Ontario Power Generation Western Waste Management Facility.

5.2.4.1 Amphibians

Amphibians are an excellent indicator of ecosystem health because they have a dual life cycle (water and land) and are sensitive to pollutants during all life stages [R-134].

Amphibian monitoring at the Bruce site is conducted using standardized vocalization surveys. Nocturnal surveys are completed in spring and early summer in accordance with the Environment Canada Marsh Monitoring Program (MMP) protocol [R-134] , which requires three surveys conducted during early spring, mid-spring, and early summer, on calm, mild evenings spaced at least 15 days apart to assess species presence and relative abundance. In addition, targeted daytime surveys for Western Chorus Frog – Great Lakes / St. Lawrence – Canadian Shield population *(Pseudacris maculata)* are conducted earlier in the spring following the Draft Western Chorus Frog Detection Protocol for Ontario [R-135]. This protocol is required to detect Western Chorus Frog, which has a brief early-spring calling period and can be difficult to detect during evening surveys when calling by other species is more intense. Incidental amphibian observations are also recorded throughout the year during other environmental field programs.

Table 43 – Amphibian Call Level Codes used in the Survey Protocol

Level #	Level Code
Level 1	Calls did not overlap and calling individuals could be discretely counted
Level 2	Calls of individuals occasionally overlap, but numbers of individuals could still reasonably be estimated
Level 3	Numerous individuals were calling, and an overlap of calls seemed continuous, making an estimate of individuals impossible

In 2025 a new amphibian monitoring station was established in a drainage ditch on the former Bruce Heavy Water Plant (BHWP). Six surveys were completed across the 14 monitoring stations (Figure 57), including three surveys in April to capture early season breeders like the Western Chorus Frog and Wood Frog (*Lithobates sylvaticus*).

Table 44 – Frog and Toad Species Recorded on the Bruce Nuclear Site and Leased Lands Between 2017 and 2025

	Species at Risk	2017	2018	2019	2020	2021	2022	2023	2024	2025
American Toad	-	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
Bullfrog	-	No	No	No	No	No	No	No	No	No
Green Frog	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Gray Treefrog	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Northern Leopard Frog	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Spring Peeper	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Western Chorus Frog	Threatened (SARA)	No	No	No	No	No	No	Yes	Yes	No
Wood Frog	-	Yes	Yes	Yes	No	Yes	Yes	No	No	Yes

Monitoring of local frog and toad populations will continue in 2026 in the same 14 locations using the same protocols.

Visual encounter surveys for salamanders and newts were conducted on April 28, May 1 and May 2, 2025, as part of the broader amphibian monitoring program. Surveys consisted of walking wetland and forested areas and examining beneath natural cover objects such as rocks and logs.

These surveys documented three Red-spotted Newts (*Notophthalmus viridescens viridescens*) and one Spotted Salamander (*Ambystoma maculatum*). In addition, two large Spotted Salamander egg masses were observed in roadside ditches south of MMP5, adjacent to the OPG landfill, with one egg mass located on each side of the South Access Road. These ditches are intermittent features but typically retain water during spring conditions. Spotted Salamander egg masses have been intermittently observed at this location in multiple previous years, indicating recurring breeding activity.

On October 31, 2025, the OPG Monitoring Program identified four Four-toed Salamanders (*Hemidactylium scutatum*) and an additional Spotted Salamander on OPG-retained lands. The individuals were observed in a roadside ditch on the South Access Road to the Bruce Nuclear site (Figure 57). The observation of Four-toed Salamanders is notable, as only one previous record has been documented for southern Bruce County [R-136]. All salamander and newt species recorded in 2025 are ranked S4 (Apparently Secure) or S5 (Secure) in Ontario, and none are designated as Species at Risk.

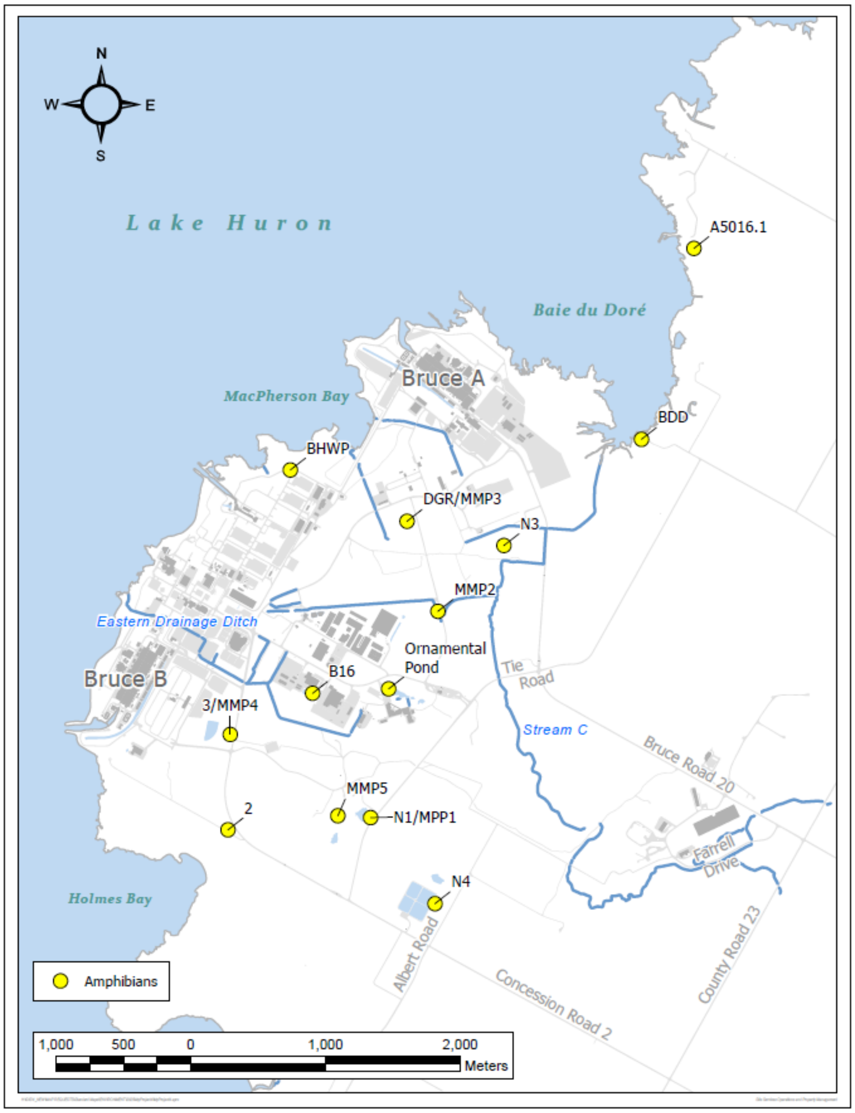


Figure 57 – Amphibian Monitoring Locations on the Bruce Nuclear Site and Leased Lands

5.2.4.2 Snakes

Several snake species occur on the Bruce Nuclear Site and associated leased lands. Snakes are an important component of local ecosystems and rely on a range of habitats, including hibernacula, grasslands, wetlands, and surface water features to complete their life cycles. Many snake species in Ontario are sensitive to habitat disturbance, and several are designated as Species at Risk. Monitoring of snake populations supports informed land-use planning and property management by providing ecological context for site activities.

Snake Monitoring and Methods

Snake monitoring on the Bruce Power site has been conducted since 2017 through a combination of pedestrian surveys, artificial coverboard surveys, vehicle wildlife collision surveys, and incidental observations by Bruce Power staff. These monitoring activities document species presence, characterize the local snake assemblage, and identify areas of potential habitat use.

In 2020, Bruce Power began collaborating with Ontario Power Generation's (OPG) Western Waste Management Facility (WWMF) to implement standardized snake coverboard monitoring. Artificial coverboards were deployed in accordance with Ontario Ministry of Natural Resources and Forestry survey guidance [R-137].

In 2024, Bruce Power and OPG WWMF joined the Ontario Nature Long-term Monitoring Protocol [R-138]. This protocol is designed to detect snake population trends over approximately ten years of consistent monitoring. Data collected under this protocol are submitted annually to Ontario Nature and incorporated into a province-wide database.

Coverboard Deployment

In 2025, a total of 91 snake coverboards were monitored across the Bruce Nuclear Site (Figure 58). This total included both legacy coverboards from the existing Bruce Power and OPG monitoring program and additional coverboards installed under the Ontario Nature Long-term Monitoring Protocol (LTMP) for snakes, as described below:

- 43 coverboards from the original Bruce Power and OPG snake monitoring program:
    - 10 installed and monitored by Bruce Power
    - 33 installed and monitored by OPG WWMF
- 48 coverboards installed in 2024 under the Ontario Nature Long-term Monitoring Protocol (LTMP) for snakes:
    - 24 monitored by Bruce Power; in 2025, these coverboards were relocated to areas of more suitable habitat.
    - 24 monitored by OPG WWMF

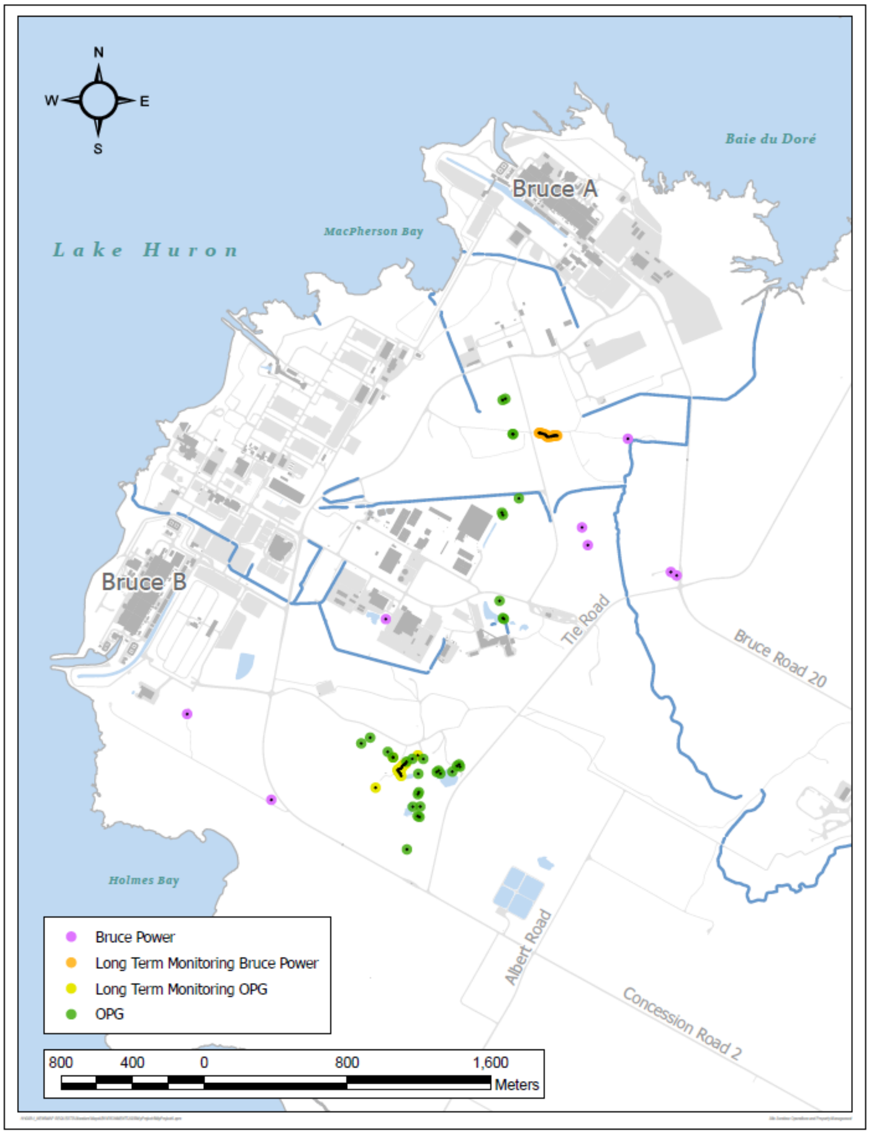


Figure 58 – Snake Coverboard Locations on the Bruce Nuclear Site

<u>Bruce Power Snake Monitoring</u>

Since 2020, coverboard monitoring on the Bruce Power site has documented a total of 58 snake observations representing 5 different species. The species most frequently observed over time have been the Eastern Gartersnake (*Thamnophis sirtalis*) and Dekay's Brownsnake (*Storeria dekayi*).

In 2025, snake coverboards on the Bruce Power site were surveyed eight times. Observations were as follows:

- Original coverboards: Thirteen snake observations representing four species were recorded, including Red-bellied Snake (*Storeria occipitomaculata*), Smooth Greensnake (*Opheodrys vernalis*), Eastern Gartersnake (*Thamnophis sirtalis*), and Dekay's Brownsnake (*Storeria dekayi*).

- Ontario Nature LTMP coverboards: Fourteen snake observations representing four species were recorded, including Dekay's Brownsnake, Eastern Gartersnake, Red-bellied Snake and Smooth Greensnake.

In addition to coverboard monitoring, nine incidental snake observations were recorded in 2025 as part of the Vehicle and Wildlife Interaction monitoring program. These observations included Eastern Ribbonsnake (*Thamnophis saurita*), which is designated as a Species at Risk (Special Concern), as well as Northern Watersnake (*Nerodia sipedon sipedon*) and Ring-necked snake (*Diadophis punctatus*).

<u>Ontario Power Generation Western Waste Management Facility Snake Monitoring</u>

Since 2020, coverboard monitoring on the OPG WWMF site has documented a total of 136 snake observations representing eight species.

In 2025, snake coverboards on the OPG WWMF site were surveyed eight times. Observations were as follows:

- Original coverboards: Seventeen snakes representing five species were recorded beneath OPG coverboards. The most frequently observed species was the Red-bellied Snake, with five individuals documented. Other species observed included Eastern Gartersnake, Dekay's Brownsnake, Ring-necked Snake and Eastern Milksnake, which is designated as a Species at Risk (Special Concern).

- Ontario Nature LTMP coverboards: Twelve snakes representing six species were recorded, including Northern Ribbonsnake, which is designated as a Species at Risk (Special Concern), as well as Red-bellied Snake, Dekay's Brownsnake, Eastern Gartersnake, Smooth Greensnake and Eastern Milksnake.

Combined snake monitoring data from Bruce Power and OPG for the Bruce Nuclear Site are presented in Table 45. All snake species expected to occur in southern Bruce County have now been observed on the Bruce Nuclear site, confirming the presence of a regionally representative snake community. Snake monitoring will continue in 2026.

Table 45 – Snake Species Recorded on the Bruce Nuclear Site (2017 - 2025)

Species	Species at Risk	2017	2018	2019	2020	2021	2022	2023	2024	2025
Dekay's Brownsnake	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Eastern Gartersnake	-	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Eastern Milksnake	Special Concern (SARA)	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Northern Ribbonsnake	Special Concern (SARA/ESA)	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Red-bellied Snake	-	Yes	Yes	No	Yes	Yes	Yes	Yes	No	Yes
Ring-necked Snake	-	No	No	No	No	Yes	Yes	Yes	Yes	Yes
Smooth Greensnake	-	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Northern Watersnake	-	Yes	No	No	No	No	Yes	Yes	Yes	Yes

5.2.4.3 Turtles

Several turtle species occurring on the Bruce Nuclear site are listed as Species at Risk under provincial and/or federal legislation, including the Midland Painted Turtle (*Chrysemys picta*; SARA Special Concern) and the Common Snapping Turtle (*Chelydra serpentina*; Species at Risk, Special Concern).

In Ontario, turtles generally nest between May and mid-July, depending on species, location, and annual conditions [R-139]. Females typically select nesting areas with loose, sandy substrates with sufficient sun exposure.

In 2025, three turtle nesting surveys were conducted at 14 monitoring locations across the Bruce Nuclear site. A total of 54 nests were recorded. While some undisturbed nests were observed, most nests contained older, broken eggshells, suggesting predation. The highest concentration of nesting activity was observed within the Bruce A Storage Compound, adjacent to the Baie du Doré wetland. The second most active nesting area was the gravel shoulder along the North Access Road to Bruce A.

In May 2025, five turtle basking surveys were conducted at various water features across the Bruce Nuclear site. A total of 148 basking turtle observations were recorded, consisting primarily of Midland Painted Turtles (143) and a smaller number of Common Snapping Turtles (5).

Turtle nesting and basking surveys will continue in 2026.

5.2.4.4 Waterfowl and Shorebirds

Waterfowl and shorebird surveys are conducted to monitor overwintering and migratory birds and to track changes in bird abundance and distribution over time. The Bruce Power shoreline provides a range of nearshore and embayment habitats that support waterbirds under varying seasonal conditions. The Bruce Power shoreline is surveyed using binoculars and spotting scopes from nine fixed viewpoints selected to provide near-continuous coverage from Gunn Point to Scott Point, with minimal overlap (Figure 59). One monitoring station, WF-10 (Baie du Doré – South Inlet), is publicly accessible and a recognized location supporting regionally important winter concentrations of waterfowl and Bald Eagle (*Haliaeetus leucocephalus*) [R-140].

In 2025, one survey visit was completed for overwintering birds (January 31), and six survey visits were completed for migratory birds (March–May and September–November). A total of 4,652 birds representing 32 species were recorded, including 4,392 individuals during migratory bird surveys and 160 individuals during the overwintering survey. Observations were dominated by marine birds (70%) and waterfowl (26%). For reporting purposes, recorded species were grouped into broad bird assemblages following the NABCI-Canada framework used in *State of Canada's Birds* [R-141]. Most species observed are common in Ontario, with a small number that are less common or seasonally infrequent. Less than 1% of the observations were Species at Risk (SAR).

Marine birds were the most abundant assemblage observed in 2025, accounting for 70% of all recorded observations. Species diversity within this group was higher than in 2024, with seven marine bird species recorded compared to three in 2024. The most abundant species were Ring-billed Gull (*Larus delawarensis*) (28%), Herring Gull (*Larus smithsonianus*) (23%), and Double-crested Cormorant (17%). Additional species observed included Great Black-backed Gull (*Larus marinus*), Glaucous Gull (*Larus hyperboreus*), and Bonaparte's Gull (*Chroicocephalus philadelphia*), each comprising less than 1% of total observations. An Iceland Gull (*Larus glaucoides*) was incidentally observed near Monitoring Location 9 in November 2025, reflecting occasional use of the shoreline by less common seasonal visitors.

A total of 17 waterfowl species were recorded in 2025 representing 25% of the total species observed. Canada Goose *(Branta canadensis)* (9%) and Common Merganser *(Mergus merganser)* (6%) were the most frequently observed waterfowl species. Across the monitoring period, waterfowl abundance was highest during 2021–2022, followed by lower observations in 2024 and a partial rebound in 2025. This pattern is consistent with expected year-to-year variability in migratory waterfowl distribution in response to changing Great Lakes conditions, rather than indicating a long-term population trend.

Birds of prey accounted for approximately 3% of total observations. Bald Eagle has consistently been the most frequently recorded Bird of Prey throughout the waterfowl and shorebird monitoring program with a total of 57 Bald Eagle observations made in 2025. These observations were separate from those recorded under the dedicated Bald Eagle monitoring (Section 5.2.4.7). When survey effort is considered, birds of prey observations exhibit typical year-to-year variation, with no clear long-term increasing or decreasing trend.

Shorebird observations were infrequent, comprising less than 1% of total observations, as most monitoring locations do not provide optimal shorebird habitat. On November 19, 2025, six Purple Sandpipers (*Calidris maritima*) were incidentally observed near Monitoring Location 9 during unrelated field work. In addition, eight Lesser Yellowlegs (*Tringa flavipes*), a Species at Risk (Threatened), were recorded at Monitoring Location 10 on October 22, 2025.

Wetland birds were also recorded infrequently (less than 1%). Notably, one Horned Grebe (*Podiceps auritus*) a Species at Risk (Special Concern), was recorded at Monitoring Location 8 on May 26, 2025.

Since 2019, bird abundance has been consistently highest around the Baie du Doré Monitoring Locations (8, 9 and 10) (Figure 60).

Monitoring Locations 6 and 7, located at the outfall of the Bruce A Discharge Channel and near Baie du Doré, have also functioned as recurring secondary areas of high abundance and species diversity, suggesting that both natural bay features and nearshore infrastructure may influence where birds aggregate under varying conditions.

Overall, monitoring results indicate that bird use of the Lake Huron shoreline near Bruce Power is highly dynamic.

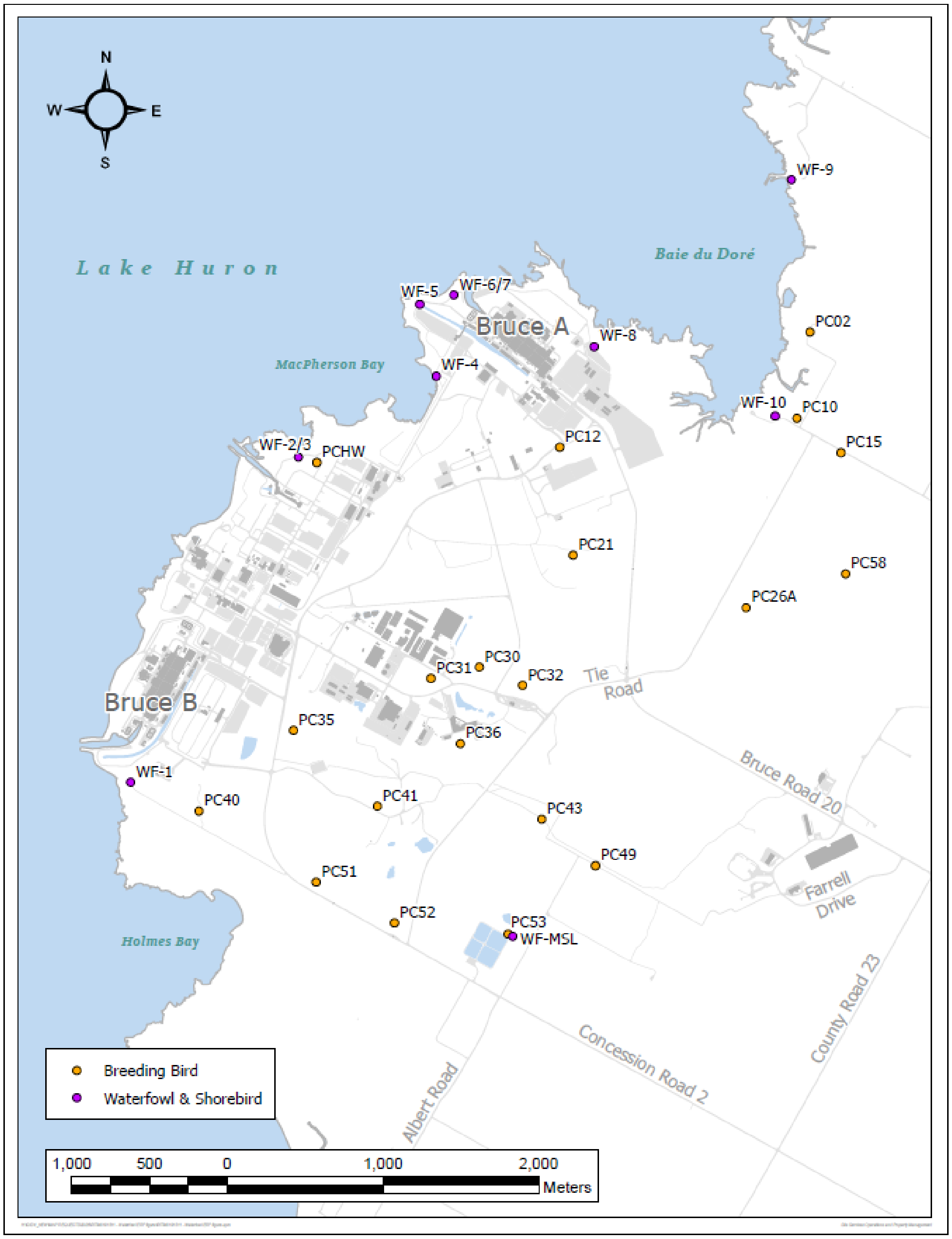


Figure 59 – Waterfowl, Shorebird and Breeding Bird Monitoring Locations on the Bruce Nuclear Site and Leased Lands

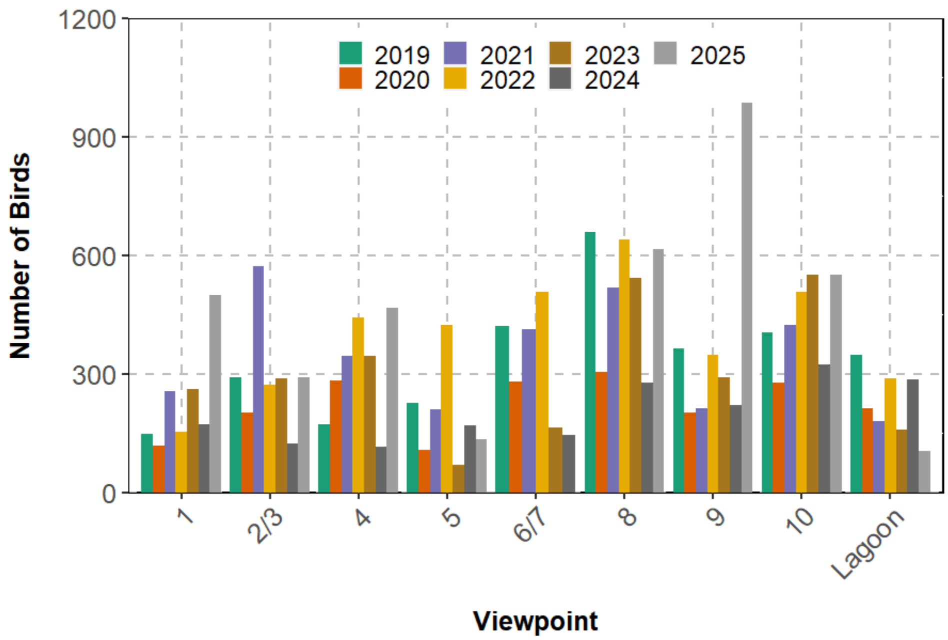


Figure 60 – Waterfowl and Shorebirds Observations 2019 - 2025

Waterfowl and shorebird monitoring will continue in 2026 at the same locations.

5.2.4.5 Breeding Birds

The Ontario Power Generation (OPG) environmental monitoring program conducted twenty, 5-minute breeding bird point counts across the site on June 12 and 15, 2025 (Figure 59). Surveys included one new point count location (PC53) within the area of the former Bruce Heavy Water Plant (BHWP), which had not been surveyed for breeding birds since 2016. Monitoring protocols followed the standards prescribed by Birds Canada for the Ontario Breeding Bird Atlas [R-142].

A total of 56 breeding bird species were documented in 2025, including four species not previously recorded by the OPG-led program: Green Heron (*Butorides virescens*), American Bittern (*Botaurus lentiginosus*), Eastern Phoebe (*Sayornis phoebe*) and Brown Creeper (*Certhia americana*). These observations increased the cumulative species total for the six-year monitoring program (2020-2025) to 91 species.

The most frequently observed species during point counts in 2025 was Red-eyed Vireo (Vireo olivaceus) recorded at 16 stations, consistent with findings to previous years. Other widespread species included American Robin (*Turdus migratorius*) (15 stations), Common Yellowthroat (*Geothlypis trichas*) (14 stations), Song Sparrow (*Melospiza melodia*) (12 stations), American Herring Gull (11 stations), American Crow (*Corvus brachyrhynchos*) (10 stations) and American Goldfinch (*Spinus tristis*) (10 stations).

Notable observations included five Species at Risk (SAR): Eastern Wood-Pewee (*Contopus virens*), Barn Swallow (*Hirundo rustica*), Wood Thrush (Hylocichla mustelina), Eastern Meadowlark (*Sturnella magna*) and Chimney Swift (*Chaetura pelagica*). Evidence of breeding was documented for all five species. One Species at Risk previously recorded during the monitoring program, Canada Warbler (*Cardellina canadensis*), was not observed during the 2025 surveys.

A complete list of bird species documented during the 2025 breeding bird surveys is provided in Table 46.

Breeding bird point counts will continue in 2026, using the same protocol and viewing stations.

Table 46 – Bird Species Detected at the Bruce Nuclear Site During Breeding Bird Surveys 2025

Breeding Bird Species			
Canada Goose	Wood Duck	Mallard	Common Merganser
Wild Turkey	Ruffed Grouse	Rock Pigeon	Mourning Dove
Ruby-throated Hummingbird	Yellow-billed Cuckoo	Black-billed Cuckoo	Chimney Swift (Threatened)
Killdeer	Spotted Sandpiper	Wilson's Snipe	Ring-billed Gull
American Herring Gull	Double-crested Cormorant	American Bittern	Green Heron
Turkey Vulture	Bald Eagle	Belted Kingfisher	Downy Woodpecker
Hairy Woodpecker	Pileated Woodpecker	Northern Flicker	Woodpecker sp.
American Kestrel	Merlin	Eastern Wood-Pewee (Special Concern)	Alder Flycatcher
Least Flycatcher	Eastern Phoebe	Great Crested Flycatcher	Eastern Kingbird
Eastern Warbling Vireo	Red-eyed Vireo	Blue Jay	American Crow
Common Raven	Black-capped Chickadee	Tree Swallow	Barn Swallow
Red-breasted Nuthatch	White-breasted Nuthatch	Brown Creeper	Northern House Wren
Winter Wren	European Starling	Gray Catbird	Brown Thrasher
Veery	Wood Thrush (Threated/Special Concern)	American Robin	Cedar Waxwing
Purple Finch	Pine Siskin	American Goldfinch	Chipping Sparrow
Clay-colored Sparrow	Field Sparrow	White-throated Sparrow	Song Sparrow
Swamp Sparrow	Eastern Towhee	Bobolink (Threatened)	Eastern Meadowlark (Threatened)
Red-winged Blackbird	Brown-headed Cowbird	Common Grackle	Ovenbird
Northern Waterthrush	Black-and-white Warbler	Nashville Warbler	Common Yellowthroat
American Redstart	Magnolia Warbler	Blackburnian Warbler	Northern Yellow Warbler
Chestnut-sided Warbler	Pine Warbler	Yellow-rumped Warbler	Black-throated Green Warbler
Canada Warbler (Threatened/Special Concern)	Scarlet Tanager	Northern Cardinal	Rose-breasted Grosbeak
Indigo Bunting			

5.2.4.6 Winter Songbirds

Surveys for winter songbirds are completed every five years to look for changes in abundance or species composition. The last survey was conducted in January 2024 and reported in the 2024 Environmental Protection Report. The next survey is scheduled for 2029.

5.2.4.7 Bald Eagles

Bald Eagles are an important indicator of ecosystem health and are a culturally significant species to the Saugeen Ojibway Nation. Bald Eagle populations have increased steadily since the 1970s following the phase-out of DDT and were delisted as a Species at Risk in Ontario in 2023. Bald Eagles commonly concentrate along the shorelines of Lakes Huron and Superior, where prey availability and suitable perching and roosting habitat occur [R-143].

Bruce Power has monitored winter Bald Eagle habitat use at the site since 2017. Monitoring results demonstrate repeatable winter use of the shoreline area. During winter months, warmer water associated with the once-through cooling systems can maintain localized areas of open water near the site. In combination with the Baie du Doré embayment, these conditions can enhance foraging opportunities and contribute to the site's role as an important overwintering area for Bald Eagles [R-144][R-145].

During the winter of 2025/26, three surveys were completed between December 2025 and February 2026 at six shoreline monitoring stations (Stations 1 and 3–7; Figure 61). Monitoring at Station 2 was discontinued in 2019 due to limited visibility. During this period, ice coverage on Lake Huron reached approximately 77% in February, and Baie du Doré was frozen by early January 2026. A total of 213 Bald Eagle observations were recorded across all monitoring stations, corresponding to an average of approximately 36 eagles per survey visit. The highest single-visit counts were recorded at Station 4 (87 eagles), followed by Station 6 (46) and Station 7 (40).

Relative to previous years, the number of Bald Eagle observations recorded during the winter of 2025/26 represents a moderate year-above the lowest period on record, but below peak concentration years observed during 2021/22 and 2024/25 (Figure 62). This year-to-year variability is expected, as Bald Eagles often form seasonal concentration areas and communal roosts, where numbers can vary widely depending on environmental conditions [R-143].

Over the course of monitoring, Bald Eagles have been observed nesting at three locations on the Bruce Nuclear site. One nest was actively used during the 2025 breeding season.

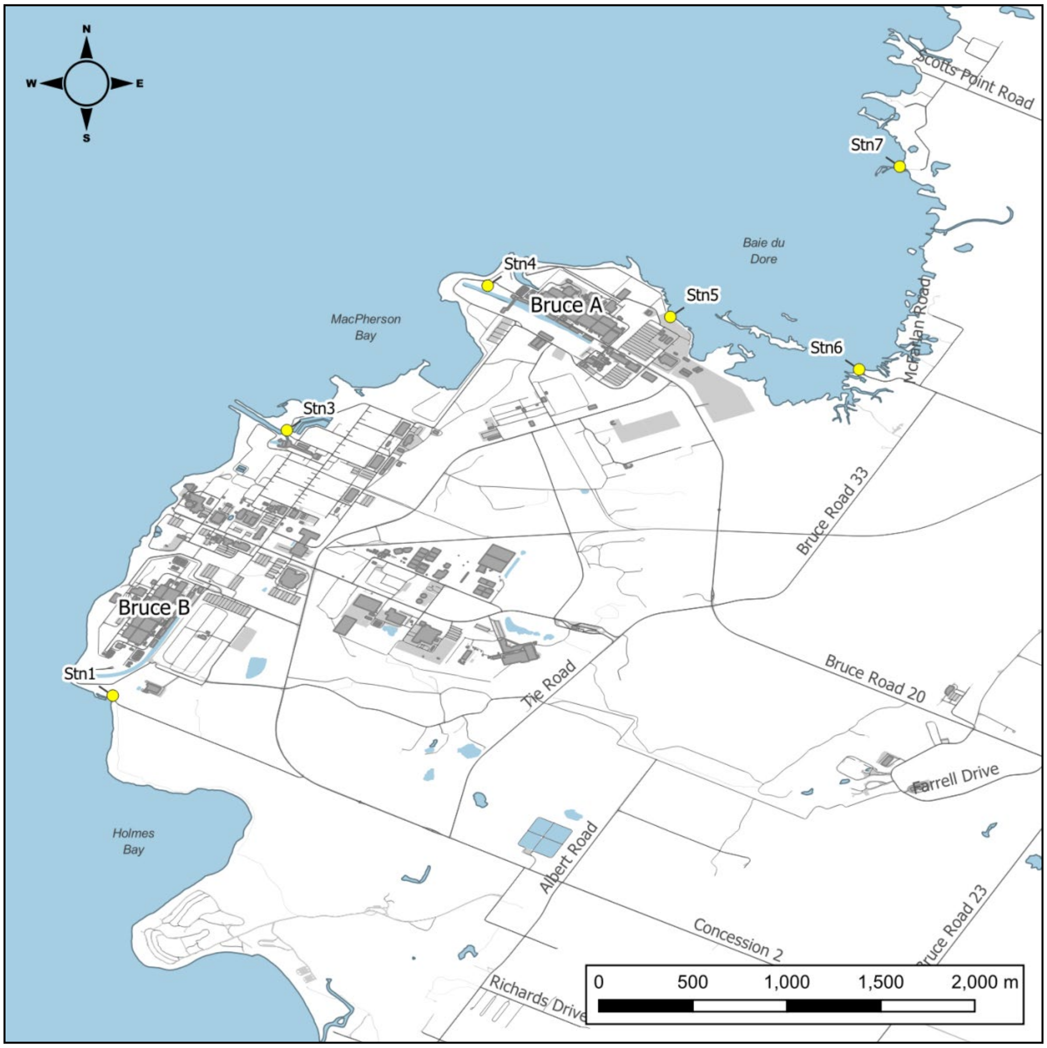


Figure 61 – Bald Eagle Monitoring Locations at Bruce Power

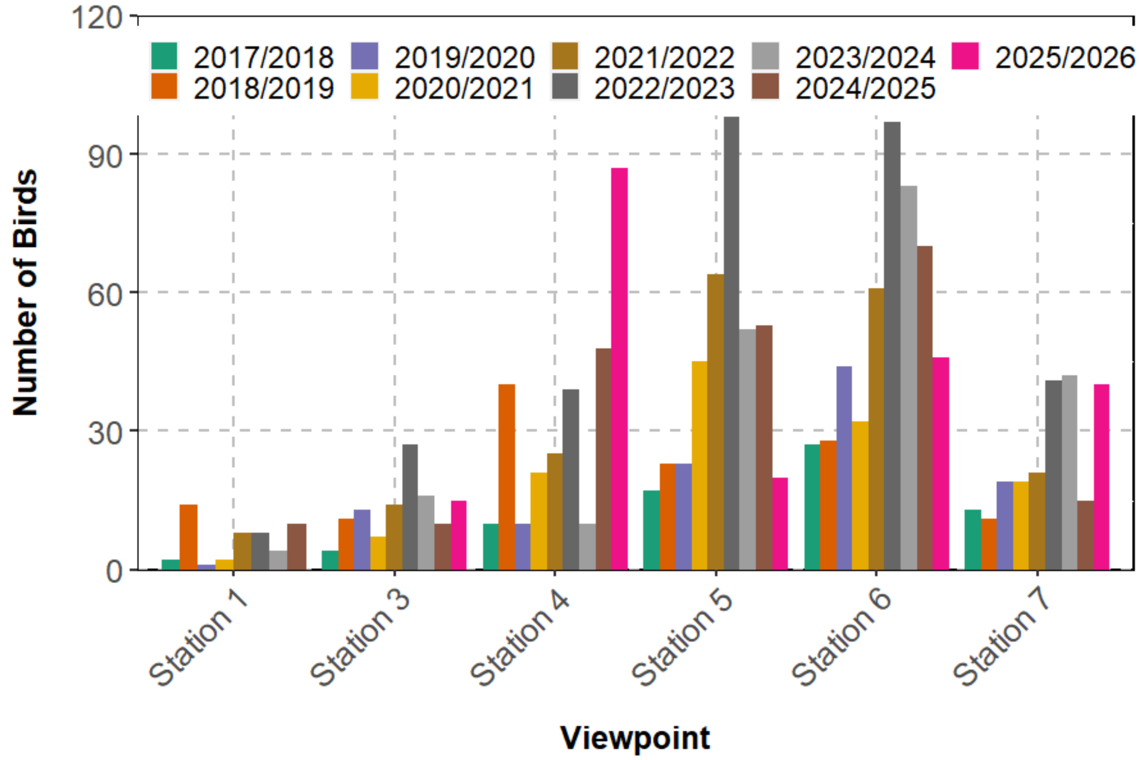


Figure 62 – Annual Total Bald Eagle Observations (Sum across Survey Visits) 2017 – 2025

Surveys for winter raptors were conducted between 2017 and 2019/20; however, no winter raptor species were detected during this period and the dedicated monitoring program was subsequently discontinued. Winter raptor presence continues to be tracked through incidental observations, which have included occasional records of Red-tailed Hawk (*Buteo jamaicensis*), Snowy Owl (*Bubo scandiacus*), Northern Harrier (*Circus hudsonius*), and Cooper’s Hawk (*Accipiter cooperii*). No winter raptor observations were documented between 2023 and 2025.

5.2.4.8 Owls

Bruce Power conducts annual owl monitoring to track wildlife presence and to confirm predictions made as part of the Environmental Risk Assessment. As carnivorous predators that depend on small mammals and other wildlife for food, owls can reflect habitat quality and overall ecosystem condition on the Bruce Nuclear site and adjacent Leased Lands.

Formal nocturnal owl surveys on the Bruce Power site began in 2023 and follow Birds Canada’s central Ontario call-playback survey guidance [R-146]. In 2025, surveys were conducted on April 10, April 22, and April 30 at seven monitoring locations distributed across the site. No owls were detected during the 2025 survey period.

Owl detections can vary among years due to factors such as breeding activity, calling behaviour, weather conditions, and natural population fluctuations R-160. The absence of detections in 2025 is consistent with the expected year-to-year variability inherent in nocturnal owl call-playback surveys.

In 2024, multiple Eastern Screech-Owls (*Megascops asio*) were detected at a woodland survey station located outside the Bruce Nuclear site, near the Inverhuron Sewage Lagoon System [R-145]. In 2023, surveys recorded three owl species – Eastern Screech-Owl (*Megascops asio*), Barred Owl (*Strix varia*), and Northern Saw-whet Owl (*Aegolius acadicus*) – at forested and wetland-associated monitoring stations across the Bruce Nuclear site. In addition, a Short-eared Owl (*Asio flammeus*), a Species at Risk (Threatened), was recorded just outside the Bruce Nuclear site in leased lands of the Baie du Doré wetland.

In addition to formal surveys, incidental observations collected through the OPG–Bruce Power environmental monitoring program have confirmed occasional use of the Bruce Nuclear site by Great Horned Owl (*Bubo virginianus*), Northern Saw-whet Owl and Snowy Owl (*Bubo scandiacus*). A single historical record of Long-eared Owl (*Asio otus*) on the Bruce Nuclear site dates to 2009.

Overall, monitoring results indicate intermittent, low-density and seasonal use of the Bruce Nuclear site by territorial nocturnal raptors, consistent with the expected behaviour. Annual owl surveys will continue in 2026.

5.2.4.9 Nightjars

Nightjars are a group of nocturnal birds that include species such as the Eastern Whip-poor-will (*Antrostomus vociferu*s) and the Common Nighthawk (*Chordeiles minor*). Both species are listed as Species at Risk, with Eastern Whip-poor-will designated as Threatened and Common Nighthawk as Special Concern, and both have been recorded on the Bruce Nuclear site. Bruce Power conducts nightjar monitoring as part of its conventional environmental monitoring program to track wildlife presence and to confirm predictions made in the Environmental Risk Assessment. Nightjars feed exclusively on flying insects at night and can help indicate broader conditions related to insect availability and habitat quality.

Nightjar surveys at the Bruce Nuclear site and adjacent Leased lands began in 2023 and follow the Ontario Nightjar Survey Instruction Manual [R-143].

In 2025, three surveys were completed on June 24, July 03 and July 14. A total of 18 Eastern Whip-poor-wills were recorded during the 2025 survey period. Monitoring Locations 3, 4 and 5 on the Bruce Nuclear site continued to be the most productive locations for this species. Common Nighthawk was not detected during Nightjar monitoring (2023-2025); however, incidental observations of the species were recorded during 2019 and 2020 through the OPG Environmental Monitoring Program during surveys for the Marsh Monitoring Program.

Overall, monitoring results indicate that the Bruce Power site continues to provide suitable habitat for Eastern Whip-poor-wills, and to a lesser degree, Common Nighthawk. Detection rates vary from year to year, consistent with expected variability in nocturnal bird surveys Nightjar monitoring will continue in 2026 to track long-term patterns in site use.

5.2.4.10 Vehicle and Wildlife Interaction

Monitoring of vehicle-wildlife collisions on local roadways began in July 2017 to improve understanding of wildlife mortality caused by vehicle collisions (Figure 63). Road Segments 1, 2, 3 and 6 are used exclusively for Bruce Nuclear site activities, whereas traffic on concession roads (Segments 4, 5 and 7) includes a combination of Bruce Nuclear site traffic, neighbouring industrial activity (including the Bruce Eco-Industrial Park), local residents, and seasonal recreational use. Interpretation of results over multiple years is important as wildlife road mortality can be influenced by survey frequency, detection conditions, and short-term environmental factors that affect wildlife movement.

In 2025, 53 formal vehicle-wildlife collision surveys were completed. Surveys were conducted up to three times per week and were concentrated during peak wildlife migration periods (spring and fall) or movement events (following heavy rainfall events). The survey aimed to document all mammals, birds, amphibians, reptiles and conspicuous Species at Risk insects (e.g. Monarch Butterfly). Wildlife carcasses that were observed along roads on the Bruce Nuclear site (outside the standardized survey) were also recorded as incidental observations and trended as part of the monitoring program.

Standardized two-pass surveys were conducted along the primary access roads between Highway 21 and Bruce Power, including Segment 5 (Bruce Road 20) and Segment 4 (Concession 2), as well as along major on-site roadways that have the most traffic (Segments 1, 2, 3 and 6). Segment 7 (Concession 6) was added to the monitoring program in 2019 in response to increased traffic around the Farrell Drive industrial complex (Figure 63). Surveys were completed on weekdays after 9:00 a.m., once peak morning traffic had subsided. Wherever possible, animals were identified to the species-level, photographed and georeferenced. Incidental observations of wildlife carcasses (outside of the formal surveys) were also recorded throughout the year.

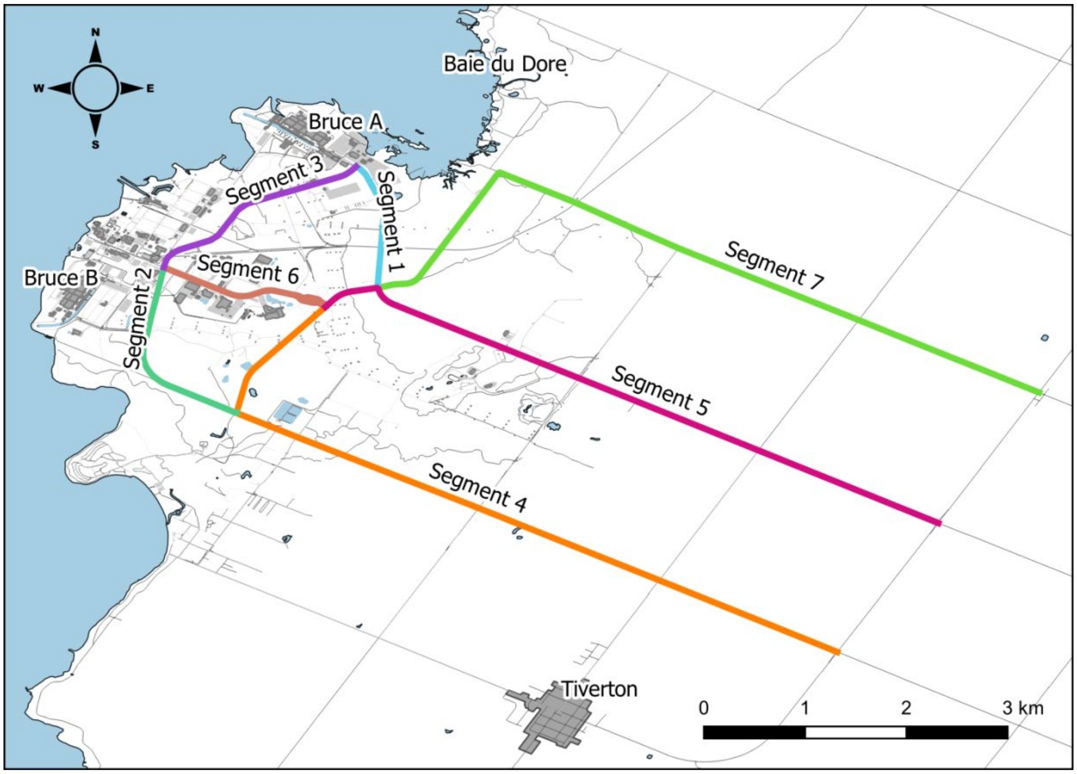


Figure 63 – Vehicle-Wildlife Collision Monitoring Areas

In 2025, a total of 110 wildlife carcasses were recorded during standardized vehicle-wildlife collision surveys, averaging approximately 2 carcasses identified on monitored Road Segments each survey day. This total falls within the normal year-to-year range observed in the monitoring record, though it was among the higher years since 2019. Mammals accounted for 45% of recorded mortalities, followed by amphibians (23%), reptiles (19%), and birds (13%). The most frequently recorded species were Northern Leopard Frog (*Lithobates pipiens*), North American Porcupine (*Erethizon dorsatum*) and Midland Painted Turtle (*Chrysemys picta*). Thirteen observations of Species at Risk were recorded in 2025, including nine Midland Painted Turtles, three Snapping Turtles and one Ribbonsnake. An additional 23 incidental vehicle-wildlife mortality observations were recorded outside scheduled survey visits. Raccoon (six observations) and Eastern Garter Snake (four observations) were the most frequently observed.

Results are also reported as mortality per kilometre to allow comparison among road segments of different lengths (Table 47). The 'Average' in Table 47 is weighted by segment length, so longer road segments contribute proportionally to the site-wide value. Mortality rates vary among years and road segments, and are likely influenced by differences in traffic, adjacent habitat and seasonal wildlife movement. When summarized across all segments, overall mortality per kilometre shows year-to-year variability, with higher values in 2022 and 2024–2025 compared to several earlier years. Since consistent monitoring began in 2019, the dataset indicates fluctuating annual conditions rather than a consistent year-over-year increase in wildlife road mortality.

In Ontario, there is no single numeric benchmark for wildlife road mortality. Provincial guidance emphasizes site specific monitoring, and Ontario studies show mortality often varies from year to year and can be concentrated in localized areas, frequently associated with wetlands and shoreline landscapes [R-144]–[R-147]. Consistent with this broader Ontario evidence, Bruce Power's results are best interpreted using the site's multiyear monitoring record to distinguish short-term seasonal pulses from recurring high abundance segments in a wetland/shoreline influenced landscape.

Table 47 – Mortality Rate per Kilometre by Survey Segment (2017-2025)

Year	**Segment 1**	**Segment 2**	**Segment 3**	**Segment 4**	**Segment 5**	**Segment 6**	**Segment 7**	**Average** (Weighted for Segment Length)
2017 (half year; starting in July)	1.8	2.4	0.8	2.1	2.0	0.0	Not surveyed	1.8
2018	4.7	2.8	2.0	2.6	2.3	0.6	Not surveyed	2.5
2019	5.3	4.4	5.2	2.5	1.3	3.9	1.8	2.6
2020	4.7	1.6	1.6	1.9	1.1	0.0	1.0	1.5
2021	6.5	6.4	2.0	2.4	1.4	1.1	2.3	2.6
2022	14.1	11.2	0.8	2.5	2.7	2.8	2.4	3.7
2023	7.1	2.8	0.8	1.1	2.4	3.9	2.6	2.3
2024	4.1	6.4	3.6	3.6	1.3	1.1	4.9	3.5
2025	6.5	1.6	2.4	3.0	2.0	2.2	5.5	3.4
Average Mortality Rate per Kilometre	5.6	4.2	2.2	3.0	2.3	1.7	3.6	3.1

Historically, the highest wildlife road-mortality rates have been observed along Road Segments 1 and 2. In 2025, the highest mortality rates occurred on Segments 1 and 7, with rates on Segment 7 showing an increase in recent years. Elevated mortality rates can occur where roads pass near woodlots and wetlands or water features that support wildlife movement. Segments 4, 5 and 7 intersect locally elevated terrain associated with the Algonquin Bluff. In addition, the main entrance to Inverhuron Provincial Park is located at the west end of Segment 4 (Concession 2), which adds seasonal traffic between June and September with approximately 120,000 visitors per season.

To support wildlife awareness, Bruce Power has installed wildlife crossing signage along Segments 1 and 2 (Bruce Power North and South Access Roads), Segment 4 (Concession 2), Segment 5 (Bruce Road 20), and Segment 7 (Concession 6). In addition, in 2023, the Municipality of Kincardine replaced and lowered the culvert on Tie Road to provide a safer crossing opportunity for wildlife.

Monitoring of vehicle-wildlife interactions along these roadways will continue in 2026.

5.2.4.11 Redd Surveys in Stream C

In the early spring and late fall, salmonids migrate upstream from Lake Huron to reach suitable cool-cold water spawning grounds. The female selects a nest site and begins excavating a pit, referred to as a redd. This redd is where eggs will be deposited for fertilization by one or more males. Redd surveys are a tool for assessing the productivity and health of a watercourse, as presence and success of spawning salmonids indicates the watercourse has the necessary environmental conditions to promote healthy spawning, hatching, and rearing (i.e., substrate, temperature, and flow regimes). The timing of surveys varies depending on conditions like water temperature, rainfall, and stream water levels. Stream C surveys are conducted in the spring to capture the migration of Rainbow Trout (*Onchorynkus mykiss*) and in the fall to observe various salmon species, which include both Chinook Salmon (*Oncorhynchus tshawytscha*) and Coho Salmon (*Oncorhynchus kisutch)*. Redd surveys extend from the mouth of Stream C, at Baie du Doré (Lake Huron), upstream to the culvert on the west side of Tie Road.

In 2025, six redd surveys were completed, including four spring surveys and two fall surveys. A total of 38 Rainbow Trout redds were observed, which represents a slight increase from 2024 (Figure 64). Of the 38 redds observed, 13 had a Rainbow Trout on or near the nest. No Coho Salmon or Chinook Salmon redds were observed between October and December, 2025.

Low water levels observed at the outlet of Stream C into Baie du Doré during the fall survey appeared to be negatively affecting the ability of fish to access the stream for spawning. This may have been a contributing factor to the lack of observed redds during the fall surveys. The high volume of baseflow groundwater and ample precipitation made conditions adequate for spawning Rainbow Trout in the spring season. The fall migration of both Chinook Salmon and Coho Salmon appeared to have been severely limited due to extremely low water levels due to lack of local precipitation as is reflected by the absence of any observed redds.

The consistent number of redds observed in Stream C since 2017 demonstrates that this location continues to provide suitable habitat for salmonid spawning.

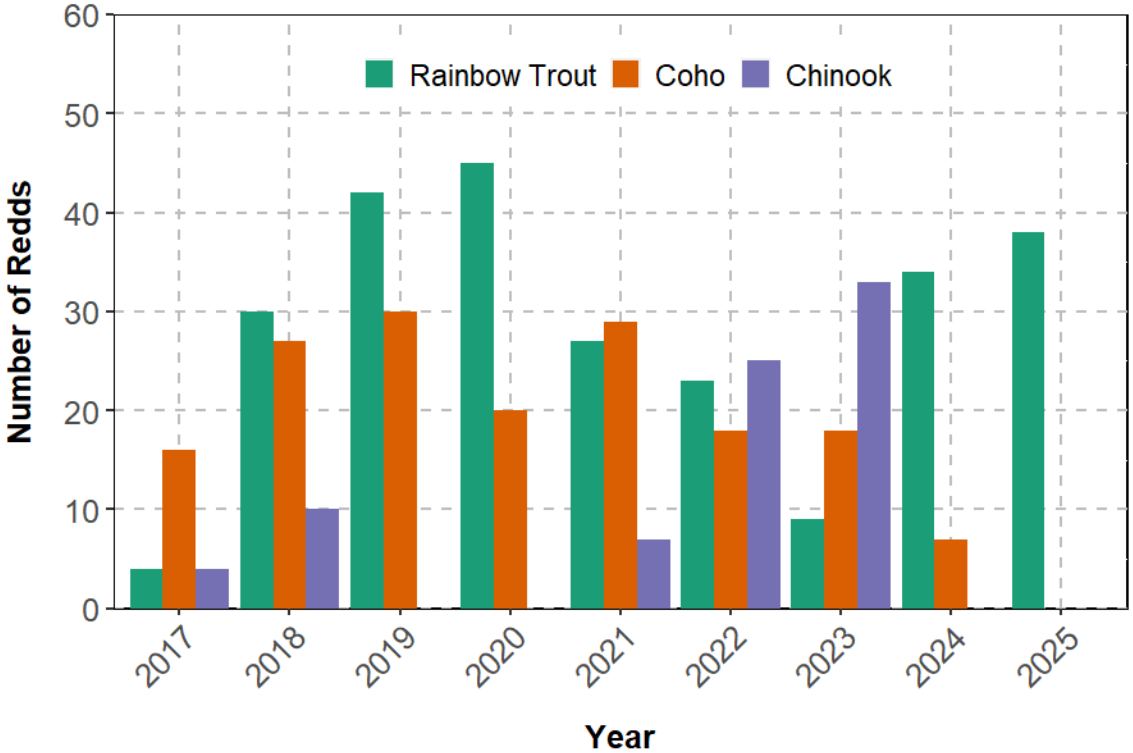


Figure 64 – Counts of Redds Observed in Stream C between 2017 and 2025

Redd surveys of Stream C will continue in the spring and fall of 2026 to confirm the suitability of this waterway for salmonid spawning.

5.2.4.12 Smallmouth Bass Nesting

In 2025, Smallmouth Bass nesting surveys were conducted at three locations in Lake Huron around Bruce Power: the Bruce A discharge channel, the Bruce B discharge channel, and sections within Baie du Doré that have suitable spawning conditions (i.e., provide adequate depth, gravel/sand substrate and shelter from prevailing winds and wave action).

Nesting surveys were completed from mid-May to early July 2025. Survey timing was selected to coincide with the expected Smallmouth Bass reproductive period, as well as early life stage development and fry dispersal. The exact start date of the 2025 Smallmouth Bass nesting surveys was chosen based on evidence of aggregating Smallmouth Bass in the discharge channels and environmental parameters like in situ water temperature, Bruce Power discharge temperature, and meteorological conditions. Surveys concluded in early July due to warm air temperatures and absence of new spawning activity.

During each survey, water temperature, air temperature, pH, specific conductivity, and dissolved oxygen (DO) were measured using a hand-held water quality meter. Additional relevant information (e.g., angler presence, incidental fish species observations, qualitative water clarity) was also recorded. A continuous record of water temperatures using duplicate temperature data loggers (Onset TidbiT®) are downloaded at the start and the end of the monitoring period, to assess differences in water temperature regimes among the three sampling areas. Temperature data loggers were programmed to measure water temperature on a 60-minute interval (i.e., 24 readings per day).

Smallmouth Bass nesting surveys were completed by boat. Baie du Doré was surveyed by running transects spaced approximately 5 m apart. Transect spacing is determined by water clarity. On clear days with low turbidity, transect spacing could be increased, whereas under turbid water conditions, transect spacing was decreased. The Bruce A and B discharge channels were surveyed along the shoreline and in areas of lower water velocity near the docks.

Smallmouth Bass nest observations were conducted by viewing the bottom substrate through an underwater viewer from the boat side. This approach eliminated water surface glare and surface turbulence and created a clear and unobstructed view of the water column and bottom substrate. When a nest was observed, its location was recorded using a GPS unit. The nest depth was recorded using the onboard depth sounder, and a unique identification number was assigned. For each nest observed during each survey event, a development stage code was assigned (Table 48). Nest development was reassessed during each subsequent survey, and an updated development stage code was assigned.

Table 48 – Smallmouth Bass Nesting Survey Development Stage Codes

Status	Code	Code Description	Field Indicators
Active	0	Pairing	A pair of adult smallmouth bass with no nest observed
Active	1	Cleared Nest	A cleared nest with no guarding males was observed
Active	2	Cleared Nest; Bass Guarding	A cleared nest with a guarding bass was observed, but no eggs or fry were visible
Active	3	Eggs	A cleared nest was present and eggs were observed in the nest
Active	4	Yolk-sac Larvae	Transparent yolk-sac fry that had not risen off the bottom were observed in the nest
Active	5	Fry Risen; Tight to Bottom	Fry, located at or very near the bottom, were observed
Successful	6	Fry <2 cm Risen; Suspended	Fry <~2 cm total length, swimming suspended in the water column, were observed
Successful	7	Fry >2 cm Risen; Dispersed	Fry >~2 cm total length, swimming suspended in the water column and starting to disperse, were observed
Successful	8	Green Fry	Fry with a green coloration, which occurs at approximately 1.5 cm total length, observed in proximity of nest. May or may not be associated with that nest location
Unsuccessful	A	Abandoned	Nest was observed to be abandoned by male adult smallmouth bass or an abrupt absence of eggs, fry and adults was observed. This code includes nests that are abandoned as the result of natural physical destruction (e.g., nest silted up)

Smallmouth Bass nests are consistently located in similar areas from one year to the next, which is likely due to site fidelity and physical conditions (i.e., substrate type, water velocity). Male Smallmouth Bass are known to return to the same nesting location year after year.

Bruce A Discharge Channel

In 2025, most Smallmouth Bass nests observed in the Bruce A discharge channel were near the sheltered dock area on the northeastern side of the channel, along the bedrock shelves. A total of 31 nests were observed and of these, 26 nests (84%) were observed to have successful spawning outcomes (i.e., reached Stages 6 to 8). The number of nests observed during the 2025 sampling program (31) was substantially higher than during the 2024 program (12).

Bruce B Discharge Channel

In 2025, nests in the Bruce B discharge channel were located in the crevices between large boulders that line the north and south sides of the channel. A total of 33 nests were observed in the Bruce B discharge channel. A total of 32 of 33 nests (97%) had successful outcomes (i.e., reached Stages 6 to 8). This is similar to observations in 2024.

Baie du Doré

In Baie du Doré, Smallmouth Bass nesting continued to occur in sheltered shoreline areas and around the island or rocky spit which separates the bay into east and west sections under high water conditions. Most nests were located in the southern portions of Baie du Doré, except for one nest located in the northeastern side of the bay and one nest in the east side of the bay. A total of 35 nests were observed in Baie du Doré in 2025. Of these, 25 nests (71%) were observed to have successful spawning outcomes (i.e., reached Stages 6 to 8) while 8 nests (23%) were recorded as unsuccessful (abandoned).

The total number of Smallmouth Bass nests recorded in Baie du Doré in 2025 was similar to 2024 but remained lower than levels observed in earlier years. This may be a result of early spawning period or unfavorable environmental conditions (i.e. high winds, turbid water etc.).

A comparison of 2025 results to historical data is provided in Figure 65. It is noted that surveys conducted in 2022 were limited to areas immediately around the docks in the Bruce A and Bruce B discharges with no Baie du Doré surveys completed.

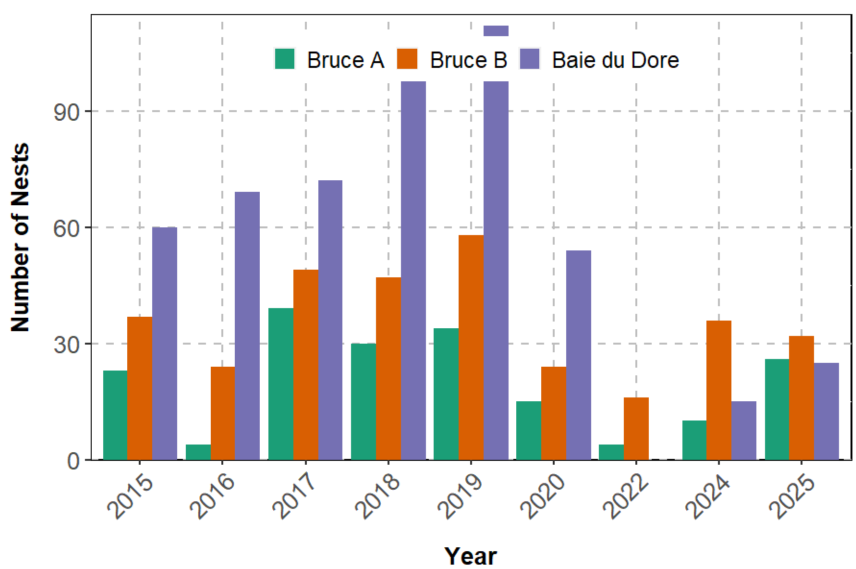


Figure 65 – Number of Successful Smallmouth Bass Nests (2015 – 2025)

5.2.5 Supplemental Studies

Supplemental studies including underwater noise monitoring and benthic invertebrate surveys began in 2024 and continued throughout 2025. Results from these studies will be included in Bruce Power's Impact Assessment for Bruce C.

5.2.6 Achievement of Program Objectives – 2025

As demonstrated in this report, the 2025 Conventional Environmental Monitoring program is effective as the program continued to meet the objectives defined in the CSA N288.4, Environmental monitoring programs at Class I nuclear facilities and uranium mines and mills, by:

- measuring the concentration of hazardous substances and physical stressors in the environment to allow for the assessment of potential biological effects from stressors arising from the facility;
- demonstrating compliance with limits on hazardous substances and physical stressors in the environment; and
- verifying that Bruce Power has effective containment and effluent control measures in place [R-102].

5.2.7 Future Environmental Monitoring Activities

The Conventional Environmental Monitoring program is focused to monitor impacts from development and operations of the Bruce Nuclear site and to ensure risk to receptors is sufficiently characterized. Additions or changes to the Environmental Monitoring program in 2026 and subsequent years are guided by the conclusions and recommendations outlined in the 2022 Environmental Risk Assessment and new recommendations that will come from the next Environmental Risk Assessment completed in 2027.

In 2026, water quality monitoring of Lake Huron, Stream C and other on-site drainage features will continue. The sediment and soil sampling campaigns that were started in late 2024 were completed in 2025, and additional sampling may occur in 2026.

All biological effects monitoring is planned to continue in 2026.

6.0 GROUNDWATER PROTECTION PROGRAM

CSA N288.7, Groundwater protection and monitoring for nuclear facilities and uranium mines and mills ("*the standard*") [R-55] provides requirements and guidance on the elements of a groundwater protection program and detailed guidance on developing groundwater monitoring programs as components of a groundwater protection program. The Bruce Power Groundwater Monitoring program has been in place since the late 1990's. The Groundwater Protection program is part of a wider environmental monitoring program at Bruce Power and has been aligned with the standard since 2021.

The Groundwater Protection program has established groundwater protection goals and groundwater monitoring objectives. Performance against these objectives is documented annually through a program assessment under separate cover. A review of the annual monitoring and sampling carried out in 2025 is provided below and confirms that Bruce Power has in place a program which:

- Prevents or minimizes releases of nuclear or hazardous substances to groundwater,
- Prevents or minimizes the effects of physical stressors on groundwater end uses, and
- Confirms that adequate measures are in place to stop, contain, control, and monitor any releases and physical stressors that can occur under normal operation.

The results of the 2025 Groundwater Monitoring program demonstrate that groundwater quality on the Bruce Power site is within historical trending. There were no observations of unforeseen conditions which would represent potential adverse impacts to human health or the environment.

6.1 Sampling and Analysis Plan

Groundwater elevations were measured in the spring and fall of 2025 at 134 and 308 groundwater well locations, respectively, and were used to infer the groundwater flow conditions at the Bruce Power site. The main contaminants of concern are tritium and petroleum hydrocarbons based on on-going operational activities. Other parameters include anions and nutrients, metals and inorganics, volatile organic compounds, and polycyclic aromatic hydrocarbons. Groundwater parameters are chosen based on the following:

- Confirm presence or absence of releases from systems, structures and components identified as having potential for impact to groundwater,
- Provide information where potential information gaps exist (environmental risk assessment, conceptual site model, buried piping program),
- Monitor impacted areas to confirm that there is no risk to receptors.

Sampling was carried out at nine locations in the spring and fall of 2025 (see Figure 66). The Soil Management Area, Former Bunker C Oil and Ignition Day Tank Area and the Former Acid Wash Pond Area were only sampled in the fall. Groundwater samples for tritium were collected from monitoring locations within the Bruce A and Bruce B protected areas as shown in Figure 67 and Figure 68, respectively.

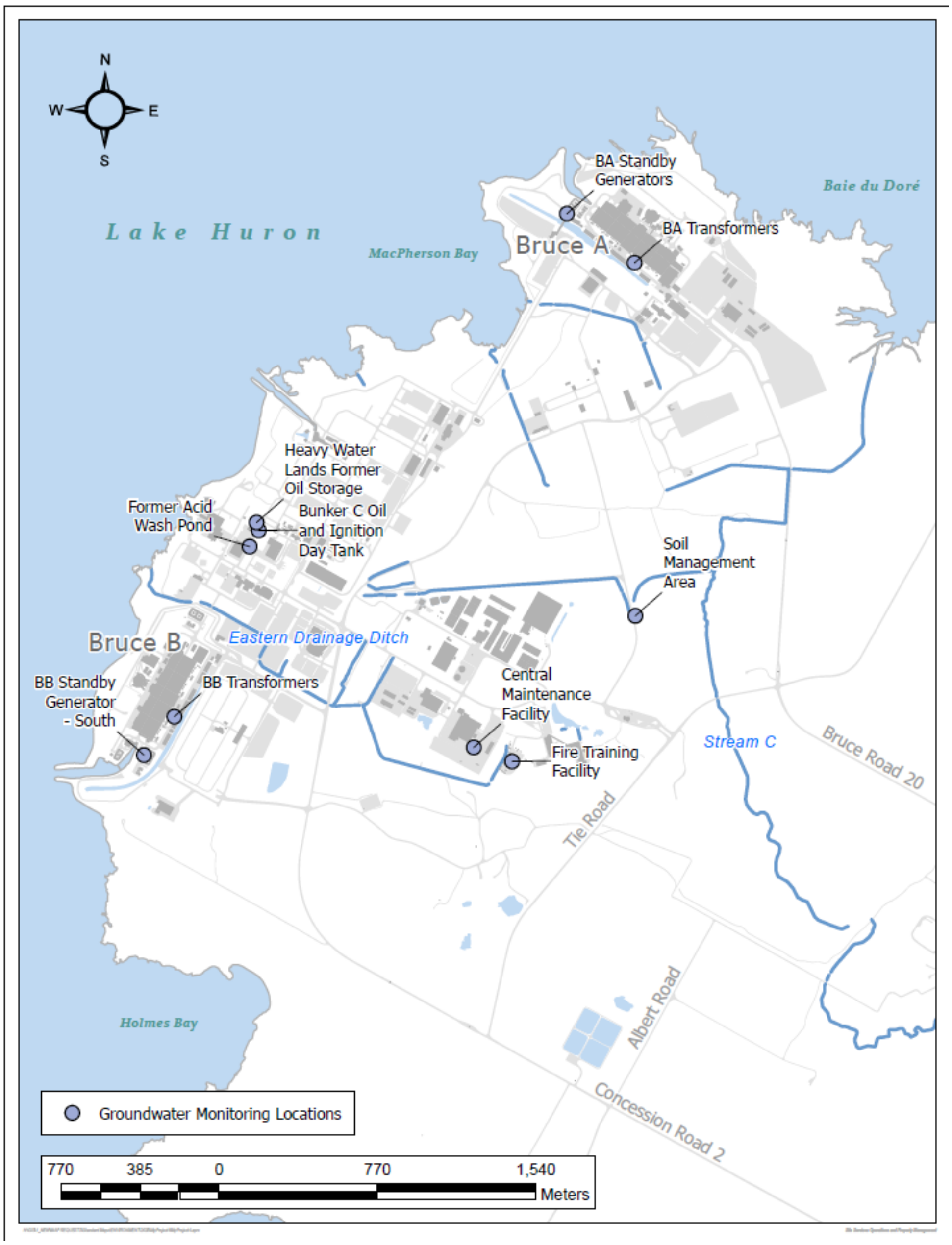


Figure 66 – 2025 Bruce Power Conventional Groundwater Sampling Locations

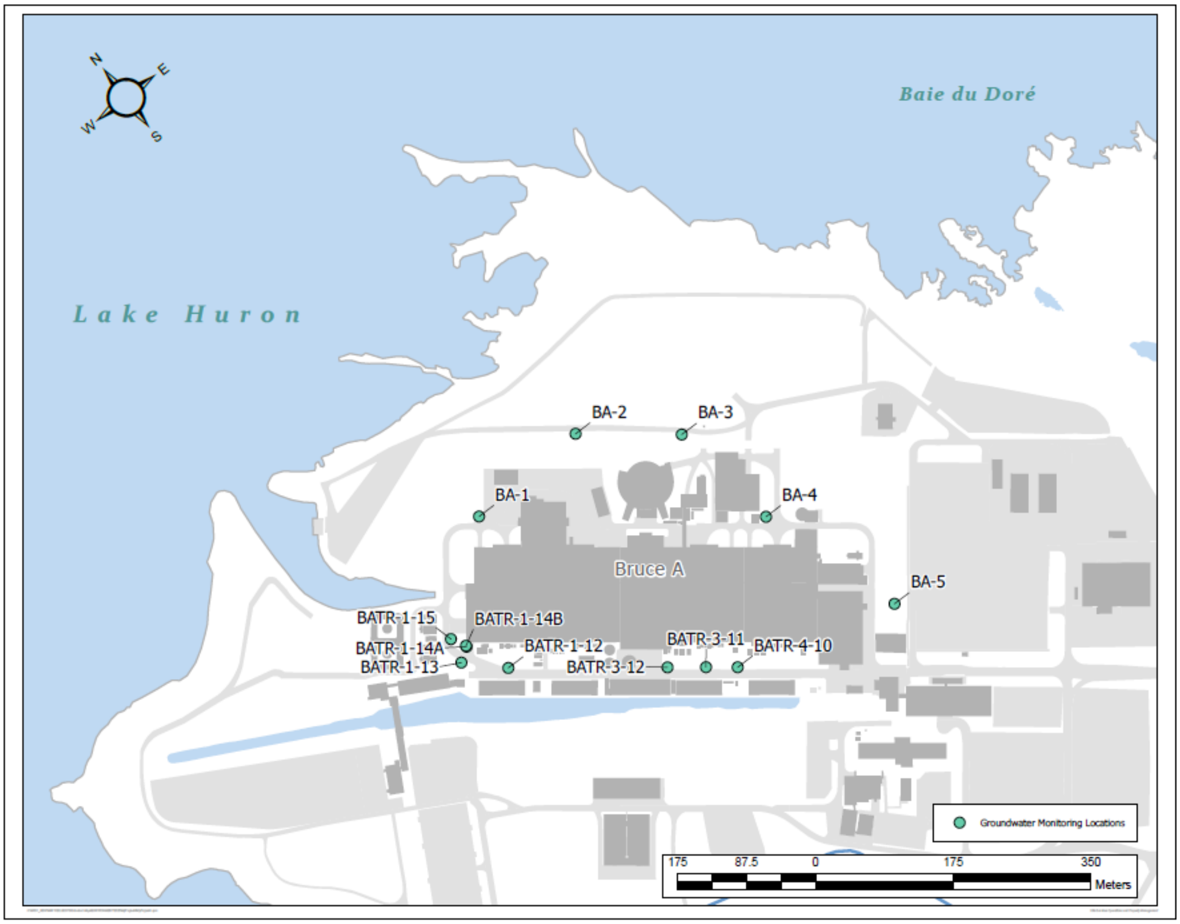


Figure 67 – Bruce A Radiological Groundwater Sampling Locations

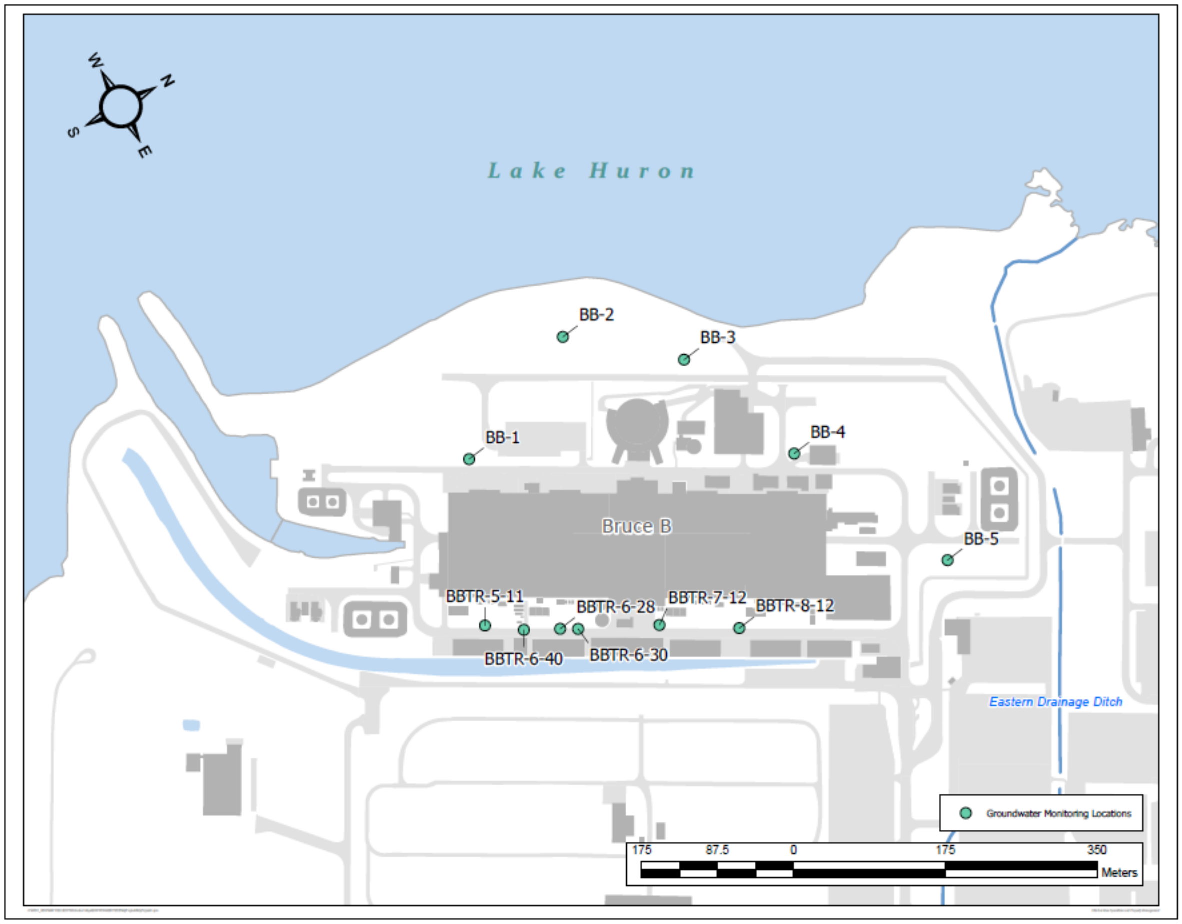


Figure 68 – Bruce B Radiological Groundwater Sampling Locations

6.2 Sampling Methodology

Monitoring wells were purged and sampled using the “low flow” technique, that is, purging the well at a slower flow rate and recording measurements of field chemistry parameters frequently – every 3 to 5 minutes. Field chemistry parameters including temperature, electrical conductance, pH, oxidation reduction potential and dissolved oxygen were recorded utilizing field meters throughout purging. Sampling occurs once field parameters have stabilized, which is indicative of stabilized groundwater conditions and ensures that the sample is representative of the surrounding formation. Low flow sampling has been shown to yield improved results for monitoring of recalcitrant contaminant parameters and turbidity influenced petroleum hydrocarbon detections. Sampling was performed in alignment with American Society for Testing and Measures standard D6771 [R-148].

6.3 Quality Control

Data quality for the 2025 groundwater sampling campaign was evaluated using groundwater samples which were collected from the spring sampling event from April 22 to April 30 and from the fall sampling event from September 20 to October 2, 2025. The evaluation followed individual method requirements and guidelines from the United States Environmental Protection Agency National Functional Guidelines for Inorganic Superfunds Method Data Review (Environmental Protection Agency 2020a) [R-149] and National Functional Guidelines for Organic Superfunds Method Data Review (Environmental Protection Agency 2020b) [R-150]. The analytical results were evaluated using the criteria of precision, accuracy, representativeness, comparability and completeness. The data quality evaluation covered 202 normal groundwater samples, 34 normal surface water samples, 27 groundwater field duplicate samples, 4 surface water field duplicate samples, 19 field blank samples, 21 trip blank samples and the associated laboratory quality control samples.

The data quality evaluation is an assessment of whether the data meet the predefined data quality objectives. The goal of the assessment is to demonstrate that a sufficient number of representative samples have been collected, and the resulting analytical data can be used to support project decision making processes.

For 2025, the groundwater analytical data provided for evaluation was considered valid and can be used for decision making.

6.4 Evaluation Criteria

Groundwater sample results for conventional parameters are compared against the Ministry of Environment, Conservation and Parks Site Condition Standards [R-151] (either Table 2 – Full Depth Generic Site Condition Standards in a Potable Groundwater Condition or Table 8 – Generic Site Condition Standards for Use Within 30 m of a Water Body in a Potable Groundwater Condition based on groundwater monitoring site location). These evaluation criteria are considered protective of the environment and human health and do not represent reportable limits.

For the purpose of identification of changes in conditions, groundwater sample results for tritium are compared against statistically based evaluation criteria. These criteria are derived using a mean plus three standard deviations approach. This value is established as the upper level of background and provides a reasonable benchmark for the identification of anomalous results which may potentially require further investigation or trending. This value is calculated using results from all wells which would be considered “similar” in terms of atmospheric tritium exposure. Seasonality is not differentiated in the derivation of the value.

The criteria are applied to identify anomalous results which may require further investigation. They do not represent reportable limits. As part of the follow up investigation, five-year trends for monitoring locations with results which were observed to be greater than the evaluation criteria are reviewed to verify that levels are within historical range or are decreasing. These plots are shown below.

6.5 Results

6.5.1 Groundwater Flow Conditions

Groundwater elevations were measured in the spring and fall in 2025 at 134 and 308 locations, respectively. The spring event took place over two mobilizations: March 24 to March 31, 2025 and April 22 to April 30, 2025. Similarly, the fall event was conducted on September 9 to September 11, 2025 and September 20 to October 2, 2025. These elevation measurements were used to inform groundwater flow direction.

The shallow groundwater table is expected to be highly variable because of the presence and variable depths of extensive fill areas, which influence surface water drainage and infiltration and have variable hydraulic conductivities. Although the overburden groundwater is generally expected to flow westward toward Lake Huron, local groundwater flow direction and regimes may be highly variable, in part because of the presence of subsurface structures, utility trenches, foundations, and so on. Some shallow groundwater may flow towards surface water features (drains, ditches, wetlands, etc.). The upper bedrock at the Site is fractured; therefore, it is expected that shallow groundwater will also flow downward to the bedrock. The flow direction of the deeper groundwater within the bedrock will be influenced by the size and degree of bedrock fracture interconnections but is ultimately controlled by the hydraulic gradient.

Based on water level measurements taken, the inferred groundwater flow direction remains unchanged from 2024. Contour maps of the inferred groundwater flow direction are provided in APPENDIX J.

6.5.2 Groundwater Sampling Results

Groundwater samples for tritium were taken from wells within the protected area in the spring and fall of 2025. The 2025 data can be found in APPENDIX I below. Spring and fall criteria values were calculated (as per Section 6.4) and were applied against spring and fall sampling results respectively. Figure 69 and Figure 70 are provided below and Figure 66 show the monitoring locations which were found to be above the applied criteria. The fall evaluation criterion (red line) was plotted to simplify the presentation of the data. Tritium levels observed in BATR-1-14B (southwest corner of Bruce A powerhouse) are in alignment with previous results observed at this location. Tritium levels observed in BBTR-7-12 (south of Bruce B powerhouse at Unit 7) are also within range of previous results observed at this location. Monitoring at these locations will continue in 2026 to confirm these decreasing trends.

Tritium in groundwater is a result of atmospheric wet deposition from station air emissions. This is supported through higher tritium levels in wells with shallower intervals and increased observations in the spring due to snow melt and increased precipitation. A precipitation study will be initiated in the spring of 2026 which will run over three years. This study is meant to demonstrate the correlation between tritium in precipitation caused by station air emissions and tritium in groundwater.

Overall, tritium in groundwater results within the protected areas generally fall below evaluation criteria. Results shown to be above these criteria are confirmed to be in alignment with station airborne emissions. Continued monitoring will confirm these observations.

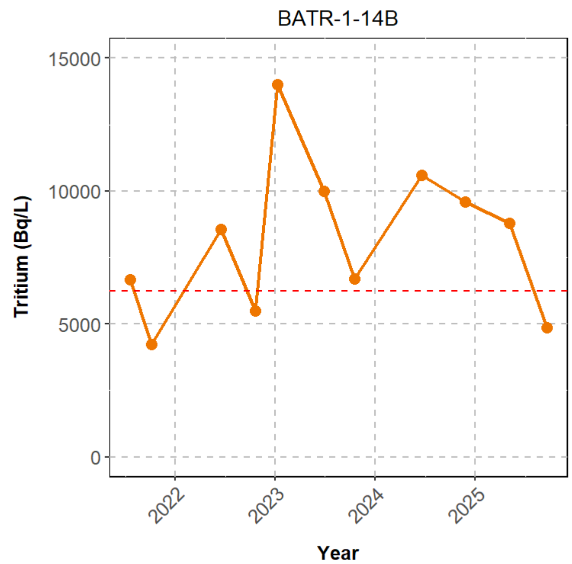


Figure 69 – Tritium in Groundwater at BATR-1-14B
(Dashed line represents evaluation criteria of 6226.1 becquerels per litre)

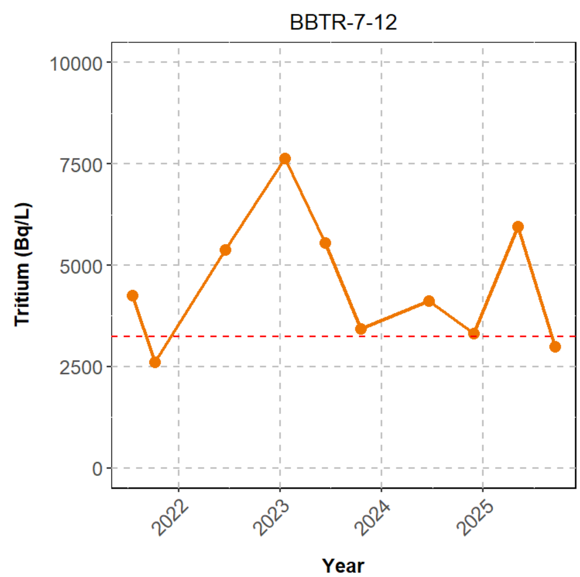


Figure 70 – Tritium in Groundwater at BBTR-7-12
(Dashed line represents evaluation criteria of 3247.5 becquerels per litre)

Groundwater samples for petroleum hydrocarbons were taken from monitoring wells located across the Bruce Power site according to the sampling and analysis plan and as per Figure 66. Dissolved petroleum hydrocarbons were observed above the applied site condition standard at several monitoring locations and are related to past events that have been well studied and managed with Regulatory oversight. These results were within historical trends and shown to be decreasing. The applied standard is considered protective of human health and the environment but does not represent a reportable limit. Where results were observed to be above the evaluation criteria, five year trends confirm that the result is not of concern and decreasing as expected. These trends are displayed in Figure 71 through Figure 80. It is important to note that Bruce Power adopted a low flow sampling methodology in the fall of 2022. The low flow method is established to better reflect the dissolved concentrations of petroleum hydrocarbons. The observed higher concentrations in samples from the fire training facility and the former heavy water lands that were collected through the well volume purging method (prior to low flow sampling) likely reflect interference from entrained sediments or immiscible product due to agitation of the water column and do not provide representative observations of the dissolved groundwater concentration only. Where this has occurred, an additional plot is provided to show greater resolution around the more recent results. The plots are shown below.

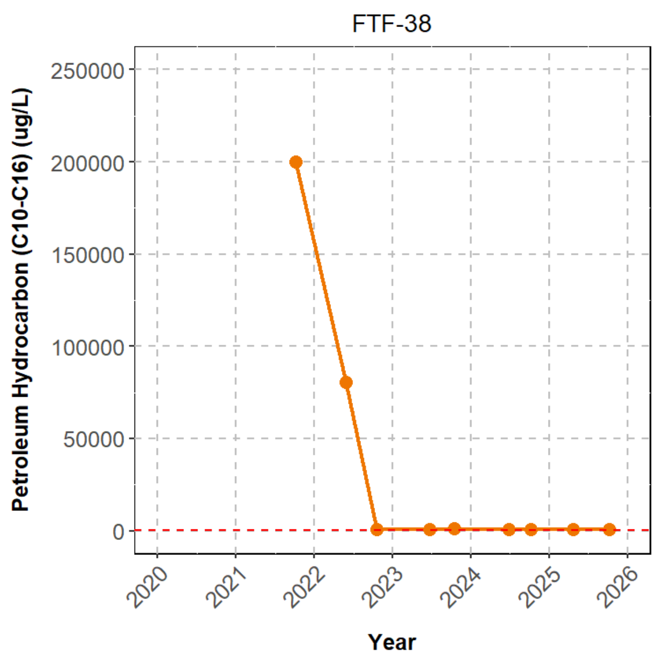


Figure 71 – Petroleum Hydrocarbons (F2) in Groundwater at FTF-38
(Dashed line represents evaluation criteria of 150 micrograms per litre)

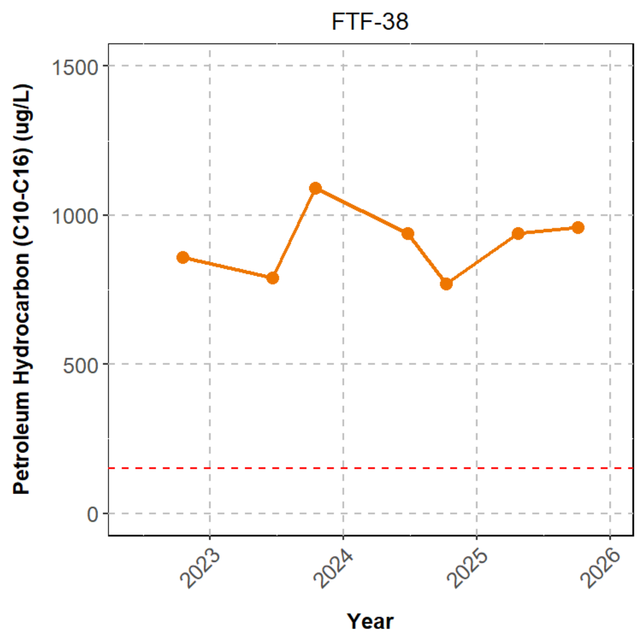


Figure 72 – Close-up of Recent Trend of Petroleum Hydrocarbons (F2) in Groundwater at FTF-38 (Dashed line represents evaluation criteria of 150 micrograms per litre)

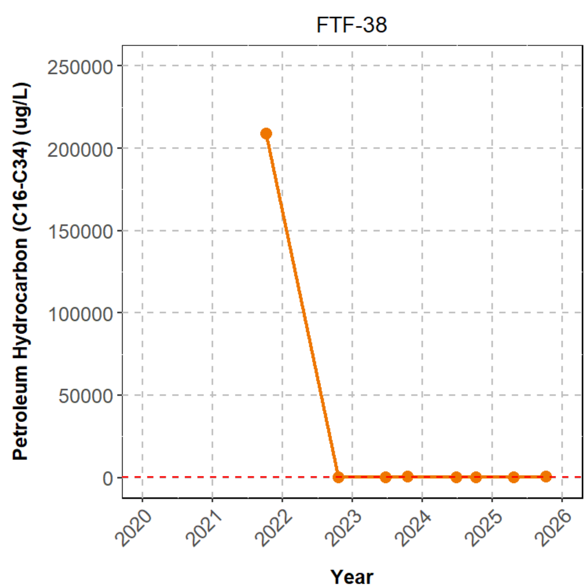


Figure 73 – Petroleum Hydrocarbons (F3) in Groundwater at FTF-38 (Dashed line represents evaluation criteria of 500 micrograms per litre)

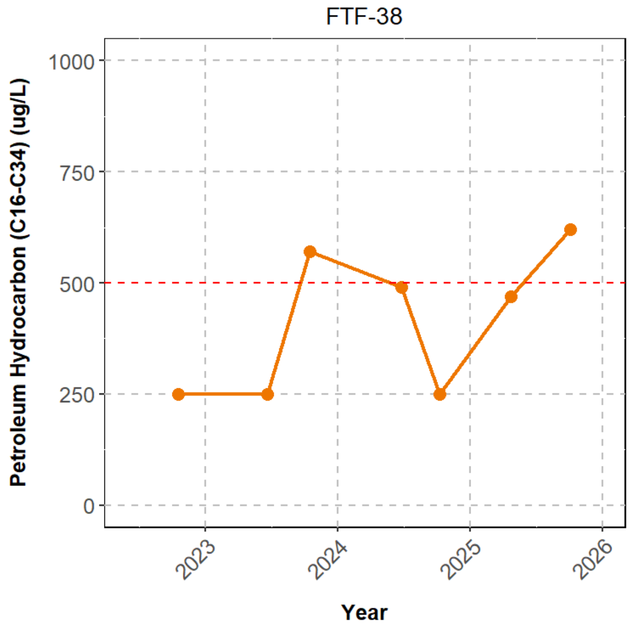


Figure 74 – Close-up Recent Trend of Petroleum Hydrocarbons (F3) in Groundwater at FTF-38 (Dashed line represents evaluation criteria of 500 micrograms per litre)

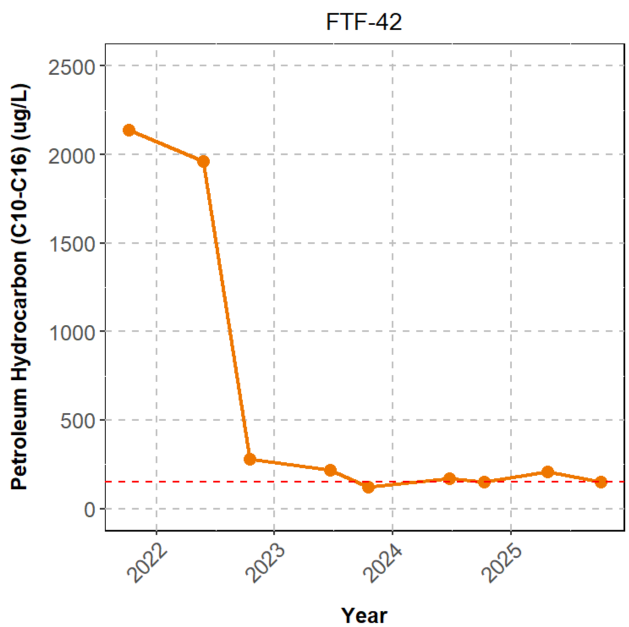


Figure 75 – Petroleum Hydrocarbons (F2) in Groundwater at FTF-42 (Dashed line represents evaluation criteria of 150 micrograms per litre)

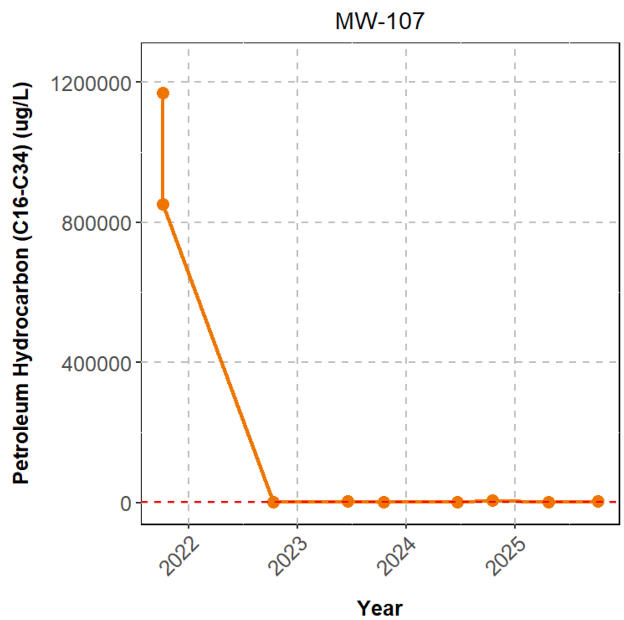


Figure 76 – Petroleum Hydrocarbons (F3) in Groundwater at MW-1-07 (Dashed line represents evaluation criteria of 500 micrograms per litre)

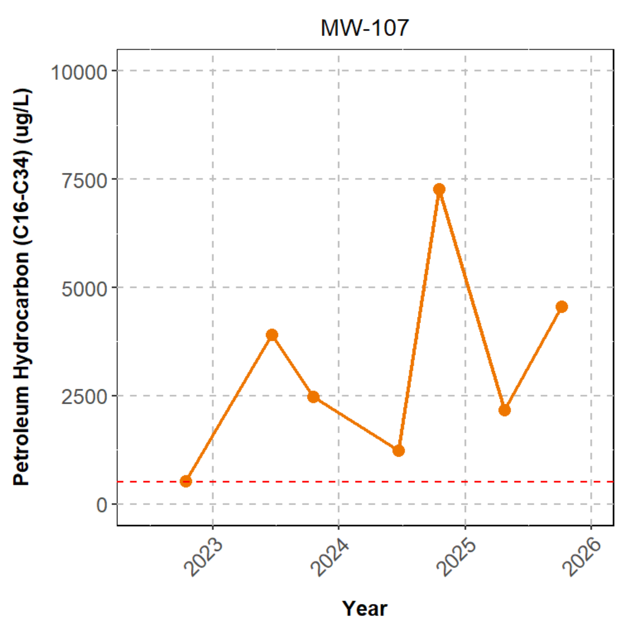


Figure 77 – Close-up of Recent Trend of Petroleum Hydrocarbons (F3) in Groundwater at MW-1-07 (Dashed line represents evaluation criteria of 500 micrograms per litre)

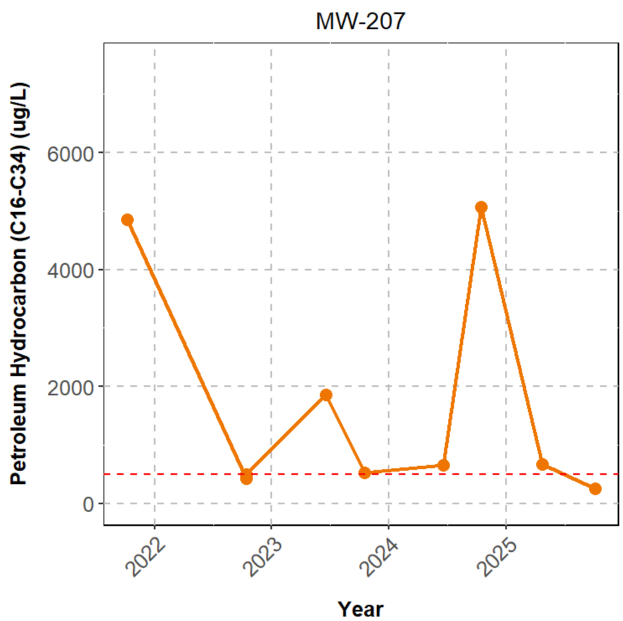


Figure 78 – Petroleum Hydrocarbons (F3) in Groundwater at MW-2-07 (Dashed line represents evaluation criteria of 500 micrograms per litre)

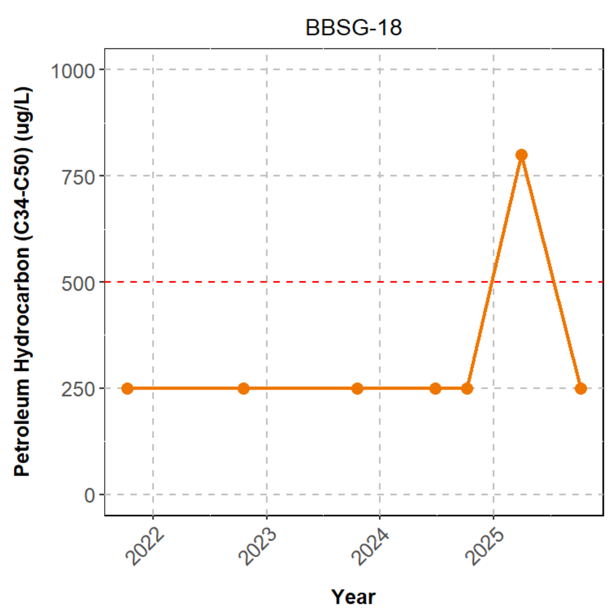


Figure 79 – Petroleum Hydrocarbons (F3) in Groundwater at BBSG-18 (Dashed line represents evaluation criteria of 500 micrograms per litre)

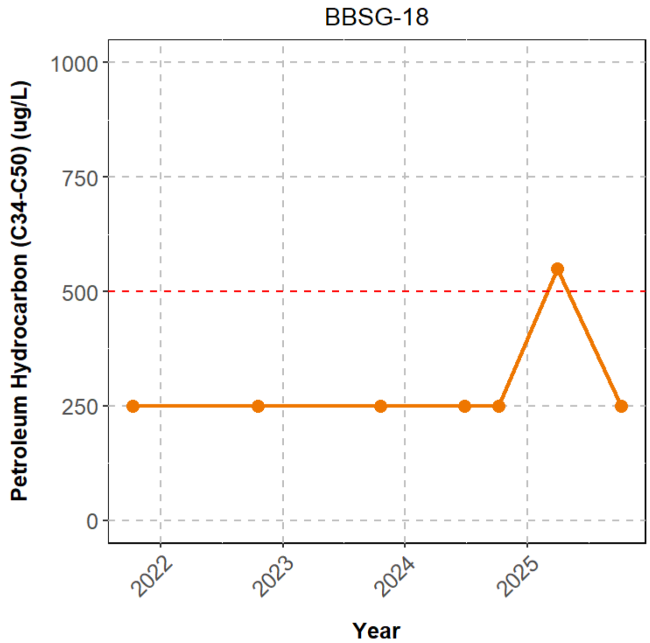


Figure 80 – Petroleum Hydrocarbons (F4) in Groundwater at BBSG-18
(Dashed line represents evaluation criteria of 500 micrograms per litre)

Other results to note included observations of sodium, chloride, chloroform, and dissolved metals vanadium, nickel, and cobalt. Discussion on these observations is provided below.

- Sodium and chloride-related to road salting at Bruce B and former Acid Wash Pond
- Vanadium and Nickel - related to historical boiler cleaning activities at the former Acid Wash Pond area
- Cobalt – minor exceedance at the Soil Management Area
- Chloroform – residual contamination from a domestic water line leak in front of Unit 3

All of these results were shown to be within historic ranges and/or decreasing and are not a cause for concern. Monitoring will continue in 2026 to ensure this trend continues. Results are included in APPENDIX G.

7.0 ENVIRONMENTAL RISK ASSESSMENT

The Environmental Risk Assessment fulfills the environmental protection requirements under the *Nuclear Safety and Control Act* [R-10] and is updated every five years, or with major facility changes. An updated retrospective and predictive Environmental Risk Assessment was prepared in 2022 following the guidance of CSA N288.6-12 [R-8][R-152]. Review of the 2022 Environmental Risk Assessment by the Canadian Nuclear Safety Commission (CNSC) and Environment and Climate Change Canada (ECCC) concluded that the report is consistent with the overall methodology and complies with all the applicable requirements of CSA N288.6-12 [R-113]. The assessment found that potential risks from physical stressors and radiological and non-radiological environmental releases were generally low to negligible.

The Environmental Risk Assessment demonstrates that the operation of the Bruce Nuclear Facility has resulted in minimal environmental risk and no expected adverse effects on the human health of nearby residents or visitors due to exposure to radiological or conventional substances and physical stressors. For nonhuman biota exposed to radiological or conventional substances, the Environmental Risk Assessment indicated that no adverse effects are expected. There was generally negligible to low risk to the environment due to exposure to physical stressors.

The baseline radiation doses to members of the public residing in the area surrounding the Site as calculated based on current operational conditions are less than 1% of the CNSC effective dose limit for a member of the public of 1 millisieverts per year. The maximum calculated dose was 0.0033 millisieverts per year for the most exposed representative person group, the subsistence farmer. There is no radiological risk to human health for members of the public resulting from normal operations on the Site. The human health risk assessment for conventional contaminants identified no unreasonable risk for people using the land around the Site for recreational or residential/agricultural uses.

The radiation doses to non-human biota residing on or near the Site are less than 1% of the applicable United Nations Scientific Committee on the Effects of Atomic Radiation benchmark value. There is no radiological risk to non-human biota resulting from normal operations on the Site. The conventional ecological risk assessment identified potential risks to terrestrial ecological receptors at Construction Landfill #4, Fire Training Facility, Distribution Station #1 and at five general soil sampling sites, to semi-aquatic receptors at Eastern Drainage Ditch and to aquatic receptors in Lake Huron, Former Sewage Lagoon, B31 Pond and Eastern Drainage Ditch. Additional follow-up monitoring is underway to refine these potential risks.

For thermal effluent, a low risk to some mainly cold and cool water fish species and life stages located in the Local Study Area was assessed during the thermal risk assessment process. Given the similar habitat available along the length of the Lake Huron coast and the mobility of older life stages, no population level effects are expected. For impingement and entrainment, Bruce Power has a *Fisheries Act* authorization from Fisheries and Oceans Canada that permits continued operation with the requirement to meet specific conditions related to impingement and entrainment, including offsetting that is intended to provide compensation for the fish losses incurred through impingement and entrainment. Fish losses from normal impingement and entrainment are compensated for by fisheries offsets, resulting in no net loss over time. Episodic events are subject to ongoing discussions with Fisheries and Oceans Canada. A gap analysis of the winter 2025 Gizzard Shad high impingement event was prepared at the request of the CNSC and is described further in Section 7.4. For other physical stressors, the assessment of the physical effects of noise, cooling water discharges and habitat alteration has shown minimal risk to human or ecological receptors.

As the current operational conditions are demonstrated to be bounding of future activities, the 2022 Environmental Risk Assessment is, therefore, shown to be bounding of proposed future activities. There is no additional radiological or non-radiological risk to human or non-human biota resulting from anticipated future activities.

7.1 Preparation of the 2027 Environmental Risk Assessment

Table 49 describes the progress on the recommendations listed in the conclusion of the 2022 Environmental Risk Assessment.

Table 49 – Plan and Progress of Recommendations in the 2022 Environmental Risk Assessment

Recommendation in the 2022 Environmental Risk Assessment	Plan and Progress
Bruce Power will continue to engage with Saugeen Ojibway Nation, Métis Nation of Ontario (Region 7) and Historic Saugeen Métis to support climate change research that is relevant to each community.	This engagement is ongoing through regular and ad hoc meetings.
Bruce Power will continue to support the Coastal Waters Environmental Monitoring Program. This program was jointly developed between Bruce Power and Saugeen Ojibway Nation and aims to enhance the existing body of knowledge being compiled through Bruce Power's routine Environmental Monitoring.	Bruce Power is continuing to support the Coastal Waters Environmental Monitoring Program and Bruce Power will continue to integrate shared results into relevant environmental assessments.

Recommendation in the 2022 Environmental Risk Assessment	**Plan and Progress**
As a follow up to the submission of the Assessment of Feasible Mitigation Measures report [R-153], updates to the risk assessment for Impingement and Entrainment and thermal effluent will continue to include an assessment of the need for mitigation measures and an update on any progress to mitigation measure implementation, if applicable.	Assessment of feasible mitigation measures continues, and results will be incorporated as needed into: • Bruce A and B environmental compliance approvals; • *Fisheries Act* authorization application; • Thermal risk assessments; and,Projects on site that impact thermal effluent and water taking, including Project 2030. Mitigation measures were implemented following the episodic event of high impingement of Gizzard Shad in 2025, including installation of a chain rope curtain at the Bruce A intake, similar to the existing one at Bruce B, and installation of seasonal nets, acoustic and visual deterrents at the recirculation gates at Bruce A and B during the 2025-2026 overwinter period. Effectiveness of these mitigation measures will be evaluated in the 2027 Environmental Risk Assessment.
Bruce Power is required to complete entrainment monitoring and offset projects as part of the conditions of the *Fisheries Act Authorization* [R-154] and will continue to engage with Saugeen Ojibway Nation, Métis Nation of Ontario (Region 7) and Historic Saugeen Métis to communicate the results of the entrainment monitoring and to select and complete these offset projects.	Implementation of the *Fisheries Act Authorization* is ongoing. A pilot entrainment monitoring program began in 2025. Engagement with Saugeen Ojibway Nation, Métis Nation of Ontario (Region 7) and Historic Saugeen Métis is ongoing through regular and ad hoc meetings.
For the conventional ecological risk assessment, Bruce Power will complete follow up monitoring as recommended to refine the assessment of risk in the 2027 Environmental Risk Assessment. Results of follow up monitoring will be reported annually in the environmental protection reports and compared to the site-specific target levels calculated in the 2022 Environmental Risk Assessment.	Follow-up monitoring is complete, and results are compared to the site-specific target levels calculated in the 2022 Environmental Risk Assessment. A portion of the sediment sampling and monitoring of lake water and stream water quality were completed in the 2024 and 2025 calendar years with results reported in Section 5.2 of this report. Benthic invertebrate sampling for vanadium was completed at Eastern Drainage Ditch in 2025.

Recommendation in the 2022 Environmental Risk Assessment	Plan and Progress
Effluent and environmental data reported as less than a detection limit is a source of uncertainty in the radiological Environmental Risk Assessment. Uncensored data below the detection limit is now recorded and used where possible for environmental monitoring data. In some cases, the critical level is conservatively used as an upper bound of contaminant concentration. For effluent/emissions monitoring data, Bruce Power is in the process of completing the required work to report uncensored data and critical level information for all radiological analyses. This uncensored data and critical level information will then be used in routine reporting. The use of uncensored data and critical level information for effluent and emissions data will represent a refinement of the Environmental Risk Assessment dose calculations. However, most of the Human Health Risk Assessment dose calculations are based on measurements in environmental media and are not dependent on effluent/emissions data. As a result, increasing the accuracy of reported emissions will have a small effect on reported doses and on the outcomes of the radiological Human and Ecological Risk Assessments.	Updates to the management of uncensored data as described in the recommendation are in progress. This information will be integrated into the 2027 Environmental Risk Assessment.

Recommendation in the 2022 Environmental Risk Assessment	**Plan and Progress**
From the Ecological Risk Assessment, additional measurements of radionuclides in on site waterbodies have confirmed that the Former Sewage Lagoon is the bounding exposure location. Doses to non-human biota remain far below benchmark values, therefore additional refinement of dose calculations is not required. Continued monitoring of radionuclides in water and sediment at the Former Sewage Lagoon is recommended. This may include characterization of Carbon-14 in surface water to refine concentrations that were calculated based on modelling.	Bimonthly sample collection of surface water from the Former Sewage Lagoon is completed as part of the Radiological Environmental Monitoring program and will continue to be reported annually. The regular program measures for tritium only. For the 2022 Environmental Risk Assessment, gamma analysis was also completed and the results for all CANDU related radionuclides were less than the critical level. For verification purposes, a surface water sample was taken and measured for gamma for the next environmental risk assessment. Collection of sediment samples at on-site waterbodies, including the Former Sewage Lagoon, will continue at a 5-year frequency and be measured for gamma emitting radionuclides in advance of the next environmental risk assessment. This sampling and analysis of gamma in surface water and sediment from the Former Sewage Lagoon was completed in 2025. The other input for the Ecological Risk Assessment for aquatic biota in the Former Sewage Lagoon is carbon-14 in water, and for the last Ecological Risk Assessment this was calculated from the maximum measured airborne carbon-14 on-site. This approach results in higher uncertainty, however the maximum total dose rate to aquatic biota at the Former Sewage Lagoon (benthic invertebrates at 0.002 milligray per day) was well below the applicable benchmark (9.6 millgray per day) and this approach was deemed acceptable. (Continued on next page)

Recommendation in the 2022 Environmental Risk Assessment	Plan and Progress
	The direct measurement of carbon-14 in surface water was considered for the next Ecological Risk Assessment, however this supplemental sampling was determined to provide minimal benefit for the additional effort. Upon review of the data from the last assessment, it was determined that the modelled value of carbon-14 in surface water at the Former Sewage Lagoon based on measured carbon-14 in air (0.003 becquerels per litre) was below available analysis detection limits (0.1-0.3 becquerels per litre). Additionally, the background value of carbon-14 in surface water (0.004 becquerels per litre) was estimated to be below available detection limits. When environmental data is less than detection the approach is to allow the model to estimate the value, which is a conservative approach as the model typically overestimates the result. This was the approach used for the 2022 Ecological Risk Assessment. Since the model was calculating such small values, which were below what could be measured by a laboratory and the approach is conservative, further analysis was determined to not be warranted. As the maximum predicted dose rate to aquatic biota in the Former Sewage Lagoon was well below the benchmark value (<1%) in the last Ecological Risk Assessment, further refinement through the measurement of carbon-14 in water is not warranted, and is not planned for the next environmental risk assessment.
Monitoring for impingement will continue. Bruce Power will also complete entrainment monitoring and offset projects as part of the conditions of the *Fisheries Act* authorization [R-154].	Impingement monitoring continues and is reported in Section 5.2.2.1. A pilot entrainment monitoring program began in 2025. Offset projects are ongoing and are reported in Section 5.2.2.

Recommendation in the 2022 Environmental Risk Assessment	Plan and Progress
In response to the low risk posed by thermal effluent to several fish species, Bruce Power will continue to execute year round thermal monitoring through logger deployments and thermal modelling work to monitor the risk posed by thermal effluent in the Local Study Area. Thermal logger deployments at depths over 10 metres will be discontinued during the winter period starting in the fall of 2022. Deployments at 3 metres, 5 metres and 10 metres depths will continue. Bluetooth technology for data loggers is being trialed to help improve retrieval of temperature loggers at shallow depths (≤ 10 metres). Deep locations (> 10 metres) are difficult to retrieve in the spring, resulting in more field days and additional exposure of field personnel to health and safety concerns because of searching for and pulling these deep locations from the lake bottom. Over the winter period, the Thermal Risk Assessment considers only Lake Whitefish and Round Whitefish eggs at depths of 4 to 10 metres and Lake Trout eggs at depths of over 12 metres. For Lake Trout eggs, the only species and life stage assessed over the winter period at depths greater than 10 metres, thermal exceedances occur equitably at both reference and Local Study Area sites early in the incubation period; therefore, deployment and retrieval of temperature loggers over the winter period at depths greater than 10 metres is not contributing to the assessment of thermal effects. The Local Study Area Remapping Tool generates daily temperatures for 8,815 nodes at the surface and 8,815 nodes at the bottom over the entire Thermal Risk Assessment period. Daily average and daily maximum temperatures from the Local Study Area Remapping Tool can be used in the same manner as measured temperature values in the Thermal Risk Assessment process. For the 2022 Thermal Risk Assessment, the tool was used to increase the spatial assessment of the extent of thermal exceedances for Lake Whitefish eggs, Round Whitefish eggs and Lake Trout eggs. In the 2027 Thermal Risk Assessment, temperatures used for Hazard Quotient calculations for Lake Trout eggs will be generated using the Local Study Area Remapping Tool. Temperatures used for Hazard Quotient calculations for Lake and Round Whitefish eggs will also be completed using the Local Study Area Remapping Tool and available measured data.	Thermal monitoring continued in 2025. Over the summer of 2025, four Spotter Buoy and Smart Mooring devices, equipped with cellular transmission capability were deployed and three were retrieved in the fall. A 10m site was left out over the winter season as a trial of live overwinter monitoring. Data from the Spotter Buoys is publicly available on the Seagull platform (seagull.glos.org) run by the Great Lakes Observing System. Four to five Spotter Buoys are planned to be deployed over the ice-free period in 2026. Bluetooth technology for data loggers was trialed in 2022 to help improve retrieval of temperature loggers at shallow depths (≤ 1 metres). There was no effective transmission through water to aid in retrieval and therefore did not improve data retrieval. These loggers continue to be deployed and downloaded as part of the routine program. The thermal risk assessment was updated in 2023 for the Bruce A Environmental Compliance Approval amendment application for thermal flexibility during the warmer months when lake temperatures are elevated. See Section 7.2. In 2025, Bruce Power completed engagement with CNSC and ECCC regarding the methodology for the 2027 Thermal Risk Assessment [R-155] and received confirmation from CNSC and ECCC that comments regarding the planned methodology were addressed in a satisfactory manner [R-156]. In 2025, Bruce Power presented the planned methodology for the 2027 Thermal Risk Assessment to Saugeen Ojibway Nation, Historic Saugeen Métis and Métis Nation of Ontario (Region 7). Bruce Power will be adding three additional receptors to the 2027 Thermal Risk Assessment (Cisco, Northern Pike and Lake Sturgeon) and will be adjusting the months assessed for some species and life stages based on input from Saugeen Ojibway Nation.

Recommendation in the 2022 Environmental Risk Assessment	**Plan and Progress**
Continued monitoring and assessment of impingement and entrainment and thermal effects will occur as per the established regulatory framework. This iterative assessment will also include ongoing Indigenous engagement and working to include Indigenous values as was done throughout the mitigation measures assessment report. A reevaluation of risks and basis for decisions surrounding mitigation measure will be reported in subsequent Environmental Risk Assessments. Bruce Power will provide an update on the progress of the use of intake water flow flexibility (i.e., variable speed drives) engineering work and on current research related to the effects of sound and light on fish species relevant to the Local Study Area in the 2027 Environmental Risk Assessment.	Monitoring and assessment of impingement and entrainment and thermal effluent continues and results are and will be incorporated as needed into: • Bruce A and B environmental compliance approvals; • *Fisheries Act Authorization* application; • Thermal risk assessments; and projects on site that impacts thermal effluent and water taking, including Project 2030.
Although no significant impact on the environment is expected from Lutetium-177 production, Bruce Power will collect data to verify and confirm that changes in atmospheric emissions are negligible. During commissioning of the Isotope Production System and for a limited period thereafter, the particulate filters from the stack monitor will be analyzed for the presence of Ytterbium-175, Ytterbium -177 and Lutetium-177 in the gaseous effluents. Bruce Power will review the additional monitoring data to validate the assumptions presented in the predictive Environmental Risk Assessment.	Radiological emissions on site, including those related to isotope production, are reported in Section 4.1.
With the successful execution of a large portion of the higher risk Life Extension and Major Component Replacement activities for Unit 6, including the draining of systems and the removal of components, no substantial changes to baseline radiological and conventional emissions and effluents are expected to occur during Life Extension and Major Component Replacement. As the current operational conditions are demonstrated to be bounding of future activities, including Major Component Replacement activities, the 2022 Environmental Risk Assessment is, therefore, shown to be bounding of the proposed activities. The need to evaluate for monitoring related to Gas Bubble Trauma at the completion of the Life Extension Program will be carried to the 2027 Environmental Risk Assessment. No specific recommendations are required.	No specific follow-up is required for the impacts of Major Component Replacement. The recommendation for Gas Bubble Trauma monitoring will be carried to the 2032 Environmental Risk Assessment update. In preparation for the 2027 Predictive Environmental Risk Assessment, the impacts of Project 2030 are being evaluated. A gap analysis for Project 2030 was submitted to the CNSC in December of 2024 [R-157]. An Environmental Management Plan is being used to evaluate the impacts of Project 2030 on all environmental aspects. Incorporation of an efficiency gains scenario was included in the updated thermal risk assessment.

In addition to the recommendations listed in Table 49 above, the CNSC and Environment and Climate Change Canada have reviewed the 2022 Environmental Risk Assessment and provided feedback and comments. Bruce Power considered feedback and provided responses to technical comments in June of 2023, October of 2024 and July of 2025 [R-158]–[R-160]. Based on this feedback the following recommendations will be implemented for the 2027 Environmental Risk Assessment:

- Regular wildlife, turtle and bird surveys of on-site permanent drainage features and other habitats will continue at the frequency described in the current environmental monitoring program. Bruce Power will consider follow-up monitoring of benthic invertebrate communities in the nearshore area of Lake Huron, the discharge channels, and the addition of a reference site location if such monitoring is deemed necessary through the environmental monitoring program. Results will be included in future iterations of the annual Environmental Protection Report and in the 2027 Environmental Risk Assessment to provide additional context for risk characterization. An enhanced description of the permanent drainage features on site will be added to the 2027 Environmental Risk Assessment.

- Analysis of selenium and vanadium in sediment samples collected from the Eastern Drainage Ditch and the Former Sewage Lagoon and of pH from surface water at the Former Sewage Lagoon will continue during routine monitoring. Lake Huron surface water sampling will include antimony, barium, molybdenum, selenium, uranium, and vanadium as part of routine sampling. Bruce Power will continue to use the Ontario Interim Provincial Water Quality Objective of 40 ug/L as a preliminary screening value for molybdenum in the 2027 ERA unless other more suitable values become available in the interim. A discussion of the potential cumulative effects from project activities on phosphorus in effluent will be included in the 2027 environmental risk assessment. All sampling results will be included in future iterations of the Annual Environmental Protection Report and assessed in the 2027 Environmental Risk Assessment.

- As completed for the 2022 Environmental Risk Assessment, future Environmental Risk Assessments will include a review of available Toxicity Reference Values for all Chemicals of Potential Concern. Diet information will be included in the 2027 environmental risk assessment based on the recommended sources in the applicable version of CSA N288.6 and will be updated as these sources are updated. An interactive interface will be considered to facilitate regulator and stakeholder review of the screening process, similar to the one piloted for the 2022 Environmental Risk Assessment (wsp-shinyapps.shinyapps.io/ERA_screening_tables/).

- A map of the Lake Huron fishing Zone 1 will be included in the Impingement and Entrainment section.

- Bruce Power will consider contributing funding and/or in-kind contributions to future projects to characterize the Habitat Productivity Index for Lake Huron run by external organizations. Bruce Power will not be initiating projects to characterize Habitat Productivity Index in Lake Huron based on the current *Fisheries Act* authorization conditions.

- Bruce Power will consider posting a public plain language summary in addition to the posting of an accessible version of the report. Information will be provided regarding risk terminology, the quality assurance processes for the site-specific survey, and the periodic review process for the Environmental Risk Assessment. Bruce Power will also continue to list the changes made with each Environmental Risk Assessment update, including changes made to reach compliance with CSA N288.6-22.

- In the 2027 thermal risk assessment, several changes will be made:

  - All available thermal monitoring data from April 1, 2021 to April 30, 2026 will be incorporated. All thermal benchmark exceedances will trigger a progression to the risk characterization phase.

  - Bruce Power will provide a table in the 2027 thermal risk assessment to indicate deployment and retrieval success for all years included in the thermal risk assessment.

  - Validation results for the hydrodynamic model will be presented for three years on a seasonal basis. Bruce Power will ensure two full years of water current validation, provided sufficient data has been successfully collected, are included in the validation presented within the 2027 thermal risk assessment.

  - Bruce Power plans to move towards a two-stream approach for meteorological and hydrodynamic model inputs, set-up, calibration, validation, and ongoing improvements. The first stream will focus on fitness for use in the 2027 thermal risk assessment and this will be defined by the model validation results. If the model meets the model validation performance criteria, Bruce Power plans to request regulatory acceptance that the model results are fit for purpose for use in risk characterization in the 2027 thermal risk assessment. The second stream will focus on continuous improvement to the model that do not fall under specific regulatory requirements. Potential improvements such as ice cover, seasonal under- or over- prediction and other issues can be addressed in this stream. Engagement on the 2027 thermal risk assessment methodology was completed in 2025.

  - The Local Study Area Remapping Tool, thermal modelling improvements, calibration and validation efforts will be briefly discussed within the methodology section of the 2027 thermal risk assessment. Bruce Power plans to continue to incorporate a correction of modelled data for measured data on a weighted basis throughout the local study area in an effort to improve the amalgamation of measured and modelled data in the risk characterization of the thermal risk assessment.

  - The spatial extent of thermal benchmark exceedances and hatch advance for Lake Whitefish eggs will be compared between operational and non-operational scenarios to enhance the risk characterization. This will provide additional context as to the spatial extent of exceedances within the local study area.

- Reference site selection criteria will be explicitly stated for all reference sites.

- In future thermal risk assessments, the results of operational and non-operational scenarios will be compared to provide additional local context for acute, chronic and hatch advance calculations. For the 2027 thermal risk assessment, Bruce Power will re-assess risks related to thermal effluent within the local study area and will specifically re-assess the risk to Lake Whitefish embryos in November.

- Bruce Power will include the information on the historic use of Loscombe Bank for Lake Whitefish spawning in the Thermal Risk Assessment. Bruce Power will include the information as part of the risk characterization context for Lake Whitefish eggs. Bruce Power will continue to engage with Indigenous Nations and Communities on available Traditional Knowledge regarding historical spawning grounds for Lake Whitefish and will incorporate this knowledge into the 2027 Thermal Risk Assessment, if information is shared and permission to incorporate is provided.

- Bruce Power will assess Lake and Round Whitefish acute thermal benchmark exceedances by reporting the frequency (i.e., number of exceedances) and median and range of the duration of exceedances (in hours) will be reported in a table. The duration of individual acute benchmark exceedances will not be reported. Risk characterization for Lake Whitefish embryos in the 2027 Thermal Risk Assessment will consider overall survival based on a model proposed by Martin et al. (2017) [R-161] and adapted for Lake Whitefish. The risk characterization step considers 10°C as a threshold for embryo mortality in the first 30 days.

- For future climate scenarios, Bruce Power will acknowledge the potential uncertainty associated with assuming historic tributary flows in future climate simulations. Bruce Power will test sensitivity to water level on hazard quotient exceedance frequency using the 5th and 95th percentile values for the 3°C scenario for a single year as described above. The results of this sensitivity assessment will be documented in the 2027 Thermal Risk Assessment. Bruce Power will also simulate future climate years using the 5th percentile water level condition if differences in the spatial extent of hazard quotient exceedances are meaningful (10% or greater change) and report these results in the 2027 Thermal Risk Assessment. Model sensitivity to altered meteorological conditions associated with climate change will be provided in the form of monthly temperature statistic tables at various locations throughout the Local Study Area as well as contextualized from a Thermal Risk Assessment perspective by documenting hazard quotient exceedances under differing climatic years/conditions under the same operational conditions.

- Bruce Power will validate model performance for currents by examining monthly as well as period model performance metrics for VRMSE (vertical RMSE or F-norm) and RMSE at near-bed, mid-depth and near-surface depths for available ADCP data. Performance will be assessed against literature-based targets and reported in the model calibration-validation documentation. Temporal error (RMSE as well as VRMSE or F-Norm) will be documented in the model calibration-validation report at monthly timescales, noting that this high frequency of error reporting is not typical practice in literature. Correlation coefficients will be reported on an annual basis. Spatial error will be documented in the model calibration-validation report at each calibration/validation location on a map of the LSA to illustrate spatial variances of error between available thermal monitoring stations.

- Bruce Power will identify which model inputs contribute to enhanced model performance at observation locations for temperature, currents, and water levels throughout the calibration process and which result in deteriorated or indeterminate performance with the objective of producing a model that functionally best replicates observed conditions. Model inputs that were tested but are excluded from the final model setup will be identified in the model calibration-validation report. Bruce Power does not plan to provide quantitative support for the inclusion/exclusion of each model input. Rather model inputs will be iteratively added to the model during calibration and the best performing model will be selected for use and validation against remaining years.

- The need for recalibrating the model for the 2027 TRA was documented in the *2027 Thermal Risk Assessment Methodology And Model Performance Criteria* document and discussed during several workshops. Moving forward, and unless significant changes to the source of model inputs are requested by regulators as is the case for the 2027 TRA, each 5-year cycle will examine model performance by means of a model validation exercise and only trigger recalibration of the model if ensuing performance is no longer sufficiently reasonable for the purposes of supporting regulatory applications.

- Ice cover and substrate temperature will be evaluated to determine whether either or both are worthwhile including in the final model setup.

- Bruce Power plans to prepare an interactive interface for the 2027 TRA, either similar to the pilot app prepared for the 2022 TRA, or enhanced with additional features. Bruce Power is considering the addition of non-operational scenarios and future climate scenarios, within the limitations of the operating capacity of the app.

7.2 2023 Thermal Risk Assessment

Bruce Power will prepare a thermal risk assessment as part of the 2027 Environmental Risk Assessment. The thermal risk assessment will be updated every 5 years to incorporate up-to-date climate science and 5 years of off-site thermal monitoring and Lake Huron hydrodynamic modelling data (with and without the impacts of operations considered), as well as advancements in the scientific literature on the effects of temperature on aquatic biota. The thermal risk assessment will include a year-round ecological risk assessment for cold, cool and warm water fish species and life stages present in the Local Study Area. Future thermal risk assessments will also be used to support future Environmental Compliance Approval applications.

The most recent thermal risk assessment was completed in July 2023 to support the application for thermal flexibility at Bruce A, and updated the 2022 thermal risk assessment to include comparisons between modelled temperatures under operational and non-operational conditions [R-129]. This change in methodology refined the assessment by distinguishing between thermal benchmark exceedances driven by operational conditions and those related to ambient lake temperatures. In general, the assessment indicated that thermal effluent poses negligible risk to fish species located in the local study area near Bruce Power. Fish species assessed included Lake Whitefish, Round Whitefish, Deepwater Sculpin, Chinook Salmon, Rainbow Trout, Lake Trout, Emerald Shiner, Gizzard Shad, Smallmouth Bass, Walleye, White Sucker, Yellow Perch, Brown Bullhead, Channel Catfish, Common Carp, Freshwater Drum and White Bass at the applicable life stages occurring in the nearshore environment potentially affected by thermal effluent from Bruce Power. Most species were found to be at negligible risk from temperatures measured at thermal monitoring sites in the local study area from October 1st, 2017 to September 30th, 2022. Four cold water species in early life stages were found to be at low risk from thermal effluent near Bruce Power following a detailed quantitative assessment and consideration of the biological and ecological context of the species and life stage. Thermal effluent poses a low risk to the following species and life stages within the local study area:

- Lake Trout, Lake Whitefish, and Round Whitefish eggs
- Larval Deepwater Sculpin

The thermal risk assessment concluded that thermal effluent does not pose a moderate or higher risk to any fish species considered within the local study area. All the fish species noted to be at low risk from thermal effluent within the local study area utilize a widespread habitat along the length of the Lake Huron coastline and the much smaller extent of the local study area (area assessed to be under the influence of the thermal plume) does not represent specialized habitat that these species are limited to utilize. Additionally, for some of the fish species assessed, specifically Lake and Round Whitefish embryos, the habitat within the local study area is sub-optimal based on the high exposure to prevailing currents and the high energy environment compared to protected spawning and incubation areas further north, such as the Fishing Islands and Stokes Bay [R-162]. For future consideration, to fully assess the potential effects of post Major Component Replacement operations with the effects of climate change, a bounding scenario was included under a 2030 climate scenario, titled Efficiency Gains. The Efficiency Gains scenario includes Project 2030. Project 2030 is an incremental investment program that will build on the existing life extension program (Major Component Replacement and Asset Management) that enables additional targeted investments to increase power output from 6,300 Megawatts (in 2016) to up to 7,000 Megawatts. The results show a generally unchanged level of risk under both operational warm and median 2030 climate scenarios compared to current operations.

Bruce Power continues to pursue conceptual engineering project options on flexible Condenser Cooling Water pumping capacity (flow) and modifying the Bruce A discharge to mitigate thermal impacts. Modeling of modifications to the Bruce A discharge was completed in 2023/2024. The results showed no substantial change if this mitigation measure was implemented. A substantial change was defined as a change of 10 percent or more in the area encompassed by thermal benchmark exceedances for the low risk species and life stages under operational conditions compared to non-operational conditions. In 2024, Bruce Power attended a conference held by the Electric Power Research Institute (EPRI) to kick off the "Power Uprate Technical Advisory Group (TAG)". This program is jointly funded by Bruce Power and other utilities with a goal of investigating innovative technologies and processes that enable Bruce Power to maximize the benefits of existing facilities while meeting environmental and climate goals. This includes improving power production efficiency to convert more thermal energy to electrical energy, investigating heat sink temperature, investigation options to reduce thermal discharge, and heat exchanger efficiency. Detailed outcomes from these two conceptual engineering project options and EPRI initiative will be reported in the 2027 Environmental Risk Assessment. Bruce Power will continue working with the EPRI on Climate READi and Climate Hazard Information and Projection initiatives. Bruce Power will also continue to monitor the latest research and innovations on feasible mitigation measures for thermal effluent and fish impingement. This iterative assessment will also include ongoing engagement with Indigenous Nations and Communities to provide opportunities to include Indigenous Knowledge and values, as was done throughout the mitigation measures assessment report [R-153].

In 2025, Bruce Power completed engagement with CNSC and ECCC regarding the methodology for the 2027 Thermal Risk Assessment [R-155] and received confirmation from CNSC and ECCC that comments regarding the planned methodology were addressed in a satisfactory manner [R-156]. Bruce Power will include modelling projections for warm and median climate conditions and known operational conditions in the 2040s, 2050s and 2060s in the 2027 and 2032 updates to the Thermal Risk Assessment. As a result, the potential impacts of climate change will be integrated into the thermal risk assessment on an ongoing, iterative basis.

The results of the five year update to the thermal risk assessment will include Indigenous knowledge as permitted to be shared by Saugeen Ojibway Nation, Historic Saugeen Métis and Métis Nation of Ontario (Region 7). In 2025, Bruce Power presented the planned methodology for the 2027 Thermal Risk Assessment to Saugeen Ojibway Nation, Historic Saugeen Métis and Métis Nation of Ontario (Region 7). Based on this engagement, Bruce Power will be adding three additional receptors to the 2027 Thermal Risk Assessment (Cisco, Northern Pike and Lake Sturgeon) and will be adjusting the months assessed for some species and life stages based on input from Saugeen Ojibway Nation.

7.3 Project 2030 Gap Analysis

A gap analysis was submitted to the CNSC in January 2025 for Project 2030 [R-163]. The purpose of the gap analysis was to provide a Predictive Environmental Risk Assessment (PERA) of activities completed and planned for the execution of Project 2030 from 2021 to 2026 based on CSA N288.6-22 [R-164]. The next full update will include predictive impacts for 2026-2031. As the current operational conditions are demonstrated to be bounding of future activities, including P2030 activities, the 2022 ERA is, therefore, shown to be bounding of the proposed activities up to 2027.

7.3.1 Follow-up for the 2027 ERA

The outcomes of predicted activities occurring from 2021 to 2026 will be reported in the 2027 ERA. The PERA process will be repeated for new activities predicted to occur on site from 2026 to 2031, which would include increasing reactor power. Assessments for potential noise impacts from steam reject system changes, potential changes to chemical management, potential changes to IX usage and detritiation are in progress by engineering prior to uprates. The thermal risk assessment will include a refined 100% FP (bounding scenario) for the 2027 ERA.

7.4 Impingement of Adult Gizzard Shad Gap Analysis

Following the episodic event of high impingement of adult Gizzard Shad during the winter of 2025 (see Section 5.2.2 for details), a gap analysis was prepared at the request of CNSC [R-9]. The gap analysis reviewed available literature on the characteristics of Gizzard Shad, demonstrating that episodic events involving high impingement of Gizzard Shad are unlikely to be of high impact to the environmental protection of Lake Huron. Conditions during the episodic event in the winter of 2025 were documented to include a high level of environmental stressors combined with no changes to normal operations at Bruce Power. These ambient conditions were well below optimal temperature for adult Gizzard Shad overwinter survival, and brought Gizzard Shad in Lake Huron close to a cliff edge state of metabolic dysfunction. As a result, an estimated 8.1 million Gizzard Shad sought refuge in Bruce Power's thermal plumes. In the process of seeking thermal refuge, 3.8 to 5.0 million additional Gizzard Shad reached a moribund point of disorientation and were impinged at Bruce A. Based on the population-level risk characterization presented, including consideration of natural annual mortality rates, negligible population-level effects are expected as a result of the episodic Gizzard Shad impingement event of the Winter of 2025.

7.4.1 Follow-up for the 2027 ERA

The description of the high impingement event will be updated to reflect the final report on the 2025 high Gizzard Shad impingement event. Lake temperatures and currents during the high impingement event will be presented in the update to the gap analysis and modelled as part of the 2027 Thermal Risk Assessment.

Gizzard Shad population monitoring is largely absent in Lake Huron, although Gizzard Shad are opportunistically caught in Ontario Ministry of Natural Resources summer netting programs. This data is not yet available but will be included in the 2027 ERA.

The 2027 ERA will reassess the overall risks associated with impingement and entrainment of all fish species, including adult Gizzard Shad. The information in the gap analysis will be updated and included in the 2027 ERA. This will include any outcomes of additional consultations with DFO, refinements to the population estimates of adult Gizzard Shad present in the thermal plume at the time of the episodic event in the winter of 2025 and any updates to scientific research on Gizzard Shad. Lower thermal benchmarks presented will be assessed in the 2027 thermal risk assessment. This will include a spatial assessment of the extent of the LSA maintained by the thermal plume above the minimum thermal benchmarks for adult Gizzard Shad during the winter months.

8.0 WASTE MANAGEMENT

Bruce Power manages the following different forms of waste to ensure they are disposed of safely without polluting the environment:

- Hazardous waste (oils, chemicals, crushed lighting lamps and ballasts – some of these are recycled)
- Recyclable waste (glass, lighting lamps, plastic, metal, cardboard, paper, wood, batteries, and electronics)
- Organics waste (food waste, compostable materials, paper towels)
- Radiological waste (low-, intermediate-, and high-level radiological waste is transferred to Ontario Power Generation for further processing and storage)
- Landfill waste (wastes that are neither hazardous, recyclable, compostable, nor radiological)

Bruce Power complies with all waste regulations and requirements of the relevant Federal, Provincial, and Municipal authorities. Further, Bruce Power has taken an active role for many years to reduce all forms of waste: from an environmental and financial standpoint waste reduction is good for our company and the community in which we reside. Our philosophy employs a whole life-cycle approach in that we reduce waste at the consumer level, generate less waste at the company level, find opportunities to reuse products (on-site, off-site donations, or sell them at auction), and implement recycling programs that are available in the ever-changing recycling market. To minimize the amount of waste sent to landfill each day, Bruce Power has implemented several initiatives that apply the principles of reduce, reuse, recycle, and recover. Wherever it’s fate, each waste stream generated at Bruce Power is processed and disposed of in a safe and environmentally responsible manner.

Table 50 summarizes the waste management and pollution prevention reports submitted to regulatory agencies.

Table 50 – Bruce Power Waste Regulatory Reporting

Waste	Report Title	Regulatory Agency	Submission Date (Frequency)
Conventional Waste	Report of a Waste Reduction Work Plan, *O Reg 102/94* (B-REP-00159-00005)	Internal Report	Q1 2026 (Annual)
Conventional Waste	Report of a Waste Audit, *O Reg 102/94* (B-REP-00159-00005)	Internal Report	Q1 2026 (Annual)
Waste & Pollution Prevention - Polychlorinated Biphenyl	*Federal PCB Regulations* Bruce Power 2025 Annual Report Declaration (BP-CORR-00521-00104)	Environment and Climate Change Canada	March 31, 2026 (Annual)
Waste & Pollution Prevention - Polychlorinated Biphenyl	2025 Annual Polychlorinated Biphenyl Waste Storage Report for Bruce A Storage Facility #10400A003 (BP-CORR-00541-00311)	Ministry of Environment, Conservation and Parks	January 31, 2026 (Annual)
Waste & Pollution Prevention - Polychlorinated Biphenyl	2025 Annual Polychlorinated Biphenyl (PCB) Waste Storage Report for the Waste Chemical Transfer Facility Storage Facility #10402A001 (BP-CORR-00541-00312)	Ministry of Environment, Conservation and Parks	January 31, 2026 (Annual)

8.1 Conventional Waste

The primary objective of the Conventional Waste Program is to process waste in a safe and environmentally responsible manner while diverting as much waste from landfill as possible. Bruce Power achieves waste minimization through the application of reduce, reuse, recover, repurpose and recycle principles.

Conventional waste at Bruce Power is managed and disposed of in accordance with regulatory requirements including:

- The *Ontario Environmental Protection Act* [R-5]
- *Ontario Regulation 347, General Waste Management* [R-165]
- *Ontario Regulation 103/94, Industrial, Commercial and Institutional Source Separation Programs* [R-166]
- *Ontario Regulation 102/94, Waste Audits and Waste Reduction Work Plans* [R-167]
- *Transport Canada's Transportation of Dangerous Goods Act* [R-168]

Management of conventional waste includes all non-hazardous and non-radiological items: recyclables, compost, and waste destined for landfill. As defined in *Ontario Reg.103/94* [R-166], Bruce Power is a large manufacturing establishment and is mandated to have recycling programs in place for material reasonably anticipated to be generated on site which include:

Required materials

- Paper
- Corrugated cardboard
- Glass bottles and jars
- Metal containers
- Plastic bottles and containers

Additional materials Bruce Power has established source separation programs for include:

- Organics/ compost
- Electronics /e-waste
- Wood
- Metal
- Batteries
- Concrete
- Lightbulbs

In addition to these recycling programs, Bruce Power has established programs for Styrofoam densification and recycling, as well as film plastic recycling. Bruce Power also utilizes TerraCycle Zero Waste boxes for office supplies (pens, pencils and other stationary) and has established a relationship with a local not-for-profit to reuse and recycle binders that are no longer needed.

Bruce Power utilizes approved waste disposal vendors to collect conventional waste on site. Waste disposal vendors are bound by Environmental Compliance Approvals that stipulate approved waste that can be accepted by the landfill or facility.

As shown in Table 51, the total amount of conventional waste produced at Bruce Power in 2025 was 3,342 metric tons. While 870 metric tons of waste were sent to landfill, a total of 2,472 metric tons were diverted to a recycling or compost program. More than two-thirds of all the conventional waste produced in 2025 was diverted from landfill.

Table 51 – Conventional Waste Generated at Bruce Power from 2016 to 2025
(1 metric ton (mt) = 1,000 kg)

Year	Landfill (mt)	Compost (mt)	Recycling (mt)	Total (mt)	Diversion Rate
2016	555	103	1,145	1,965	64%
2017	462	97	1,042	1,795	63%
2018	572	111	1,226	1,967	68%
2019	609	61	1,287	2,016	67%
2020	524	62	1,219	1,805	71%
2021	597	98	1,457	2,152	72%
2022	929	93	1,851	2,873	68%
2023	707	78	1,483	2,268	69%
2024	754	93	1,780	2,626	71%
2025	870	114	2,358	3,342	74%

In 2025, 26% of Bruce Power’s conventional waste was sent to landfill, 3% was composted, and the remainder was recycled via several different recycling streams (71%). The distribution among different waste streams has changed significantly over time, depending on the types of activities occurring at the company (commissioning/decommissioning) and the different recycling processes available in the global waste management market. The overall volumes of waste in 2025 were notably higher than in previous years and this reflects the large volume of work that occurred on site in 2025 including Unit 3 and Unit 4 Major Component Replacement.

As per *Ontario Regulation 102/94* [R-167], Bruce Power must also perform an annual conventional waste audit. The waste audit must be completed by a third-party vendor, and a waste audit report that includes a waste reduction work plan must be prepared for Bruce Power. Independent assessments of Bruce Power’s performance in conventional waste management have occurred annually for many years. The auditor’s assessments consistently show that Bruce Power is performing well.

8.1.1 Diversion Initiatives

Bruce Power makes every effort to increase diversion whenever possible. In addition to the compost and recycling streams provided by our standard conventional waste vendor, we have set up additional contracts and built relationships to further divert waste on site from landfill. Some examples of the additional diversion streams include e-wastes, scrap metal, Styrofoam, binder recycling and reuse, film plastic and furniture donation to local not-for-profits. In addition, Bruce Power worked to increase waste diversion by improving signage and messaging about waste streams across site in accordance with the site's Waste Reduction Work Plan prepared in compliance with *Ontario Regulation 102/94, Waste Audits and Waste Reduction Work Plans* [R-167]. The signage includes pictures of common waste types sold or used on site to help employees determine which waste stream is appropriate to use. In terms of messaging, utilizing established employee communication like the "Standard of the Week" (circulated to all employees) as well as segments in the monthly safety and performance excellence videos were also used to reiterate expectations to ensure employees are diverting their waste correctly. The waste management team is dedicated to ensure routine waste streams as well as non-routine emergent waste types are disposed of in the most environmental sustainable method available.

8.2 Hazardous Waste

Bruce Power's Hazardous Waste Program ensures the safe handling, storage and disposal of hazardous wastes in accordance with regulatory requirements outlined in the *Environmental Protection Act, Ontario Regulation 347, General Waste Management* [R-165].

Hazardous waste, such as chemicals, oils, batteries, and crushed fluorescent tubes, are generated at numerous locations on-site. They are carefully tracked to ensure all hazardous waste is safely disposed of in accordance with all applicable regulatory requirements. Bruce Power has an excellent network of external waste vendors (certified to carry and/or receive hazardous waste) who frequently work with us to dispose of all the hazardous waste streams in an industrially and environmentally safe manner. Utilizing the programs under the Ontario Resource Recovery & Circular Economy Act, hazardous wastes are routinely diverted from landfill and recycled including batteries, light tubes, oil, and electronic waste.

8.2.1 Oil Recycling

In 2021, a site wide oil recycling program was established with a hazardous waste vendor to recycle oils from turbine lubricating oil and electrical transformer systems. The used oil from these systems is often of high-quality with low levels of contaminants such as water, particulate or chemicals. As such, these used oils can be recycled and reused in other industrial applications.

In 2025, Bruce Power disposed of 144,637 litres of oil, with 92,250 litres (64%) being recycled. This significantly reduced the volume of oil requiring disposal through the hazardous waste stream.

8.2.2 Polychlorinated Biphenyls

Under the *Polychlorinated Biphenyls Regulations* (SOR/2008-273), equipment containing polychlorinated biphenyls (PCB) at concentrations of at least 50 parts per million (ppm) but less than 500 ppm is subject to federally prescribed end-of-use requirements. This includes electrical transformers and associated auxiliary electrical equipment, lighting ballasts, and capacitors. Electrical cables that are no longer in use, regardless of PCB concentration, must be removed to avoid being considered "abandoned in place," which would constitute a violation of the *Environmental Protection Act*.

Amendments to SOR/2008-273 that came into force in December 2025 extended the end-of-use deadline for low-level PCB-containing equipment from December 31, 2025 to December 31, 2026, and established regulatory provisions allowing for the continued use and maintenance of PCB-containing equipment that is radiologically contaminated or located within radiologically protected areas of nuclear facilities. There is currently no prescribed end-of-use date for PCB-containing electrical cables that remain in active use.

In 2018, Bruce Power developed a PCB removal plan focused on regulated electrical equipment and lighting ballasts to support compliance with applicable federal requirements. This plan is reviewed and updated on a regular basis to ensure alignment with regulatory timelines and facility-specific considerations.

In 2025, PCB removal activities resulted in the disposal of 33 drums of PCB containing electrical equipment and lighting ballast waste in support of regulatory requirements. Additional PCB waste remains in approved storage facilities and is scheduled for shipment in 2026.

9.0 REPORTABLE SPILLS

There were seven immediately reportable spills that were reported to the Ministry of Environment, Conservation, and Parks (MECP) Spills Action Centre in 2025. These required a follow-up fourteen-day letter to the MECP Local District Office and, where the event occurred within Bruce A or Bruce B, a REGDOC-3.1.1 report to the Canadian Nuclear Safety Commission (CNSC). Report references are listed in Table 52, below.

Table 52 – Bruce A and Bruce B 2025 Reportable Spills

Event Date	Report Title (Document Control Number)	CNSC REGDOC-3.1.1 Report Reference
January 7, 2025	Written Event Report for Bruce A Unit 3 Domestic Water Buried Piping Release (BP-CORR-00541-00264)	Domestic Water Release (B-2025-435635)
February 15, 2025 and February 20, 2025	Written Event Report for Releases Associated with Bruce A Fish Run (BP-CORR-00541-00272)	Gizzard Shad Run Impacts Bruce A (B-2025-447121)
April 17, 2025	Written Event Report for Centre of Site Sewage Processing Plant Sewage Release (BP-CORR-00541-00282)	Not Applicable
July 22, 2025	Written Event Report for Bruce A Buried Piping Sewage Release (BP-CORR-00541-00290)	Bruce A Environmental Release (B-2025-491813)
August 4, 2025	Written Event Report for Bruce B Chlorinated Firewater Release to Ground (BP-CORR-00541-00291)	Unit 5 Chlorinated Firewater Release (B-2025-495047)
September 2, 2025	Written Event Report for Centre of Site B33N Greywater Release (BP-CORR-00541-00296)	Not Applicable

10.0 AUDITS

Bruce Power maintains an internal audit program that fulfills the auditing requirements of both the CSA N288 series of environmental standards for nuclear power plants and the ISO 14001 Environmental Management System standard. The program identifies areas where processes do not conform to these standards so that corrective actions can be taken, and it highlights opportunities for improvement. Through comprehensive reviews of processes, internal audits pinpoint weaknesses which, once addressed, help strengthen and enhance the overall management system.

Bruce Power also undergoes an annual audit of its Environmental Management system by an accredited external third party auditor. Every third year, a full recertification audit is completed to confirm ongoing compliance to the ISO 14001 standard.

10.1 Internal Audits

10.1.1 CSA N288 Series of Environmental Standards for Nuclear Power Plants

In 2025, the annual internal audit of the Dosimetry lab included an evaluation of select elements of CSA N288.4-10, Environmental Monitoring Programs at Nuclear Facilities and Uranium Mines and Mills [R-102] and CSA N288.7-15, Groundwater Protection Programs at Nuclear Facilities and Uranium Mines and Mills[R-55]. The CSA N288.4-10 portion of the audit confirmed overall compliance with the applicable clauses assessed. For the CSA N288.7-15 portion of the audit, a gap was identified related to the implementation of field and trip blanks for groundwater tritium sampling. Corrective actions have since been implemented to ensure alignment with this requirement.

10.1.2 ISO 14001 Environmental Management System Standard Internal Audit

The 2025 internal audit conducted for the ISO 14001 Environmental Management System Standard concluded Bruce Power has a mature environmental management system that is effectively implemented and maintained in conformance with the requirements of the Bruce Power Management Systems as well as the ISO 14001 standard [R-22]. The focus area for 2025 was the Waste Management Program. There were gaps identified with compliance obligations in the areas of the Waste Management System Provisional Certificate of Approval (CoA), Ontario’s Waste Management and Waste Reduction regulations, federal Polychlorinated biphenyl (PCB) regulations, Director’s instructions for PCB storage areas, and Transportation of Dangerous Goods regulations. Bruce Power has implemented corrective actions to address the audit findings and continues to drive towards excellence in environmental protection via a continuously improving environmental management system.

This audit also included CS A N288.7, Groundwater Monitoring and confirmed that this Groundwater Monitoring Program (GWMP) is being carried out in alignment with CSA N288.7-15 core elements. There were gaps identified with compliance obligations in the areas of procurement procedures and GWMP design. Corrective actions have since been implemented to ensure alignment with these requirements.

10.2 External Audits

10.2.1 ISO 14001 Environmental Management System Standard External Audit

The 2025 external audit was a surveillance audit which confirmed Bruce Power’s conformance to the ISO 14001, Environmental Management Systems standard [R-15].

There were no non-conformances and two opportunities for improvement identified, therefore no corrective actions were required as a result of the 2025 environmental management system external audit.

Bruce Power received “Outstanding” (the highest score) in the areas of Management and Continuous Improvement, noting there was strong evidence of:

- Management commitment, customer and/or interested party satisfaction, knowledge and awareness of environmental policy and objectives; senior management is fully engaged in supporting the environmental management system.

- Data streams are being used as sources to drive continual improvement. There is evidence of a reduction in variation and known failure modes over time. These include objectives, audit results, analysis of data, and management reviews.

Bruce Power is certified to the ISO 14001, Environmental Management Systems standard until November 2026. There will be a re-certification audit in Fall 2026.

11.0 CONCLUSION

The purpose of this report is to fulfill regulatory requirements on environmental protection in accordance with Licence Condition 3.3 of the Bruce A and B Power Reactor Operating Licence and the Canadian Nuclear Safety Commission (CNSC) Regulatory Document REGDOC-3.1.1, Reporting Requirements for Nuclear Power Plants, Section 3.6 [R-2]. This report has provided information on effluent and emission results, environmental monitoring findings, and demonstrated Bruce Power’s continued commitment to environmental protection and sustainability.

Throughout 2025, Bruce Power continued to have meaningful engagement with the Saugeen Ojibway Nation to provide the Nation with up-to-date information on environmental issues and results as well as offering opportunities to be involved in various areas of the environmental monitoring program. Bruce Power also maintained meaningful engagement with the Métis Nation of Ontario (Region 7) and the Historic Saugeen Métis.

In 2025, Bruce Power demonstrated a continued commitment to social responsibility and environmental stewardship through targeted community investments, conservation initiatives, and support for regional environmental education and restoration projects. These efforts were complemented by strong environmental performance and recognition, including continued Wildlife Habitat Council Gold Certification, expanded conservation and monitoring programs, and innovative mechanisms such as Clean Energy Credits that support broader emissions-reduction objectives. Together with disciplined green financing and transparent sustainability reporting, these initiatives reflect Bruce Power’s integrated approach to delivering non-emitting electricity while supporting environmental protection, community well-being, and long-term sustainability.

For the thirty-fourth consecutive year, Bruce Power’s contribution to the annual dose of a member of the public is less than the lower threshold for significance (less than 10 microsieverts per year) and is considered *de minimus*. The maximum dose associated with Bruce Power operations in 2025 was obtained for the Bruce Subsistence Farmer (BSF3) Child who received 3.9 microsieverts per year. All other representative persons have a lower dose.

This maximum dose is a small fraction of a percent of the legal limit of 1,000 microsieverts per year.

Bruce Power's emissions and effluent monitoring program provides systematic oversight of radiological, conventional, and physical stressors released to air and water during normal operations and outage maintenance activities. Monitoring is conducted in accordance with applicable regulatory requirements and robust standards to support regulatory compliance, environmental risk assessments, and transparency. Program results for 2025 demonstrate effective control of radiological and conventional releases, ensuring the ongoing protection of human health and the environment.

Bruce Power's radiological and conventional environmental monitoring programs are designed to continuously verify that environmental protection is being maintained and that any releases have a minimal impact on the surroundings. The radiological environmental monitoring program monitors radionuclides in the air, water, agricultural and animal products, beach sand, soil, and sediment. The conventional environmental monitoring program screens for conventional contaminants, physical stressors, and biological effects. In 2025, conventional environmental monitoring for contaminants included water quality in the lake and on-site surface water features, soil, and sediment. Physical stressors and biological effects monitoring included thermal effluent in Lake Huron, fish impingement monitoring, and wildlife surveys (aquatic and terrestrial). Results of the radiological and conventional environmental monitoring programs in 2025 demonstrated that there were no significant or adverse changes to contaminant levels or wildlife species presence in the environment. This provides verification of the continued effectiveness of environmental protection policies and programs at Bruce Power.

Bruce Power's groundwater protection program is designed to achieve established groundwater protection goals in alignment with CSA N288.7-15, Groundwater Protection Programs at Class 1 Nuclear Facilities and Uranium Mines and Mills. By establishing and monitoring performance against groundwater program objectives which include a robust groundwater monitoring program, Bruce Power continues to refine and improve the groundwater conceptual site model and inform key stakeholders with respect to groundwater quality.

In 2025, no significant updates were made to the environmental protection measures. The next planned periodic review will be completed following the next ERA in 2027.

The 2022 Environmental Risk Assessment (ERA), completed in accordance with CSA N288.6-12 and reviewed by the Canadian Nuclear Safety Commission and Environment and Climate Change Canada, demonstrates that operations at the Bruce Nuclear Facility present low to negligible risk to the environment and human health. Baseline radiation doses to members of the public are well below regulatory limits, with the maximum calculated dose less than 1% of the CNSC public dose limit. The assessment confirms that there is no radiological or non-radiological risk to human health associated with normal operations, and no adverse effects are expected for individuals using lands surrounding the Site for residential, agricultural, or recreational purposes.

For non-human biota, the ERA similarly indicates no expected adverse effects from radiological or conventional substances, with radiation doses below applicable international benchmark values. While localized potential risks associated with conventional contaminants and thermal effluent were identified at specific locations and for certain sensitive species or life stages, these risks are assessed as low and are subject to ongoing or follow-up monitoring. Fisheries effects from impingement and entrainment are addressed through authorized offsetting measures, resulting in no net loss over time. As current operations are demonstrated to be bounding of anticipated future activities, the ERA concludes that no additional environmental risk to human or ecological receptors is expected from future operations at the Site.

Bruce Power continues to comply with all waste regulations and requirements of the relevant Federal, Provincial, and Municipal authorities. Further, Bruce Power plans to continue taking an active role in reducing all forms of waste: from an environmental and financial standpoint waste reduction is good for our company and the community in which we reside.

Finally, Bruce Power's compliance with the ISO 14001 standard and the CSA N288.4, N288.5 and N288.7 standards have been verified through internal independent oversight audits. Opportunities for improvement and any identified gaps are being addressed and do not impact overall conformance to the ISO 14001 or the CSA N288 series standards.

The 2025 Environmental Protection Report provides evidence that Bruce Power is complying with all relevant provincial, federal, and regulatory requirements and legislation. Beyond compliance, Bruce Power is committed to measuring and minimizing its environmental impact through excellence in effluent and emissions management, continuous environmental monitoring, spill prevention, and waste management. Bruce Power plans to continue striving for excellence in all aspects of environmental monitoring and protection throughout 2026.

12.0 REFERENCES

[R-1] Canadian Nuclear Safety Commission. Bruce A and Bruce B Power Reactor Operating Licence Bruce Nuclear Generating Stations A and B. 18.04/2028 2018.

[R-2] Canadian Nuclear Safety Commission. Reporting Requirements for Nuclear Power Plants, REGDOC-3.1.1 version 3. 2024.

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APPENDIX A: REPRESENTATIVE PERSON PARAMETERS FOR DOSE CALCULATION

Table 53 – Generic Rates of Intake of Air, Water and Various Foods

Parameter	Units	Infant (1 year old)	Child (10 year old)	Adult (male)
Inhalation Rate	Cubic metre per year	1830	5660	5950
Water Ingestion Rate	Litre per year	0	151.1	379.6
Grain Intake	Kilogram per year	55.2	140.7	163.5
Fruit & Berry Intake	Kilogram per year	54.6	88.8	99.4
Vegetable Intake	Kilogram per year	25.8	69.7	128.1
Mushrooms Intake	Kilogram per year	0.3	1.0	1.2
Potato Intake	Kilogram per year	8.7	30.9	47.9
Total Plant Product Ingestion Rate	**Kilogram per year**	**144.5**	**331.1**	**440.0**
Beef Intake	Kilogram per year	4.4	13.1	45.8
Beef offal Intake	Kilogram per year	0.5	1.4	2.0
Veal Intake	Kilogram per year	0.3	0.8	1.6
Pork Intake	Kilogram per year	3.5	10.4	19.8
Lamb Intake	Kilogram per year	0.0	1.0	0.6
Poultry Intake	Kilogram per year	8.2	21.9	38.9
Egg Intake	Kilogram per year	2.1	8.1	19.2
Game (Deer, Rabbit) Intake	Kilogram per year	0.5 or 0.7	1.6 or 2.2	5.8 or 7.8
Milk Intake	Kilogram per year	242.7	228.1	125.6
Honey Intake	Kilogram per year	0.5	1.4	1.6
Total Animal Product Ingestion Rate	**Kilogram per year**	**262.8 or 263.0**	**287.8 or 287.4**	**260.9 or 262.4**
Total Fish Ingestion Rate	**Kilogram per year**	**1.8 or 2.5**	**5.4 or 7.2**	**8.2 or 11.1**

Note:

1. The 1-year old infant is assumed to ingest cow's milk, which accounts for all fluid needs. Water (or formula made from water) is not ingested, as per CSA N288.1 [R-16].

2. All values are mean or central values from CSA N288.1 [R-16], with the exception of the Hunter/Fisher fish intake and game (e.g. deer, rabbit) intake for all age classes, which is based on the Site Specific Survey [R-169].

Table 54 – Percentage of Food Intake Obtained from Local Sources for Non-Farm Resident

Food Type	Infant (1 year old)	Child (10 year old)	Adult
Milk and dairy	18.1%	15.5%	9.4%
Beef (beef, beef offal, veal)	0.8%	2.1%	7.5%
Pork	0.4%	1.2%	2.5%
Poultry	0.8%	1.9%	3.7%
Egg	0.2%	0.8%	2.1%
Venison (deer, rabbit)	0.1%	0.2%	0.7%
Honey	0.1%	0.2%	0.3%
Total Animal Products	**20.5%**	**21.9%**	**26.3%**
Grain	3.0%	3.4%	3.0%
Fruit and Berries	12.0%	8.5%	7.2%
Vegetables (above-ground)	6.6%	7.8%	10.8%
Root Vegetables	1.7%	2.7%	3.1%
Total plant Products	**23.4%**	**22.4%**	**24.1%**
Fish	25.8%	25.8%	25.8%

Note: Values are percentage of total annual intake of combined food group (e.g., fish, plants, animals).

Table 55 – Percentage of Food Intake Obtained from Local Sources for Non-Dairy Farm Resident

Food Type	Infant (1 year old)	Child (10 year old)	Adult
Milk and dairy	36.3%	31.1%	18.9%
Beef (beef, beef offal, veal)	1.1%	3.0%	10.6%
Pork	0.7%	1.9%	3.9%
Poultry	1.7%	4.2%	8.3%
Egg	0.4%	1.5%	4.0%
Venison (deer, rabbit)	0.2%	0.6%	2.2%
Honey	0.1%	0.3%	0.4%
Total Animal Products	**40.6%**	**42.6%**	**48.3%**
Grain	4.8%	5.3%	4.6%
Fruit and Berries	15.4%	10.9%	9.2%
Vegetables (above-ground)	10.8%	12.8%	17.7%
Root Vegetables	3.8%	5.9%	6.9%
Total Plant Products	**34.8%**	**34.9%**	**38.4%**
Fish	27.5%	27.5%	27.5%

Note: Values are percentage of total annual intake of combined food group (e.g. fish, plants, animals).

Table 56 – Percentage of Food Intake Obtained from Local Sources for Dairy Farm Resident

Food Type	**Infant (1 year old)**	**Child (10 year old)**	**Adult**
Milk and dairy	66.5%	57.1%	34.7%
Beef (beef, beef offal, veal)	1.9%	5.2%	18.4%
Pork	1.3%	3.6%	7.5%
Poultry	2.5%	6.2%	12.1%
Egg	0.8%	2.8%	7.4%
Deer	0.2%	0.6%	2.2%
Honey	0.1%	0.2%	0.3%
Total Animal Products	**73.3%**	**75.5%**	**82.4%**
Grain	7.6%	8.5%	7.4%
Fruit and Berries	29.8%	21.1%	17.8%
Vegetables (above-ground)	16.3%	19.2%	26.5%
Root Vegetables	5.8%	9.1%	10.6%
Total Plant Products	**59.5%**	**57.9%**	**62.3%**
Fish	50.0%	50.0%	50.0%

Note: Values are percentage of total annual intake of combined food group (e.g. fish, plants, animals).

Table 57 – Percentage of Food Intake Obtained from Local Sources for Subsistence Farm Resident

Food Type	**Infant (1 year old)**	**Child (10 year old)**	**Adult**
Milk and dairy	92.4%	79.3%	48.1%
Beef (beef, beef offal, veal)	1.8%	4.8%	17.1%
Pork	1.3%	3.6%	7.6%
Poultry	2.8%	6.8%	13.4%
Egg	0.8%	2.8%	7.4%
Venison (deer, rabbit)	0.2%	0.6%	2.2%
Honey	0.2%	0.5%	0.6%
Total Animal Products	**99.5%**	**98.4%**	**96.4%**
Grain	18.6%	20.7%	18.1%
Fruit and Berries	37.8%	26.8%	22.6%
Vegetables (above-ground)	17.0%	20.0%	27.7%
Root Vegetables	5.7%	8.9%	10.3%
Total Plant Products	**79.1%**	**76.4%**	**78.7%**
Fish	100%	100%	100%

Note: Values are percentage of total annual intake of combined food group (e.g. fish, plants, animals).

Table 58 – Percentage of Food Intake Obtained from Local Sources for Hunter-Fisher Resident

Food Type	**Infant (1 year old)**	**Child (10 year old)**	**Adult**
Milk and dairy	23.1%	19.8%	11.9%
Beef (beef, beef offal, veal)	0.6%	1.7%	6.1%
Pork	0.4%	1.1%	2.2%
Poultry	0.9%	2.1%	4.1%
Egg	0.3%	1.1%	2.8%
Venison (deer, rabbit)	0.3%	0.8%	3.0%
Honey	0.1%	0.3%	0.4%
Total Animal Products	25.7%	26.8%	30.5%
Grain	7.6%	8.4%	7.4%
Fruit and Berries	17.6%	12.5%	10.5%
Vegetables (above-ground)	8.6%	10.1%	14.0%
Root Vegetables	2.7%	4.2%	4.9%
Total Plant Products	36.5%	35.3%	36.8%
Fish	100%	100%	100%

Note: Values are percentage of total annual intake of combined food group (e.g. fish, plants, animals).

APPENDIX B: 3-YEAR AVERAGE (2021-2023) METEORLOGICAL DATA ANALYSIS

Table 59 – Average Triple Joint Frequency for Bruce Power Site for 2021 - 2023 – 50 metre Meteorological Tower at 10 metre Height

Stability Class	**Wind Direction** (wind blowing from)	**Frequency (%) at wind speed ≤ 2**	**Frequency (%) at wind speed > 2 but ≤ 3**	**Frequency (%) at wind speed > 3 but ≤ 4**	**Frequency (%) at wind speed > 4 but ≤ 5**	**Frequency (%) at wind speed > 5 but ≤ 6**	**Frequency (%) at wind speed > 6**	**Total**
A	N	0.42	0.88	0.93	0.57	0.22	0.05	3.07
A	NNE	0.29	0.29	0.23	0.14	0.06	0.02	1.02
A	NE	0.23	0.16	0.05	0.03	0.00	0.00	0.47
A	ENE	0.40	0.31	0.11	0.00	0.00	0.00	0.82
A	E	0.34	0.24	0.12	0.02	0.00	0.00	0.72
A	ESE	0.24	0.16	0.07	0.02	0.00	0.00	0.49
A	SE	0.18	0.16	0.08	0.05	0.01	0.00	0.48
A	SSE	0.22	0.21	0.24	0.18	0.04	0.02	0.92
A	S	0.25	0.32	0.40	0.42	0.18	0.13	1.69
A	SSW	0.25	0.57	0.97	0.76	0.23	0.06	2.85
A	SW	0.21	0.45	0.49	0.16	0.08	0.02	1.40
A	WSW	0.22	0.46	0.31	0.08	0.02	0.02	1.11
A	W	0.17	0.40	0.17	0.07	0.02	0.02	0.84
A	WNW	0.32	0.45	0.18	0.03	0.02	0.03	1.03
A	NW	0.39	0.61	0.14	0.02	0.01	0.00	1.18
A	NNW	0.37	0.57	0.38	0.31	0.14	0.05	1.81
A	**Total**	**4.51**	**6.23**	**4.86**	**2.87**	**1.02**	**0.41**	**19.9**
B	N	0.21	0.14	0.05	0.01	0.00	0.00	0.40
B	NNE	0.13	0.08	0.04	0.04	0.01	0.00	0.30
B	NE	0.14	0.19	0.10	0.06	0.00	0.00	0.50
B	ENE	0.18	0.14	0.09	0.01	0.00	0.00	0.43
B	E	0.12	0.11	0.11	0.02	0.02	0.04	0.42
B	ESE	0.14	0.20	0.18	0.13	0.08	0.05	0.76
B	SE	0.18	0.22	0.28	0.18	0.04	0.02	0.92
B	SSE	0.13	0.25	0.31	0.38	0.10	0.09	1.26
B	S	0.11	0.27	0.25	0.27	0.32	0.24	1.44
B	SSW	0.08	0.27	0.56	0.62	0.32	0.19	2.04
B	SW	0.08	0.22	0.51	0.34	0.18	0.24	1.58
B	WSW	0.07	0.16	0.33	0.24	0.16	0.29	1.26
B	W	0.04	0.17	0.35	0.23	0.21	0.26	1.26
B	WNW	0.08	0.12	0.20	0.24	0.19	0.19	1.02

Stability Class	**Wind Direction** (wind blowing from)	**Frequency (%) at wind speed ≤ 2**	**Frequency (%) at wind speed > 2 but ≤ 3**	**Frequency (%) at wind speed > 3 but ≤ 4**	**Frequency (%) at wind speed > 4 but ≤ 5**	**Frequency (%) at wind speed > 5 but ≤ 6**	**Frequency (%) at wind speed > 6**	**Total**
B	NW	0.15	0.28	0.31	0.30	0.18	0.25	1.48
B	NNW	0.16	0.29	0.58	0.37	0.18	0.04	1.62
B	**Total**	**2.01**	**3.11**	**4.24**	**3.46**	**1.98**	**1.91**	**16.7**
C	N	0.11	0.00	0.00	0.00	0.00	0.00	0.11
C	NNE	0.06	0.00	0.00	0.00	0.00	0.00	0.06
C	NE	0.06	0.04	0.02	0.00	0.00	0.00	0.11
C	ENE	0.09	0.01	0.00	0.00	0.00	0.00	0.10
C	E	0.07	0.02	0.00	0.00	0.00	0.00	0.09
C	ESE	0.13	0.05	0.01	0.01	0.00	0.00	0.19
C	SE	0.12	0.13	0.05	0.02	0.00	0.00	0.31
C	SSE	0.13	0.02	0.01	0.00	0.00	0.00	0.16
C	S	0.06	0.06	0.02	0.01	0.01	0.00	0.16
C	SSW	0.05	0.02	0.01	0.00	0.01	0.02	0.11
C	SW	0.03	0.02	0.05	0.05	0.03	0.05	0.23
C	WSW	0.06	0.05	0.04	0.08	0.06	0.13	0.42
C	W	0.02	0.02	0.02	0.02	0.03	0.02	0.13
C	WNW	0.03	0.00	0.01	0.01	0.00	0.03	0.09
C	NW	0.10	0.08	0.05	0.10	0.12	0.28	0.72
C	NNW	0.13	0.03	0.02	0.01	0.02	0.00	0.21
C	**Total**	**1.24**	**0.53**	**0.30**	**0.31**	**0.27**	**0.54**	**3.19**
D	N	0.11	0.00	0.19	0.46	0.22	0.09	1.08
D	NNE	0.14	0.04	0.25	0.24	0.09	0.03	0.79
D	NE	0.31	0.28	0.33	0.13	0.02	0.00	1.07
D	ENE	0.33	0.21	0.14	0.02	0.00	0.00	0.71
D	E	0.31	0.11	0.15	0.12	0.03	0.04	0.76
D	ESE	0.47	0.22	0.41	0.22	0.09	0.02	1.43
D	SE	0.97	0.51	0.92	0.41	0.14	0.08	3.03
D	SSE	0.49	0.20	0.80	0.62	0.21	0.08	2.40
D	S	0.44	0.22	0.81	0.73	0.50	0.39	3.09
D	SSW	0.10	0.08	0.59	0.50	0.41	0.28	1.96
D	SW	0.08	0.06	0.44	0.51	0.48	0.60	2.17
D	WSW	0.05	0.03	0.28	0.35	0.32	0.71	1.74
D	W	0.07	0.03	0.27	0.39	0.32	0.81	1.89

Stability Class	**Wind Direction** (wind blowing from)	**Frequency (%) at wind speed ≤ 2**	**Frequency (%) at wind speed > 2 but ≤ 3**	**Frequency (%) at wind speed > 3 but ≤ 4**	**Frequency (%) at wind speed > 4 but ≤ 5**	**Frequency (%) at wind speed > 5 but ≤ 6**	**Frequency (%) at wind speed > 6**	**Total**
D	WNW	0.09	0.03	0.42	0.38	0.39	0.41	1.72
D	NW	0.14	0.08	0.56	0.74	0.56	0.70	2.77
D	NNW	0.15	0.01	0.50	0.64	0.45	0.31	2.05
D	**Total**	**4.26**	**2.13**	**7.05**	**6.47**	**4.19**	**4.55**	**28.7**
E	N	0.25	0.11	0.30	0.00	0.00	0.00	0.67
E	NNE	0.37	0.15	0.11	0.00	0.00	0.00	0.63
E	NE	0.79	0.33	0.02	0.00	0.00	0.00	1.14
E	ENE	0.74	0.18	0.04	0.00	0.00	0.00	0.96
E	E	0.46	0.19	0.03	0.00	0.00	0.00	0.69
E	ESE	0.88	0.46	0.03	0.00	0.00	0.00	1.37
E	SE	1.53	0.68	0.02	0.00	0.00	0.00	2.23
E	SSE	0.94	0.62	0.08	0.00	0.00	0.00	1.64
E	S	0.65	0.53	0.14	0.00	0.00	0.00	1.32
E	SSW	0.21	0.32	0.18	0.00	0.00	0.00	0.70
E	SW	0.14	0.18	0.12	0.00	0.00	0.00	0.43
E	WSW	0.08	0.10	0.04	0.00	0.00	0.00	0.22
E	W	0.14	0.14	0.06	0.00	0.00	0.00	0.34
E	WNW	0.12	0.17	0.08	0.00	0.00	0.00	0.37
E	NW	0.26	0.27	0.04	0.00	0.00	0.00	0.57
E	NNW	0.24	0.36	0.15	0.00	0.00	0.00	0.75
E	**Total**	**7.80**	**4.81**	**1.43**	**0.00**	**0.00**	**0.00**	**14.0**
F	N	0.72	0.45	0.00	0.00	0.00	0.00	1.17
F	NNE	0.71	0.27	0.00	0.00	0.00	0.00	0.98
F	NE	1.10	0.20	0.00	0.00	0.00	0.00	1.29
F	ENE	1.20	0.23	0.00	0.00	0.00	0.00	1.43
F	E	1.02	0.19	0.00	0.00	0.00	0.00	1.21
F	ESE	1.24	0.23	0.00	0.00	0.00	0.00	1.47
F	SE	1.61	0.29	0.00	0.00	0.00	0.00	1.90
F	SSE	1.33	0.50	0.00	0.00	0.00	0.00	1.83
F	S	0.98	0.39	0.00	0.00	0.00	0.00	1.37
F	SSW	0.68	0.37	0.00	0.00	0.00	0.00	1.06
F	SW	0.36	0.25	0.00	0.00	0.00	0.00	0.61
F	WSW	0.28	0.11	0.00	0.00	0.00	0.00	0.40
F	W	0.29	0.17	0.00	0.00	0.00	0.00	0.45
F	WNW	0.35	0.23	0.00	0.00	0.00	0.00	0.58

Stability Class	**Wind Direction** (wind blowing from)	**Frequency (%) at wind speed ≤ 2**	**Frequency (%) at wind speed > 2 but ≤ 3**	**Frequency (%) at wind speed > 3 but ≤ 4**	**Frequency (%) at wind speed > 4 but ≤ 5**	**Frequency (%) at wind speed > 5 but ≤ 6**	**Frequency (%) at wind speed > 6**	**Total**
F	NW	0.63	0.19	0.00	0.00	0.00	0.00	0.82
F	NNW	0.57	0.40	0.00	0.00	0.00	0.00	0.97
F	**Total**	**13.05**	**4.48**	**0.00**	**0.00**	**0.00**	**0.00**	**17.5**
All	**Total**	**32.86**	**21.29**	**17.88**	**13.11**	**7.46**	**7.41**	**100.0**

Note: Wind speed in metres per second.

APPENDIX C: 2025 DETAILED DOSE CALCULATION RESULTS

Table 60 – Dose to Representative Persons Located at BR1

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	2.52E-04	2.90E-07	1.16E-04	9.39E-08	6.94E-11	2.10E-06	5.12E-01	2.49E-01	8.82E-02	8.50E-01
Adult	Cobalt-60	6.07E-07	2.30E-08	2.71E-06	3.46E-05	2.06E-03	1.43E-03	1.17E-04	4.95E-06	1.71E-06	3.65E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.53E-04	0.00E+00	4.77E-03	1.90E-02
Adult	Tritium oxide	2.23E-01	0.00E+00	1.24E-02	5.35E-03	0.00E+00	0.00E+00	1.15E-03	1.80E-01	1.80E-02	4.40E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.88E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-07
Adult	Noble Gases	0.00E+00	9.45E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.45E-02
Adult	**Total**	**2.23E-01**	**9.45E-02**	**1.25E-02**	**5.38E-03**	**2.06E-03**	**1.51E-02**	**5.14E-01**	**4.29E-01**	**1.11E-01**	**1.41E+00**
Child	Carbon-14	3.60E-04	2.90E-07	6.35E-05	9.39E-08	1.48E-10	2.45E-05	4.60E-01	2.42E-01	7.13E-02	7.74E-01
Child	Cobalt-60	8.66E-07	2.30E-08	3.50E-06	3.46E-05	2.06E-03	1.44E-03	2.47E-04	1.19E-05	3.29E-06	3.80E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.77E-04	0.00E+00	1.04E-03	1.51E-02
Child	Tritium oxide	2.69E-01	0.00E+00	6.18E-03	4.45E-03	0.00E+00	0.00E+00	1.02E-03	1.63E-01	1.27E-02	4.56E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.88E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.23E-07
Child	Noble Gases	0.00E+00	9.45E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	9.45E-02
Child	**Total**	**2.69E-01**	**9.45E-02**	**6.25E-03**	**4.49E-03**	**2.06E-03**	**1.52E-02**	**4.62E-01**	**4.06E-01**	**8.51E-02**	**1.34E+00**
Infant	Carbon-14	2.45E-04	2.90E-07	0.00E+00	1.18E-09	2.52E-10	5.37E-05	3.14E-01	2.11E-01	8.99E-02	6.15E-01
Infant	Cobalt-60	6.35E-07	2.99E-08	0.00E+00	5.57E-07	2.68E-03	1.88E-03	2.07E-04	1.27E-05	4.22E-06	4.79E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	1.13E-04	0.00E+00	4.19E-04	1.84E-02
Infant	Tritium oxide	1.83E-01	0.00E+00	0.00E+00	1.56E-04	0.00E+00	0.00E+00	7.21E-04	1.48E-01	1.51E-02	3.47E-01

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.47E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-07
Infant	Noble Gases	0.00E+00	1.22E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.22E-01
Infant	**Total**	**1.83E-01**	**1.22E-01**	**0.00E+00**	**1.56E-04**	**2.68E-03**	**1.98E-02**	**3.15E-01**	**3.59E-01**	**1.05E-01**	**1.11E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 61 – Dose to Representative Persons Located at BR17

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	4.65E-04	5.34E-07	1.17E-04	9.39E-08	1.27E-11	2.10E-06	5.12E-01	2.90E-01	1.47E-01	9.50E-01
Adult	Cobalt-60	7.26E-07	2.75E-08	2.71E-06	3.46E-05	3.86E-03	1.43E-03	1.17E-04	8.73E-06	2.89E-06	5.45E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.53E-04	0.00E+00	4.77E-03	1.90E-02
Adult	Tritium oxide	2.68E-01	0.00E+00	1.24E-02	5.35E-03	0.00E+00	0.00E+00	1.15E-03	9.31E-02	1.87E-02	3.98E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	2.05E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.08E-07
Adult	Noble Gases	0.00E+00	1.13E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-01
Adult	**Total**	**2.68E-01**	**1.13E-01**	**1.25E-02**	**5.38E-03**	**3.86E-03**	**1.51E-02**	**5.14E-01**	**3.83E-01**	**1.71E-01**	**1.49E+00**
Child	Carbon-14	6.63E-04	5.34E-07	6.44E-05	9.39E-08	2.71E-11	2.45E-05	4.60E-01	3.43E-01	1.03E-01	9.07E-01
Child	Cobalt-60	1.04E-06	2.75E-08	3.50E-06	3.46E-05	3.86E-03	1.44E-03	2.47E-04	2.11E-05	5.16E-06	5.61E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.77E-04	0.00E+00	1.04E-03	1.51E-02
Child	Tritium oxide	3.23E-01	0.00E+00	6.18E-03	4.45E-03	0.00E+00	0.00E+00	1.02E-03	9.52E-02	1.33E-02	4.43E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	2.06E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.25E-07
Child	Noble Gases	0.00E+00	1.13E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-01
Child	**Total**	**3.23E-01**	**1.13E-01**	**6.25E-03**	**4.49E-03**	**3.86E-03**	**1.52E-02**	**4.62E-01**	**4.39E-01**	**1.17E-01**	**1.48E+00**
Infant	Carbon-14	4.53E-04	5.34E-07	0.00E+00	1.19E-09	4.60E-11	5.37E-05	3.14E-01	3.60E-01	1.10E-01	7.85E-01
Infant	Cobalt-60	7.59E-07	3.58E-08	0.00E+00	5.57E-07	5.02E-03	1.88E-03	2.07E-04	2.24E-05	5.84E-06	7.14E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	1.13E-04	0.00E+00	4.19E-04	1.84E-02
Infant	Tritium oxide	2.20E-01	0.00E+00	0.00E+00	1.56E-04	0.00E+00	0.00E+00	7.21E-04	8.85E-02	1.55E-02	3.24E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.70E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.12E-07
Infant	Noble Gases	0.00E+00	1.47E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-01
Infant	**Total**	**2.20E-01**	**1.47E-01**	**0.00E+00**	**1.56E-04**	**5.02E-03**	**1.98E-02**	**3.15E-01**	**4.49E-01**	**1.26E-01**	**1.28E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 62 – Dose to Representative Persons Located at BR25

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	8.35E-05	9.61E-08	1.13E-04	9.39E-08	2.31E-11	2.10E-06	5.12E-01	1.02E-01	4.15E-02	6.56E-01
Adult	Cobalt-60	8.51E-07	3.23E-08	2.71E-06	3.46E-05	3.31E-03	1.43E-03	1.17E-04	7.73E-06	2.59E-06	4.90E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.53E-04	0.00E+00	4.77E-03	1.90E-02
Adult	Tritium oxide	3.18E-01	0.00E+00	1.24E-02	5.35E-03	0.00E+00	0.00E+00	1.15E-03	1.84E-01	1.97E-02	5.41E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.92E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-07
Adult	Noble Gases	0.00E+00	1.33E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E-01
Adult	**Total**	**3.18E-01**	**1.33E-01**	**1.25E-02**	**5.38E-03**	**3.31E-03**	**1.51E-02**	**5.14E-01**	**2.86E-01**	**6.60E-02**	**1.35E+00**
Child	Carbon-14	1.19E-04	9.61E-08	6.23E-05	9.39E-08	4.94E-11	2.45E-05	4.60E-01	1.17E-01	4.67E-02	6.24E-01
Child	Cobalt-60	1.21E-06	1.79E-08	0.00E+00	0.00E+00	3.31E-03	1.44E-03	2.47E-04	1.86E-05	4.69E-06	5.02E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.77E-04	0.00E+00	1.04E-03	1.51E-02
Child	Tritium oxide	3.83E-01	0.00E+00	6.18E-03	4.45E-03	0.00E+00	0.00E+00	1.02E-03	1.71E-01	1.40E-02	5.79E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.93E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-07
Child	Noble Gases	0.00E+00	1.33E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E-01
Child	**Total**	**3.83E-01**	**1.33E-01**	**6.25E-03**	**4.45E-03**	**3.31E-03**	**1.52E-02**	**4.62E-01**	**2.88E-01**	**6.17E-02**	**1.36E+00**
Infant	Carbon-14	8.14E-05	9.61E-08	0.00E+00	1.17E-09	8.38E-11	5.37E-05	3.14E-01	1.29E-01	7.39E-02	5.16E-01
Infant	Cobalt-60	8.90E-07	4.20E-08	0.00E+00	5.57E-07	4.31E-03	1.88E-03	2.07E-04	1.98E-05	5.43E-06	6.42E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	1.13E-04	0.00E+00	4.19E-04	1.84E-02
Infant	Tritium oxide	2.61E-01	0.00E+00	0.00E+00	1.56E-04	0.00E+00	0.00E+00	7.21E-04	1.56E-01	1.60E-02	4.33E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.53E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.10E-07
Infant	Noble Gases	0.00E+00	1.72E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.72E-01
Infant	**Total**	**2.61E-01**	**1.72E-01**	**0.00E+00**	**1.56E-04**	**4.31E-03**	**1.98E-02**	**3.15E-01**	**2.84E-01**	**9.03E-02**	**1.15E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 63 – Dose to Representative Persons Located at BR27

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	8.35E-05	9.61E-08	7.63E-04	9.71E-08	2.31E-11	2.10E-06	5.12E-01	1.02E-01	4.15E-02	6.56E-01
Adult	Cobalt-60	8.51E-07	3.23E-08	2.25E-05	3.61E-05	2.41E-03	1.43E-03	1.17E-04	7.24E-06	2.73E-06	4.02E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.53E-04	0.00E+00	4.77E-03	1.90E-02
Adult	Tritium oxide	3.18E-01	0.00E+00	2.08E-02	5.43E-03	0.00E+00	0.00E+00	1.15E-03	1.85E-01	2.00E-02	5.50E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.83E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-07
Adult	Noble Gases	0.00E+00	1.33E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E-01
Adult	**Total**	**3.18E-01**	**1.33E-01**	**2.16E-02**	**5.47E-03**	**2.41E-03**	**1.51E-02**	**5.14E-01**	**2.87E-01**	**6.63E-02**	**1.36E+00**
Child	Carbon-14	1.19E-04	9.61E-08	4.19E-04	9.71E-08	4.94E-11	2.45E-05	4.60E-01	1.17E-01	4.67E-02	6.25E-01
Child	Cobalt-60	1.21E-06	3.23E-08	2.90E-05	3.61E-05	2.41E-03	1.44E-03	2.47E-04	1.73E-05	4.94E-06	4.18E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.77E-04	0.00E+00	1.04E-03	1.51E-02
Child	Tritium oxide	3.83E-01	0.00E+00	1.03E-02	4.53E-03	0.00E+00	0.00E+00	1.02E-03	1.71E-01	1.42E-02	5.84E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.83E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.23E-07
Child	Noble Gases	0.00E+00	1.33E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.33E-01
Child	**Total**	**3.83E-01**	**1.33E-01**	**1.08E-02**	**4.56E-03**	**2.41E-03**	**1.52E-02**	**4.62E-01**	**2.89E-01**	**6.19E-02**	**1.36E+00**
Infant	Carbon-14	8.14E-05	9.61E-08	0.00E+00	4.45E-09	8.38E-11	5.37E-05	3.14E-01	1.29E-01	7.39E-02	5.16E-01
Infant	Cobalt-60	8.90E-07	4.20E-08	0.00E+00	2.53E-06	3.13E-03	1.88E-03	2.07E-04	1.86E-05	5.64E-06	5.25E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	1.13E-04	0.00E+00	4.19E-04	1.84E-02
Infant	Tritium oxide	2.61E-01	0.00E+00	0.00E+00	2.33E-04	0.00E+00	0.00E+00	7.21E-04	1.56E-01	1.62E-02	4.34E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.41E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-07
Infant	Noble Gases	0.00E+00	1.72E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.72E-01
Infant	**Total**	**2.61E-01**	**1.72E-01**	**0.00E+00**	**2.35E-04**	**3.13E-03**	**1.98E-02**	**3.15E-01**	**2.85E-01**	**9.05E-02**	**1.15E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 64 – Dose to Representative Persons Located at BR32

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	8.35E-05	9.61E-08	1.58E-03	1.17E-07	1.03E-08	2.10E-06	5.12E-01	1.02E-01	4.15E-02	6.57E-01
Adult	Cobalt-60	7.68E-07	2.91E-08	4.82E-05	4.56E-05	3.72E-03	1.43E-03	1.17E-04	9.25E-06	3.34E-06	5.37E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.53E-04	0.00E+00	4.77E-03	1.90E-02
Adult	Tritium oxide	2.84E-01	0.00E+00	3.08E-02	5.86E-03	0.00E+00	0.00E+00	1.15E-03	1.80E-01	1.95E-02	5.21E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.83E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-07
Adult	Noble Gases	0.00E+00	1.19E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-01
Adult	**Total**	**2.84E-01**	**1.19E-01**	**3.25E-02**	**5.91E-03**	**3.72E-03**	**1.51E-02**	**5.14E-01**	**2.82E-01**	**6.57E-02**	**1.32E+00**
Child	Carbon-14	1.19E-04	9.61E-08	8.68E-04	1.17E-07	2.21E-08	2.45E-05	4.60E-01	1.17E-01	4.67E-02	6.25E-01
Child	Cobalt-60	1.10E-06	2.91E-08	6.21E-05	4.56E-05	3.72E-03	1.44E-03	2.47E-04	2.21E-05	5.96E-06	5.54E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.77E-04	0.00E+00	1.04E-03	1.51E-02
Child	Tritium oxide	3.42E-01	0.00E+00	1.53E-02	4.89E-03	0.00E+00	0.00E+00	1.02E-03	1.66E-01	1.38E-02	5.43E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.84E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.23E-07
Child	Noble Gases	0.00E+00	1.19E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-01
Child	**Total**	**3.42E-01**	**1.19E-01**	**1.63E-02**	**4.93E-03**	**3.72E-03**	**1.52E-02**	**4.62E-01**	**2.83E-01**	**6.15E-02**	**1.31E+00**
Infant	Carbon-14	8.14E-05	9.61E-08	0.00E+00	6.40E-09	3.75E-08	5.37E-05	3.14E-01	1.29E-01	7.39E-02	5.16E-01
Infant	Cobalt-60	8.03E-07	3.78E-08	0.00E+00	3.84E-06	4.84E-03	1.88E-03	2.07E-04	2.37E-05	6.52E-06	6.96E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	1.13E-04	0.00E+00	4.19E-04	1.84E-02
Infant	Tritium oxide	2.33E-01	0.00E+00	0.00E+00	2.28E-04	0.00E+00	0.00E+00	7.21E-04	1.52E-01	1.59E-02	4.01E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.41E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-07
Infant	Noble Gases	0.00E+00	1.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-01
Infant	**Total**	**2.33E-01**	**1.54E-01**	**0.00E+00**	**2.32E-04**	**4.84E-03**	**1.98E-02**	**3.15E-01**	**2.80E-01**	**9.02E-02**	**1.10E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 65 – Dose to Representative Persons Located at BR 48

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	8.28E-04	9.52E-07	1.22E-04	9.40E-08	6.94E-11	2.10E-06	5.12E-01	8.43E-01	2.48E-01	1.60E+00
Adult	Cobalt-60	1.29E-06	4.90E-08	2.71E-06	3.46E-05	6.55E-03	1.43E-03	1.17E-04	1.48E-05	4.81E-06	8.15E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.53E-04	0.00E+00	4.77E-03	1.90E-02
Adult	Tritium oxide	4.84E-01	0.00E+00	1.24E-02	5.35E-03	0.00E+00	0.00E+00	1.15E-03	1.80E-01	2.30E-02	7.06E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	2.03E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-07
Adult	Noble Gases	0.00E+00	2.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.01E-01
Adult	**Total**	**4.85E-01**	**2.01E-01**	**1.26E-02**	**5.38E-03**	**6.55E-03**	**1.51E-02**	**5.14E-01**	**1.02E+00**	**2.76E-01**	**2.54E+00**
Child	Carbon-14	1.18E-03	9.52E-07	6.69E-05	9.40E-08	1.48E-10	2.45E-05	4.60E-01	8.19E-01	1.56E-01	1.44E+00
Child	Cobalt-60	1.84E-06	4.90E-08	3.50E-06	3.46E-05	6.55E-03	1.44E-03	2.47E-04	3.56E-05	8.20E-06	8.31E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.77E-04	0.00E+00	1.04E-03	1.51E-02
Child	Tritium oxide	5.83E-01	0.00E+00	6.18E-03	4.45E-03	0.00E+00	0.00E+00	1.02E-03	1.84E-01	1.64E-02	7.95E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	2.03E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.25E-07
Child	Noble Gases	0.00E+00	2.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.01E-01
Child	**Total**	**5.84E-01**	**2.01E-01**	**6.25E-03**	**4.49E-03**	**6.55E-03**	**1.52E-02**	**4.62E-01**	**1.00E+00**	**1.73E-01**	**2.46E+00**
Infant	Carbon-14	8.07E-04	9.52E-07	0.00E+00	1.22E-09	2.52E-10	5.37E-05	3.14E-01	7.11E-01	1.45E-01	1.17E+00
Infant	Cobalt-60	1.35E-06	6.37E-08	0.00E+00	5.57E-07	8.51E-03	1.88E-03	2.07E-04	3.78E-05	8.45E-06	1.06E-02
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	1.13E-04	0.00E+00	4.19E-04	1.84E-02
Infant	Tritium oxide	3.97E-01	0.00E+00	0.00E+00	1.56E-04	0.00E+00	0.00E+00	7.21E-04	1.82E-01	1.77E-02	5.98E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.67E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.11E-07
Infant	Noble Gases	0.00E+00	2.61E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.61E-01
Infant	**Total**	**3.98E-01**	**2.61E-01**	**0.00E+00**	**1.56E-04**	**8.51E-03**	**1.98E-02**	**3.15E-01**	**8.93E-01**	**1.63E-01**	**2.06E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 66 – Dose to Representative Persons Located at BF8

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	3.81E-04	4.38E-07	4.61E-06	9.27E-08	2.31E-11	2.10E-06	5.46E-01	2.55E-01	2.07E-01	1.01E+00
Adult	Cobalt-60	3.63E-07	1.38E-08	0.00E+00	3.41E-05	1.61E-03	1.43E-03	1.25E-04	7.51E-06	2.85E-06	3.21E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.90E-04	0.00E+00	1.42E-02	2.84E-02
Adult	Tritium oxide	1.30E-01	0.00E+00	9.00E-03	5.26E-03	0.00E+00	0.00E+00	1.23E-03	1.67E-01	2.78E-02	3.41E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.97E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-07
Adult	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Adult	**Total**	**1.31E-01**	**5.62E-02**	**9.00E-03**	**5.29E-03**	**1.61E-03**	**1.51E-02**	**5.48E-01**	**4.23E-01**	**2.49E-01**	**1.44E+00**
Child	Carbon-14	5.44E-04	4.38E-07	2.53E-06	9.27E-08	4.94E-11	2.45E-05	4.90E-01	2.66E-01	1.59E-01	9.16E-01
Child	Cobalt-60	5.18E-07	1.38E-08	0.00E+00	3.41E-05	1.61E-03	1.44E-03	2.64E-04	1.77E-05	5.38E-06	3.37E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.95E-04	0.00E+00	3.06E-03	1.71E-02
Child	Tritium oxide	1.57E-01	0.00E+00	4.48E-03	4.38E-03	0.00E+00	0.00E+00	1.09E-03	1.63E-01	2.05E-02	3.50E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.98E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-07
Child	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Child	**Total**	**1.58E-01**	**5.62E-02**	**4.48E-03**	**4.41E-03**	**1.61E-03**	**1.52E-02**	**4.92E-01**	**4.29E-01**	**1.83E-01**	**1.34E+00**
Infant	Carbon-14	3.71E-04	4.38E-07	0.00E+00	2.17E-11	8.38E-11	5.37E-05	3.34E-01	2.10E-01	1.90E-01	7.35E-01
Infant	Cobalt-60	3.80E-07	1.79E-08	0.00E+00	0.00E+00	2.10E-03	1.88E-03	2.20E-04	1.87E-05	7.42E-06	4.23E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	1.21E-04	0.00E+00	1.20E-03	1.92E-02
Infant	Tritium oxide	1.07E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	7.68E-04	1.55E-01	2.68E-02	2.90E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.60E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.11E-07
Infant	Noble Gases	0.00E+00	7.27E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-02
Infant	**Total**	**1.07E-01**	**7.27E-02**	**0.00E+00**	**7.74E-05**	**2.10E-03**	**1.98E-02**	**3.35E-01**	**3.65E-01**	**2.18E-01**	**1.12E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 67 – Dose to Representative Persons Located at BF14

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	9.85E-05	1.13E-07	1.19E-06	9.27E-08	2.31E-11	2.10E-06	5.46E-01	1.47E-01	8.18E-02	7.75E-01
Adult	Cobalt-60	7.68E-07	2.91E-08	0.00E+00	3.41E-05	2.54E-03	1.43E-03	1.25E-04	1.11E-05	4.19E-06	4.15E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.90E-04	0.00E+00	1.42E-02	2.84E-02
Adult	Tritium oxide	2.84E-01	0.00E+00	9.00E-03	5.26E-03	0.00E+00	0.00E+00	1.23E-03	2.95E-01	3.31E-02	6.28E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.87E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-07
Adult	Noble Gases	0.00E+00	1.19E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-01
Adult	**Total**	**2.84E-01**	**1.19E-01**	**9.00E-03**	**5.29E-03**	**2.55E-03**	**1.51E-02**	**5.48E-01**	**4.42E-01**	**1.29E-01**	**1.55E+00**
Child	Carbon-14	1.41E-04	1.13E-07	6.54E-07	9.27E-08	4.94E-11	2.45E-05	4.90E-01	1.68E-01	9.30E-02	7.52E-01
Child	Cobalt-60	1.10E-06	2.91E-08	0.00E+00	3.41E-05	2.55E-03	1.44E-03	2.64E-04	2.63E-05	7.36E-06	4.31E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.95E-04	0.00E+00	3.06E-03	1.71E-02
Child	Tritium oxide	3.42E-01	0.00E+00	4.48E-03	4.38E-03	0.00E+00	0.00E+00	1.09E-03	2.68E-01	2.43E-02	6.44E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.88E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.23E-07
Child	Noble Gases	0.00E+00	1.19E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.19E-01
Child	**Total**	**3.42E-01**	**1.19E-01**	**4.48E-03**	**4.41E-03**	**2.55E-03**	**1.52E-02**	**4.92E-01**	**4.36E-01**	**1.20E-01**	**1.54E+00**
Infant	Carbon-14	9.60E-05	1.13E-07	0.00E+00	5.61E-12	8.38E-11	5.37E-05	3.34E-01	1.79E-01	1.48E-01	6.61E-01
Infant	Cobalt-60	8.03E-07	3.78E-08	0.00E+00	0.00E+00	3.31E-03	1.88E-03	2.20E-04	2.76E-05	9.11E-06	5.45E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	1.21E-04	0.00E+00	1.20E-03	1.92E-02
Infant	Tritium oxide	2.33E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	7.68E-04	2.36E-01	2.94E-02	4.99E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.46E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-07
Infant	Noble Gases	0.00E+00	1.54E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.54E-01
Infant	**Total**	**2.33E-01**	**1.54E-01**	**0.00E+00**	**7.74E-05**	**3.31E-03**	**1.98E-02**	**3.35E-01**	**4.15E-01**	**1.78E-01**	**1.34E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 68 – Dose to Representative Persons Located at BF16

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	4.65E-04	5.34E-07	5.62E-06	9.27E-08	1.27E-11	2.10E-06	5.46E-01	4.05E-01	2.44E-01	1.20E+00
Adult	Cobalt-60	7.26E-07	2.75E-08	0.00E+00	3.41E-05	3.58E-03	1.43E-03	1.25E-04	1.43E-05	5.35E-06	5.19E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.90E-04	0.00E+00	1.42E-02	2.84E-02
Adult	Tritium oxide	2.68E-01	0.00E+00	9.00E-03	5.26E-03	0.00E+00	0.00E+00	1.23E-03	1.50E-01	3.26E-02	4.66E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	2.02E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-07
Adult	Noble Gases	0.00E+00	1.13E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-01
Adult	**Total**	**2.68E-01**	**1.13E-01**	**9.01E-03**	**5.29E-03**	**3.58E-03**	**1.51E-02**	**5.48E-01**	**5.55E-01**	**2.91E-01**	**1.81E+00**
Child	Carbon-14	6.63E-04	5.34E-07	3.09E-06	9.27E-08	2.71E-11	2.45E-05	4.90E-01	4.80E-01	1.79E-01	1.15E+00
Child	Cobalt-60	1.04E-06	2.75E-08	0.00E+00	3.41E-05	3.58E-03	1.44E-03	2.64E-04	3.41E-05	9.08E-06	5.36E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.95E-04	0.00E+00	3.06E-03	1.71E-02
Child	Tritium oxide	3.23E-01	0.00E+00	4.48E-03	4.38E-03	0.00E+00	0.00E+00	1.09E-03	1.52E-01	2.39E-02	5.09E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	2.02E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.25E-07
Child	Noble Gases	0.00E+00	1.13E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-01
Child	**Total**	**3.23E-01**	**1.13E-01**	**4.48E-03**	**4.41E-03**	**3.58E-03**	**1.52E-02**	**4.92E-01**	**6.32E-01**	**2.06E-01**	**1.79E+00**
Infant	Carbon-14	4.53E-04	5.34E-07	0.00E+00	2.65E-11	4.60E-11	5.37E-05	3.34E-01	4.96E-01	2.03E-01	1.03E+00
Infant	Cobalt-60	7.59E-07	3.58E-08	0.00E+00	0.00E+00	4.66E-03	1.88E-03	2.20E-04	3.57E-05	1.06E-05	6.81E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	1.21E-04	0.00E+00	1.20E-03	1.92E-02
Infant	Tritium oxide	2.20E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	7.68E-04	1.38E-01	2.91E-02	3.87E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.65E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.11E-07
Infant	Noble Gases	0.00E+00	1.47E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-01
Infant	**Total**	**2.20E-01**	**1.47E-01**	**0.00E+00**	**7.74E-05**	**4.66E-03**	**1.98E-02**	**3.35E-01**	**6.34E-01**	**2.34E-01**	**1.59E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 69 – Dose to Representative Persons Located at BF26

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	3.46E-04	3.98E-07	4.18E-06	9.27E-08	2.31E-11	2.10E-06	5.46E-01	2.31E-01	2.02E-01	9.80E-01
Adult	Cobalt-60	3.63E-07	1.38E-08	0.00E+00	3.41E-05	1.11E-03	1.43E-03	1.25E-04	5.89E-06	2.14E-06	2.70E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.90E-04	0.00E+00	3.99E-03	1.82E-02
Adult	Tritium oxide	1.30E-01	0.00E+00	9.00E-03	5.26E-03	0.00E+00	0.00E+00	1.23E-03	2.59E-01	3.15E-02	4.36E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.85E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-07
Adult	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Adult	**Total**	**1.31E-01**	**5.62E-02**	**9.00E-03**	**5.29E-03**	**1.11E-03**	**1.51E-02**	**5.48E-01**	**4.89E-01**	**2.38E-01**	**1.49E+00**
Child	Carbon-14	4.94E-04	3.98E-07	2.30E-06	9.27E-08	4.94E-11	2.45E-05	4.90E-01	2.69E-01	1.55E-01	9.15E-01
Child	Cobalt-60	5.18E-07	1.38E-08	0.00E+00	3.41E-05	1.11E-03	1.44E-03	2.64E-04	1.38E-05	4.41E-06	2.86E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.95E-04	0.00E+00	8.75E-04	1.49E-02
Child	Tritium oxide	1.57E-01	0.00E+00	4.48E-03	4.38E-03	0.00E+00	0.00E+00	1.09E-03	2.30E-01	2.19E-02	4.18E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.85E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.23E-07
Child	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Child	**Total**	**1.58E-01**	**5.62E-02**	**4.48E-03**	**4.41E-03**	**1.11E-03**	**1.52E-02**	**4.92E-01**	**4.99E-01**	**1.78E-01**	**1.41E+00**
Infant	Carbon-14	3.37E-04	3.98E-07	0.00E+00	1.97E-11	8.38E-11	5.37E-05	3.34E-01	2.58E-01	1.88E-01	7.81E-01
Infant	Cobalt-60	3.80E-07	1.79E-08	0.00E+00	0.00E+00	1.44E-03	1.88E-03	2.20E-04	1.46E-05	6.58E-06	3.56E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	1.21E-04	0.00E+00	3.00E-04	1.83E-02
Infant	Tritium oxide	1.07E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	7.68E-04	2.04E-01	2.77E-02	3.40E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.43E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-07
Infant	Noble Gases	0.00E+00	7.27E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-02
Infant	**Total**	**1.07E-01**	**7.27E-02**	**0.00E+00**	**7.74E-05**	**1.44E-03**	**1.98E-02**	**3.35E-01**	**4.63E-01**	**2.16E-01**	**1.22E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 70 – Dose to Representative Persons Located at BSF2

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	2.73E-04	3.14E-07	3.66E-06	9.27E-08	2.31E-11	2.10E-06	1.99E+00	5.33E-01	3.13E-01	2.83E+00
Adult	Cobalt-60	3.63E-07	1.38E-08	0.00E+00	3.41E-05	1.22E-03	1.43E-03	4.55E-04	1.16E-05	3.15E-06	3.15E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.15E-03	0.00E+00	1.40E-02	2.98E-02
Adult	Tritium oxide	1.30E-01	0.00E+00	1.02E-02	5.26E-03	0.00E+00	0.00E+00	4.47E-03	3.95E-01	4.62E-02	5.91E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.88E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-07
Adult	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Adult	**Total**	**1.31E-01**	**5.62E-02**	**1.02E-02**	**5.29E-03**	**1.22E-03**	**1.51E-02**	**1.99E+00**	**9.28E-01**	**3.73E-01**	**3.51E+00**
Child	Carbon-14	3.90E-04	3.14E-07	2.01E-06	9.27E-08	4.94E-11	2.45E-05	1.78E+00	5.92E-01	3.45E-01	2.72E+00
Child	Cobalt-60	5.18E-07	1.38E-08	0.00E+00	3.41E-05	1.22E-03	1.44E-03	9.59E-04	2.95E-05	8.19E-06	3.68E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.07E-03	0.00E+00	3.06E-03	1.79E-02
Child	Tritium oxide	1.57E-01	0.00E+00	5.08E-03	4.38E-03	0.00E+00	0.00E+00	3.97E-03	4.10E-01	3.97E-02	6.20E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.88E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.23E-07
Child	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Child	**Total**	**1.57E-01**	**5.62E-02**	**5.08E-03**	**4.41E-03**	**1.22E-03**	**1.52E-02**	**1.79E+00**	**1.00E+00**	**3.88E-01**	**3.42E+00**
Infant	Carbon-14	2.66E-04	3.14E-07	0.00E+00	1.52E-11	8.38E-11	5.37E-05	1.22E+00	4.81E-01	5.45E-01	2.24E+00
Infant	Cobalt-60	3.80E-07	1.79E-08	0.00E+00	0.00E+00	1.58E-03	1.88E-03	8.02E-04	3.08E-05	1.50E-05	4.31E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	4.39E-04	0.00E+00	1.20E-03	1.95E-02
Infant	Tritium oxide	1.07E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	2.79E-03	3.93E-01	5.89E-02	5.62E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.47E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-07
Infant	Noble Gases	0.00E+00	7.27E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-02
Infant	**Total**	**1.07E-01**	**7.27E-02**	**0.00E+00**	**7.74E-05**	**1.58E-03**	**1.98E-02**	**1.22E+00**	**8.74E-01**	**6.06E-01**	**2.90E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 71 – Dose to Representative Persons Located at BSF3

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	2.97E-04	3.42E-07	3.98E-06	9.27E-08	2.31E-11	2.10E-06	1.99E+00	9.79E-01	3.38E-01	3.30E+00
Adult	Cobalt-60	3.63E-07	1.38E-08	0.00E+00	3.41E-05	1.62E-03	1.43E-03	4.55E-04	1.49E-05	4.03E-06	3.55E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.15E-03	0.00E+00	1.40E-02	2.98E-02
Adult	Tritium oxide	1.30E-01	0.00E+00	1.02E-02	5.26E-03	0.00E+00	0.00E+00	4.47E-03	2.98E-01	4.64E-02	4.94E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.98E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-07
Adult	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Adult	**Total**	**1.31E-01**	**5.62E-02**	**1.02E-02**	**5.29E-03**	**1.62E-03**	**1.51E-02**	**1.99E+00**	**1.28E+00**	**3.99E-01**	**3.89E+00**
Child	Carbon-14	4.24E-04	3.42E-07	2.19E-06	9.27E-08	4.94E-11	2.45E-05	1.78E+00	1.17E+00	3.74E-01	3.33E+00
Child	Cobalt-60	5.18E-07	1.38E-08	0.00E+00	3.41E-05	1.62E-03	1.44E-03	9.59E-04	3.81E-05	1.05E-05	4.10E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.07E-03	0.00E+00	3.06E-03	1.79E-02
Child	Tritium oxide	1.57E-01	0.00E+00	5.08E-03	4.38E-03	0.00E+00	0.00E+00	3.97E-03	3.18E-01	3.99E-02	5.28E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.98E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-07
Child	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Child	**Total**	**1.57E-01**	**5.62E-02**	**5.08E-03**	**4.41E-03**	**1.62E-03**	**1.52E-02**	**1.79E+00**	**1.49E+00**	**4.17E-01**	**3.93E+00**
Infant	Carbon-14	2.90E-04	3.42E-07	0.00E+00	1.65E-11	8.38E-11	5.37E-05	1.22E+00	1.21E+00	5.92E-01	3.02E+00
Infant	Cobalt-60	3.80E-07	1.79E-08	0.00E+00	0.00E+00	2.11E-03	1.88E-03	8.02E-04	3.98E-05	1.91E-05	4.85E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	4.39E-04	0.00E+00	1.20E-03	1.95E-02
Infant	Tritium oxide	1.07E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	2.79E-03	2.93E-01	5.95E-02	4.62E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.60E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.11E-07
Infant	Noble Gases	0.00E+00	7.27E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-02
Infant	**Total**	**1.07E-01**	**7.27E-02**	**0.00E+00**	**7.74E-05**	**2.11E-03**	**1.98E-02**	**1.22E+00**	**1.50E+00**	**6.53E-01**	**3.58E+00**

Note:

1. All doses reported in units of microsieverts per year.

2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.

3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 72 – Dose to Representative Persons Located at BDF9

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	1.83E-04	2.11E-07	2.52E-06	9.27E-08	0.00E+00	2.10E-06	9.93E-01	2.18E-01	2.03E-01	1.41E+00
Adult	Cobalt-60	3.63E-07	1.38E-08	0.00E+00	3.41E-05	1.37E-03	1.43E-03	2.28E-04	7.97E-06	2.95E-06	3.07E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.07E-03	0.00E+00	1.40E-02	2.88E-02
Adult	Tritium oxide	1.30E-01	0.00E+00	1.05E-02	5.26E-03	0.00E+00	0.00E+00	2.23E-03	2.72E-01	4.59E-02	4.66E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.91E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.06E-07
Adult	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Adult	**Total**	**1.30E-01**	**5.62E-02**	**1.05E-02**	**5.29E-03**	**1.37E-03**	**1.51E-02**	**9.97E-01**	**4.89E-01**	**2.63E-01**	**1.97E+00**
Child	Carbon-14	2.62E-04	2.11E-07	1.38E-06	9.27E-08	0.00E+00	2.45E-05	8.92E-01	2.32E-01	1.96E-01	1.32E+00
Child	Cobalt-60	5.18E-07	1.38E-08	0.00E+00	3.41E-05	1.37E-03	1.44E-03	4.79E-04	1.93E-05	6.83E-06	3.34E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.37E-04	0.00E+00	3.06E-03	1.73E-02
Child	Tritium oxide	1.57E-01	0.00E+00	5.21E-03	4.38E-03	0.00E+00	0.00E+00	1.98E-03	2.68E-01	3.80E-02	4.75E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.92E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-07
Child	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Child	**Total**	**1.57E-01**	**5.62E-02**	**5.21E-03**	**4.41E-03**	**1.37E-03**	**1.52E-02**	**8.95E-01**	**5.00E-01**	**2.37E-01**	**1.87E+00**
Infant	Carbon-14	1.78E-04	2.11E-07	0.00E+00	1.02E-11	0.00E+00	5.37E-05	6.08E-01	1.96E-01	2.84E-01	1.09E+00
Infant	Cobalt-60	3.80E-07	1.79E-08	0.00E+00	0.00E+00	1.78E-03	1.88E-03	4.01E-04	2.05E-05	1.21E-05	4.09E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	2.20E-04	0.00E+00	1.20E-03	1.93E-02
Infant	Tritium oxide	1.07E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	1.40E-03	2.64E-01	5.63E-02	4.28E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.52E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.10E-07
Infant	Noble Gases	0.00E+00	7.27E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-02
Infant	**Total**	**1.07E-01**	**7.27E-02**	**0.00E+00**	**7.74E-05**	**1.78E-03**	**1.98E-02**	**6.10E-01**	**4.60E-01**	**3.41E-01**	**1.61E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 73 – Dose to Representative Persons Located at BDF12

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	4.65E-04	5.34E-07	6.38E-06	9.27E-08	1.27E-11	2.10E-06	9.93E-01	7.21E-01	4.82E-01	2.20E+00
Adult	Cobalt-60	7.26E-07	2.75E-08	0.00E+00	3.41E-05	3.40E-03	1.43E-03	2.28E-04	1.94E-05	7.15E-06	5.12E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.07E-03	0.00E+00	1.40E-02	2.88E-02
Adult	Tritium oxide	2.68E-01	0.00E+00	1.05E-02	5.26E-03	0.00E+00	0.00E+00	2.23E-03	2.37E-01	5.27E-02	5.75E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	2.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-07
Adult	Noble Gases	0.00E+00	1.13E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-01
Adult	**Total**	**2.68E-01**	**1.13E-01**	**1.05E-02**	**5.29E-03**	**3.40E-03**	**1.51E-02**	**9.97E-01**	**9.57E-01**	**5.48E-01**	**2.92E+00**
Child	Carbon-14	6.63E-04	5.34E-07	3.50E-06	9.27E-08	2.71E-11	2.45E-05	8.92E-01	8.58E-01	4.72E-01	2.22E+00
Child	Cobalt-60	1.04E-06	2.75E-08	0.00E+00	3.41E-05	3.40E-03	1.44E-03	4.79E-04	4.69E-05	1.65E-05	5.42E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.37E-04	0.00E+00	3.06E-03	1.73E-02
Child	Tritium oxide	3.23E-01	0.00E+00	5.21E-03	4.38E-03	0.00E+00	0.00E+00	1.98E-03	2.42E-01	4.31E-02	6.19E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	2.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-07
Child	Noble Gases	0.00E+00	1.13E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-01
Child	**Total**	**3.23E-01**	**1.13E-01**	**5.22E-03**	**4.41E-03**	**3.40E-03**	**1.52E-02**	**8.95E-01**	**1.10E+00**	**5.18E-01**	**2.98E+00**
Infant	Carbon-14	4.53E-04	5.34E-07	0.00E+00	2.58E-11	4.60E-11	5.37E-05	6.08E-01	9.02E-01	7.00E-01	2.21E+00
Infant	Cobalt-60	7.59E-07	3.58E-08	0.00E+00	0.00E+00	4.42E-03	1.88E-03	4.01E-04	4.98E-05	2.93E-05	6.79E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	2.20E-04	0.00E+00	1.20E-03	1.93E-02
Infant	Tritium oxide	2.20E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	1.40E-03	2.24E-01	6.14E-02	5.07E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.62E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.11E-07
Infant	Noble Gases	0.00E+00	1.47E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-01
Infant	**Total**	**2.20E-01**	**1.47E-01**	**0.00E+00**	**7.74E-05**	**4.42E-03**	**1.98E-02**	**6.10E-01**	**1.13E+00**	**7.62E-01**	**2.89E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 74 – Dose to Representative Persons Located at BDF13

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	1.88E-04	2.16E-07	2.58E-06	9.27E-08	0.00E+00	2.10E-06	9.93E-01	5.68E-01	1.65E-01	1.73E+00
Adult	Cobalt-60	3.63E-07	1.38E-08	0.00E+00	3.41E-05	1.06E-03	1.43E-03	2.28E-04	6.40E-06	1.89E-06	2.76E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.07E-03	0.00E+00	1.40E-02	2.88E-02
Adult	Tritium oxide	1.30E-01	0.00E+00	1.05E-02	5.26E-03	0.00E+00	0.00E+00	2.23E-03	1.87E-01	4.23E-02	3.78E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.84E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-07
Adult	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Adult	**Total**	**1.30E-01**	**5.62E-02**	**1.05E-02**	**5.29E-03**	**1.06E-03**	**1.51E-02**	**9.97E-01**	**7.55E-01**	**2.21E-01**	**2.19E+00**
Child	Carbon-14	2.68E-04	2.16E-07	1.41E-06	9.27E-08	0.00E+00	2.45E-05	8.92E-01	6.77E-01	9.35E-02	1.66E+00
Child	Cobalt-60	5.18E-07	1.38E-08	0.00E+00	3.41E-05	1.06E-03	1.44E-03	4.79E-04	1.55E-05	2.61E-06	3.03E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.37E-04	0.00E+00	3.06E-03	1.73E-02
Child	Tritium oxide	1.57E-01	0.00E+00	5.21E-03	4.38E-03	0.00E+00	0.00E+00	1.98E-03	1.90E-01	2.96E-02	3.88E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.84E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.23E-07
Child	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Child	**Total**	**1.57E-01**	**5.62E-02**	**5.21E-03**	**4.41E-03**	**1.06E-03**	**1.52E-02**	**8.95E-01**	**8.66E-01**	**1.26E-01**	**2.13E+00**
Infant	Carbon-14	1.83E-04	2.16E-07	0.00E+00	1.04E-11	0.00E+00	5.37E-05	6.08E-01	7.59E-01	6.25E-02	1.43E+00
Infant	Cobalt-60	3.80E-07	1.79E-08	0.00E+00	0.00E+00	1.38E-03	1.88E-03	4.01E-04	1.64E-05	2.22E-06	3.69E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	2.20E-04	0.00E+00	1.20E-03	1.93E-02
Infant	Tritium oxide	1.07E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	1.40E-03	1.80E-01	3.75E-02	3.26E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.42E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-07
Infant	Noble Gases	0.00E+00	7.27E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-02
Infant	**Total**	**1.07E-01**	**7.27E-02**	**0.00E+00**	**7.74E-05**	**1.38E-03**	**1.98E-02**	**6.10E-01**	**9.40E-01**	**1.01E-01**	**1.85E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 75 – Dose to Representative Persons Located at BDF14

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	1.62E-04	1.87E-07	2.23E-06	9.27E-08	0.00E+00	2.10E-06	9.93E-01	1.97E-01	1.82E-01	1.37E+00
Adult	Cobalt-60	3.63E-07	1.38E-08	0.00E+00	3.41E-05	8.82E-04	1.43E-03	2.28E-04	5.45E-06	2.05E-06	2.58E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.07E-03	0.00E+00	1.40E-02	2.88E-02
Adult	Tritium oxide	1.30E-01	0.00E+00	1.05E-02	5.26E-03	0.00E+00	0.00E+00	2.23E-03	2.72E-01	4.29E-02	4.63E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.79E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-07
Adult	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Adult	**Total**	**1.30E-01**	**5.62E-02**	**1.05E-02**	**5.29E-03**	**8.82E-04**	**1.51E-02**	**9.97E-01**	**4.69E-01**	**2.39E-01**	**1.92E+00**
Child	Carbon-14	2.32E-04	1.87E-07	1.22E-06	9.27E-08	0.00E+00	2.45E-05	8.92E-01	2.11E-01	1.76E-01	1.28E+00
Child	Cobalt-60	5.18E-07	1.38E-08	0.00E+00	3.41E-05	8.82E-04	1.44E-03	4.79E-04	1.32E-05	4.74E-06	2.85E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.37E-04	0.00E+00	3.06E-03	1.73E-02
Child	Tritium oxide	1.57E-01	0.00E+00	5.21E-03	4.38E-03	0.00E+00	0.00E+00	1.98E-03	2.68E-01	3.11E-02	4.68E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.80E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.22E-07
Child	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Child	**Total**	**1.57E-01**	**5.62E-02**	**5.21E-03**	**4.41E-03**	**8.82E-04**	**1.52E-02**	**8.95E-01**	**4.79E-01**	**2.10E-01**	**1.82E+00**
Infant	Carbon-14	1.58E-04	1.87E-07	0.00E+00	9.01E-12	0.00E+00	5.37E-05	6.08E-01	1.81E-01	2.52E-01	1.04E+00
Infant	Cobalt-60	3.80E-07	1.79E-08	0.00E+00	0.00E+00	1.15E-03	1.88E-03	4.01E-04	1.40E-05	8.46E-06	3.45E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	2.20E-04	0.00E+00	1.20E-03	1.93E-02
Infant	Tritium oxide	1.07E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	1.40E-03	2.64E-01	4.07E-02	4.13E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.36E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.08E-07
Infant	Noble Gases	0.00E+00	7.27E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-02
Infant	**Total**	**1.07E-01**	**7.27E-02**	**0.00E+00**	**7.74E-05**	**1.15E-03**	**1.98E-02**	**6.10E-01**	**4.45E-01**	**2.94E-01**	**1.55E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 76 – Dose to Representative Persons Located at BDF15

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	1.75E-04	2.01E-07	2.40E-06	9.27E-08	0.00E+00	2.10E-06	9.93E-01	2.09E-01	1.94E-01	1.40E+00
Adult	Cobalt-60	3.63E-07	1.38E-08	0.00E+00	3.41E-05	1.05E-03	1.43E-03	2.28E-04	6.33E-06	2.36E-06	2.75E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.07E-03	0.00E+00	1.40E-02	2.88E-02
Adult	Tritium oxide	1.30E-01	0.00E+00	1.05E-02	5.26E-03	0.00E+00	0.00E+00	2.23E-03	2.72E-01	4.29E-02	4.63E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.84E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-07
Adult	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Adult	**Total**	**1.30E-01**	**5.62E-02**	**1.05E-02**	**5.29E-03**	**1.05E-03**	**1.51E-02**	**9.97E-01**	**4.81E-01**	**2.51E-01**	**1.95E+00**
Child	Carbon-14	2.49E-04	2.01E-07	1.32E-06	9.27E-08	0.00E+00	2.45E-05	8.92E-01	2.23E-01	1.88E-01	1.30E+00
Child	Cobalt-60	5.18E-07	1.38E-08	0.00E+00	3.41E-05	1.05E-03	1.44E-03	4.79E-04	1.53E-05	5.47E-06	3.02E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.37E-04	0.00E+00	3.06E-03	1.73E-02
Child	Tritium oxide	1.57E-01	0.00E+00	5.21E-03	4.38E-03	0.00E+00	0.00E+00	1.98E-03	2.68E-01	3.12E-02	4.68E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.84E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.23E-07
Child	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Child	**Total**	**1.57E-01**	**5.62E-02**	**5.21E-03**	**4.41E-03**	**1.05E-03**	**1.52E-02**	**8.95E-01**	**4.91E-01**	**2.22E-01**	**1.85E+00**
Infant	Carbon-14	1.70E-04	2.01E-07	0.00E+00	9.70E-12	0.00E+00	5.37E-05	6.08E-01	1.90E-01	2.71E-01	1.07E+00
Infant	Cobalt-60	3.80E-07	1.79E-08	0.00E+00	0.00E+00	1.37E-03	1.88E-03	4.01E-04	1.63E-05	9.74E-06	3.68E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	2.20E-04	0.00E+00	1.20E-03	1.93E-02
Infant	Tritium oxide	1.07E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	1.40E-03	2.64E-01	4.10E-02	4.13E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.41E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.09E-07
Infant	Noble Gases	0.00E+00	7.27E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-02
Infant	**Total**	**1.07E-01**	**7.27E-02**	**0.00E+00**	**7.74E-05**	**1.37E-03**	**1.98E-02**	**6.10E-01**	**4.54E-01**	**3.13E-01**	**1.58E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 77 – Dose to Representative Persons Located at BDF17

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	4.65E-04	5.34E-07	6.38E-06	9.27E-08	1.27E-11	2.10E-06	9.93E-01	7.58E-01	4.82E-01	2.23E+00
Adult	Cobalt-60	7.26E-07	2.75E-08	0.00E+00	3.41E-05	3.08E-03	1.43E-03	2.28E-04	1.77E-05	6.54E-06	4.79E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.07E-03	0.00E+00	1.40E-02	2.88E-02
Adult	Tritium oxide	2.68E-01	0.00E+00	1.05E-02	5.26E-03	0.00E+00	0.00E+00	2.23E-03	4.83E-01	5.05E-02	8.19E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.96E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-07
Adult	Noble Gases	0.00E+00	1.13E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-01
Adult	**Total**	**2.68E-01**	**1.13E-01**	**1.05E-02**	**5.29E-03**	**3.08E-03**	**1.51E-02**	**9.97E-01**	**1.24E+00**	**5.46E-01**	**3.20E+00**
Child	Carbon-14	6.63E-04	5.34E-07	3.50E-06	9.27E-08	2.71E-11	2.45E-05	8.92E-01	7.64E-01	4.72E-01	2.13E+00
Child	Cobalt-60	1.04E-06	2.75E-08	0.00E+00	3.41E-05	3.08E-03	1.44E-03	4.79E-04	4.28E-05	1.51E-05	5.08E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.37E-04	0.00E+00	3.06E-03	1.73E-02
Child	Tritium oxide	3.23E-01	0.00E+00	5.21E-03	4.38E-03	0.00E+00	0.00E+00	1.98E-03	4.38E-01	3.81E-02	8.11E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.96E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-07
Child	Noble Gases	0.00E+00	1.13E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.13E-01
Child	**Total**	**3.23E-01**	**1.13E-01**	**5.22E-03**	**4.41E-03**	**3.08E-03**	**1.52E-02**	**8.95E-01**	**1.20E+00**	**5.13E-01**	**3.07E+00**
Infant	Carbon-14	4.53E-04	5.34E-07	0.00E+00	2.58E-11	4.60E-11	5.37E-05	6.08E-01	6.49E-01	7.00E-01	1.96E+00
Infant	Cobalt-60	7.59E-07	3.58E-08	0.00E+00	0.00E+00	4.00E-03	1.88E-03	4.01E-04	4.55E-05	2.68E-05	6.36E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	2.20E-04	0.00E+00	1.20E-03	1.93E-02
Infant	Tritium oxide	2.20E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	1.40E-03	3.93E-01	5.00E-02	6.64E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.57E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.10E-07
Infant	Noble Gases	0.00E+00	1.47E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.47E-01
Infant	**Total**	**2.20E-01**	**1.47E-01**	**0.00E+00**	**7.74E-05**	**4.00E-03**	**1.98E-02**	**6.10E-01**	**1.04E+00**	**7.51E-01**	**2.79E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 78 – Dose to Representative Persons Located at BDF18

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	4.69E-04	5.39E-07	6.44E-06	9.27E-08	1.27E-11	2.10E-06	9.93E-01	7.61E-01	4.86E-01	2.24E+00
Adult	Cobalt-60	1.29E-06	4.90E-08	0.00E+00	3.41E-05	6.02E-03	1.43E-03	2.28E-04	3.43E-05	1.27E-05	7.76E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.07E-03	0.00E+00	1.40E-02	2.88E-02
Adult	Tritium oxide	4.84E-01	0.00E+00	1.05E-02	5.26E-03	0.00E+00	0.00E+00	2.23E-03	5.61E-01	1.84E-01	1.25E+00
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.99E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-07
Adult	Noble Gases	0.00E+00	2.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.01E-01
Adult	**Total**	**4.84E-01**	**2.01E-01**	**1.05E-02**	**5.29E-03**	**6.02E-03**	**1.51E-02**	**9.97E-01**	**1.32E+00**	**6.83E-01**	**3.72E+00**
Child	Carbon-14	6.69E-04	5.39E-07	3.54E-06	9.27E-08	2.71E-11	2.45E-05	8.92E-01	7.67E-01	4.76E-01	2.14E+00
Child	Cobalt-60	1.84E-06	4.90E-08	0.00E+00	3.41E-05	6.02E-03	1.44E-03	4.79E-04	8.30E-05	2.93E-05	8.09E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.37E-04	0.00E+00	3.06E-03	1.73E-02
Child	Tritium oxide	5.83E-01	0.00E+00	5.21E-03	4.38E-03	0.00E+00	0.00E+00	1.98E-03	5.20E-01	3.24E-01	1.44E+00
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	2.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-07
Child	Noble Gases	0.00E+00	2.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.01E-01
Child	**Total**	**5.84E-01**	**2.01E-01**	**5.22E-03**	**4.41E-03**	**6.02E-03**	**1.52E-02**	**8.95E-01**	**1.29E+00**	**8.03E-01**	**3.80E+00**
Infant	Carbon-14	4.57E-04	5.39E-07	0.00E+00	2.61E-11	4.60E-11	5.37E-05	6.08E-01	6.51E-01	7.06E-01	1.97E+00
Infant	Cobalt-60	1.35E-06	6.37E-08	0.00E+00	0.00E+00	7.83E-03	1.88E-03	4.01E-04	8.82E-05	5.19E-05	1.03E-02
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	2.20E-04	0.00E+00	1.20E-03	1.93E-02
Infant	Tritium oxide	3.97E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	1.40E-03	4.62E-01	6.85E-01	1.55E+00
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.62E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.11E-07
Infant	Noble Gases	0.00E+00	2.61E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.61E-01
Infant	**Total**	**3.97E-01**	**2.61E-01**	**0.00E+00**	**7.74E-05**	**7.83E-03**	**1.98E-02**	**6.10E-01**	**1.11E+00**	**1.39E+00**	**3.80E+00**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 79 – Dose to Representative Persons Located at BHF1

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	6.07E-05	6.98E-08	1.76E-03	3.76E-08	1.15E-08	2.31E-07	2.94E-01	5.11E-02	3.03E-02	3.77E-01
Adult	Cobalt-60	9.46E-08	3.59E-09	6.00E-05	1.95E-05	2.14E-03	1.43E-03	9.50E-05	9.54E-06	3.03E-06	3.76E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.90E-03	0.00E+00	0.00E+00	1.65E-02
Adult	Tritium oxide	2.86E-02	0.00E+00	6.19E-02	2.10E-03	0.00E+00	0.00E+00	9.60E-04	5.69E-02	1.53E-02	1.66E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.80E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-07
Adult	Noble Gases	0.00E+00	1.50E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-02
Adult	**Total**	**2.86E-02**	**1.50E-02**	**6.37E-02**	**2.12E-03**	**2.14E-03**	**1.51E-02**	**2.98E-01**	**1.08E-01**	**4.56E-02**	**5.78E-01**
Child	Carbon-14	8.66E-05	6.98E-08	9.65E-04	3.76E-08	2.46E-08	2.68E-06	2.64E-01	5.61E-02	2.75E-02	3.48E-01
Child	Cobalt-60	1.35E-07	3.59E-09	7.72E-05	1.95E-05	2.14E-03	1.44E-03	2.00E-04	2.35E-05	5.79E-06	3.90E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.45E-03	0.00E+00	0.00E+00	1.52E-02
Child	Tritium oxide	3.44E-02	0.00E+00	3.08E-02	1.75E-03	0.00E+00	0.00E+00	8.34E-04	5.24E-02	1.73E-02	1.38E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.80E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.22E-07
Child	Noble Gases	0.00E+00	1.50E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-02
Child	**Total**	**3.45E-02**	**1.50E-02**	**3.18E-02**	**1.77E-03**	**2.14E-03**	**1.52E-02**	**2.66E-01**	**1.09E-01**	**4.49E-02**	**5.20E-01**
Infant	Carbon-14	5.91E-05	6.98E-08	0.00E+00	7.12E-09	4.17E-08	5.89E-06	1.79E-01	4.57E-02	3.62E-02	2.61E-01
Infant	Cobalt-60	9.89E-08	4.67E-09	0.00E+00	4.78E-06	2.79E-03	1.88E-03	1.67E-04	2.52E-05	7.65E-06	4.87E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	5.90E-04	0.00E+00	0.00E+00	1.85E-02
Infant	Tritium oxide	2.34E-02	0.00E+00	0.00E+00	4.57E-04	0.00E+00	0.00E+00	5.89E-04	4.99E-02	2.94E-02	1.04E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.37E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.08E-07
Infant	Noble Gases	0.00E+00	1.94E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-02
Infant	**Total**	**2.35E-02**	**1.94E-02**	**0.00E+00**	**4.62E-04**	**2.79E-03**	**1.98E-02**	**1.81E-01**	**9.56E-02**	**6.56E-02**	**4.08E-01**

Note:

1. All doses reported in units of microsieverts per year.
2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 80 – Dose to Representative Persons Located at BEC

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	1.07E-04	1.23E-07	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.07E-04
Adult	Cobalt-60	1.67E-07	6.33E-09	0.00E+00	0.00E+00	8.60E-04	0.00E+00	0.00E+00	0.00E+00	0.00E+00	8.61E-04
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Tritium oxide	6.16E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	6.16E-02
Adult	Iodine, mixed fission products	4.03E-08	2.71E-09	0.00E+00	0.00E+00	4.68E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.77E-08
Adult	Noble Gases	0.00E+00	2.60E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.60E-02
Adult	**Total**	**6.17E-02**	**2.60E-02**	**0.00E+00**	**0.00E+00**	**8.60E-04**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**0.00E+00**	**8.86E-02**

Note:

1. All doses reported in units of microsieverts per year.

2. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.

3. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 81 – Sensitivity Case – Dose to Representative Persons Located at BSF3

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	2.97E-04	3.42E-07	3.98E-06	9.27E-08	2.31E-11	2.10E-06	1.33E-01	9.79E-01	3.38E-01	1.45E+00
Adult	Cobalt-60	3.63E-07	1.38E-08	0.00E+00	3.41E-05	1.62E-03	1.43E-03	4.55E-04	1.49E-05	4.03E-06	3.55E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.15E-03	0.00E+00	1.40E-02	2.98E-02
Adult	Tritium oxide	1.30E-01	0.00E+00	1.02E-02	5.26E-03	0.00E+00	0.00E+00	4.47E-03	2.98E-01	4.64E-02	4.94E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.98E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-07
Adult	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Adult	**Total**	**1.31E-01**	**5.62E-02**	**1.02E-02**	**5.29E-03**	**1.62E-03**	**1.51E-02**	**1.40E-01**	**1.28E+00**	**3.99E-01**	**2.03E+00**
Child	Carbon-14	4.24E-04	3.42E-07	2.19E-06	9.27E-08	4.94E-11	2.45E-05	1.20E-01	1.17E+00	3.74E-01	1.66E+00
Child	Cobalt-60	5.18E-07	1.38E-08	0.00E+00	3.41E-05	1.62E-03	1.44E-03	9.59E-04	3.81E-05	1.05E-05	4.10E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.07E-03	0.00E+00	3.06E-03	1.79E-02
Child	Tritium oxide	1.57E-01	0.00E+00	5.08E-03	4.38E-03	0.00E+00	0.00E+00	3.97E-03	3.18E-01	3.99E-02	5.28E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.98E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-07
Child	Noble Gases	0.00E+00	5.62E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.62E-02
Child	**Total**	**1.57E-01**	**5.62E-02**	**5.08E-03**	**4.41E-03**	**1.62E-03**	**1.52E-02**	**1.26E-01**	**1.49E+00**	**4.17E-01**	**2.27E+00**
Infant	Carbon-14	2.90E-04	3.42E-07	0.00E+00	1.65E-11	8.38E-11	5.37E-05	8.16E-02	1.21E+00	5.92E-01	1.88E+00
Infant	Cobalt-60	3.80E-07	1.79E-08	0.00E+00	0.00E+00	2.11E-03	1.88E-03	8.02E-04	3.98E-05	1.91E-05	4.85E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	4.39E-04	0.00E+00	1.20E-03	1.95E-02
Infant	Tritium oxide	1.07E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	2.79E-03	2.93E-01	5.95E-02	4.62E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.60E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.11E-07
Infant	Noble Gases	0.00E+00	7.27E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	7.27E-02
Infant	**Total**	**1.07E-01**	**7.27E-02**	**0.00E+00**	**7.74E-05**	**2.11E-03**	**1.98E-02**	**8.56E-02**	**1.50E+00**	**6.53E-01**	**2.44E+00**

Note:

1. Sensitivity case uses measured average carbon-14 in near-field fish in 2025 with all other parameters unchanged.
2. All doses reported in units of microsieverts per year.
3. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
4. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 82 – Sensitivity Case – Dose to Representative Persons Located at BDF18

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	4.69E-04	5.39E-07	6.44E-06	9.27E-08	1.27E-11	2.10E-06	6.67E-02	7.61E-01	4.86E-01	1.31E+00
Adult	Cobalt-60	1.29E-06	4.90E-08	0.00E+00	3.41E-05	6.02E-03	1.43E-03	2.28E-04	3.43E-05	1.27E-05	7.76E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.07E-03	0.00E+00	1.40E-02	2.88E-02
Adult	Tritium oxide	4.84E-01	0.00E+00	1.05E-02	5.26E-03	0.00E+00	0.00E+00	2.23E-03	5.61E-01	1.84E-01	1.25E+00
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.99E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.07E-07
Adult	Noble Gases	0.00E+00	2.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.01E-01
Adult	**Total**	**4.84E-01**	**2.01E-01**	**1.05E-02**	**5.29E-03**	**6.02E-03**	**1.51E-02**	**7.02E-02**	**1.32E+00**	**6.83E-01**	**2.80E+00**
Child	Carbon-14	6.69E-04	5.39E-07	3.54E-06	9.27E-08	2.71E-11	2.45E-05	5.98E-02	7.67E-01	4.76E-01	1.30E+00
Child	Cobalt-60	1.84E-06	4.90E-08	0.00E+00	3.41E-05	6.02E-03	1.44E-03	4.79E-04	8.30E-05	2.93E-05	8.09E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	5.37E-04	0.00E+00	3.06E-03	1.73E-02
Child	Tritium oxide	5.83E-01	0.00E+00	5.21E-03	4.38E-03	0.00E+00	0.00E+00	1.98E-03	5.20E-01	3.24E-01	1.44E+00
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	2.00E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.24E-07
Child	Noble Gases	0.00E+00	2.01E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.01E-01
Child	**Total**	**5.84E-01**	**2.01E-01**	**5.22E-03**	**4.41E-03**	**6.02E-03**	**1.52E-02**	**6.28E-02**	**1.29E+00**	**8.03E-01**	**2.97E+00**
Infant	Carbon-14	4.57E-04	5.39E-07	0.00E+00	2.61E-11	4.60E-11	5.37E-05	4.08E-02	6.51E-01	7.06E-01	1.40E+00
Infant	Cobalt-60	1.35E-06	6.37E-08	0.00E+00	0.00E+00	7.83E-03	1.88E-03	4.01E-04	8.82E-05	5.19E-05	1.03E-02
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	2.20E-04	0.00E+00	1.20E-03	1.93E-02
Infant	Tritium oxide	3.97E-01	0.00E+00	0.00E+00	7.74E-05	0.00E+00	0.00E+00	1.40E-03	4.62E-01	6.85E-01	1.55E+00
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.62E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.11E-07
Infant	Noble Gases	0.00E+00	2.61E-01	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.61E-01
Infant	**Total**	**3.97E-01**	**2.61E-01**	**0.00E+00**	**7.74E-05**	**7.83E-03**	**1.98E-02**	**4.28E-02**	**1.11E+00**	**1.39E+00**	**3.23E+00**

Note:

1. Sensitivity case uses measured average carbon-14 in near-field fish in 2025 with all other parameters unchanged.
2. All doses reported in units of microsieverts per year.
3. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
4. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal products.

Table 83 – Sensitivity Case – Dose to Representative Persons Located at BHF1

Age Class	Radionuclide	Air Inhalation	Air Immersion	Water Ingestion	Water Immersion	Soil (ingestion and external)	Sediment (ingestion and external)	Fish Ingestion	Plant Ingestion	Animal Ingestion	Total
Adult	Carbon-14	6.07E-05	6.98E-08	1.76E-03	3.76E-08	1.15E-08	2.31E-07	1.80E-01	5.11E-02	3.03E-02	2.63E-01
Adult	Cobalt-60	9.46E-08	3.59E-09	6.00E-05	1.95E-05	2.14E-03	1.43E-03	9.50E-05	9.54E-06	3.03E-06	3.76E-03
Adult	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Adult	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	2.90E-03	0.00E+00	0.00E+00	1.65E-02
Adult	Tritium oxide	2.86E-02	0.00E+00	6.19E-02	2.10E-03	0.00E+00	0.00E+00	9.60E-04	5.69E-02	1.53E-02	1.66E-01
Adult	Iodine, mixed fission products	1.75E-07	1.18E-08	0.00E+00	0.00E+00	1.80E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	2.05E-07
Adult	Noble Gases	0.00E+00	1.50E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-02
Adult	**Total**	**2.86E-02**	**1.50E-02**	**6.37E-02**	**2.12E-03**	**2.14E-03**	**1.51E-02**	**1.84E-01**	**1.08E-01**	**4.56E-02**	**4.64E-01**
Child	Carbon-14	8.66E-05	6.98E-08	9.65E-04	3.76E-08	2.46E-08	2.68E-06	1.61E-01	5.61E-02	2.75E-02	2.46E-01
Child	Cobalt-60	1.35E-07	3.59E-09	7.72E-05	1.95E-05	2.14E-03	1.44E-03	2.00E-04	2.35E-05	5.79E-06	3.90E-03
Child	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Child	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.37E-02	1.45E-03	0.00E+00	0.00E+00	1.52E-02
Child	Tritium oxide	3.44E-02	0.00E+00	3.08E-02	1.75E-03	0.00E+00	0.00E+00	8.34E-04	5.24E-02	1.73E-02	1.38E-01
Child	Iodine, mixed fission products	3.93E-07	1.18E-08	0.00E+00	0.00E+00	1.80E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	4.22E-07
Child	Noble Gases	0.00E+00	1.50E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.50E-02
Child	**Total**	**3.45E-02**	**1.50E-02**	**3.18E-02**	**1.77E-03**	**2.14E-03**	**1.52E-02**	**1.64E-01**	**1.09E-01**	**4.49E-02**	**4.18E-01**
Infant	Carbon-14	5.91E-05	6.98E-08	0.00E+00	7.12E-09	4.17E-08	5.89E-06	1.10E-01	4.57E-02	3.62E-02	1.92E-01
Infant	Cobalt-60	9.89E-08	4.67E-09	0.00E+00	4.78E-06	2.79E-03	1.88E-03	1.67E-04	2.52E-05	7.65E-06	4.87E-03
Infant	Cesium-134	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Infant	Cesium-137	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.79E-02	5.90E-04	0.00E+00	0.00E+00	1.85E-02
Infant	Tritium oxide	2.34E-02	0.00E+00	0.00E+00	4.57E-04	0.00E+00	0.00E+00	5.89E-04	4.99E-02	2.94E-02	1.04E-01
Infant	Iodine, mixed fission products	4.69E-07	1.53E-08	0.00E+00	0.00E+00	2.37E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	5.08E-07
Infant	Noble Gases	0.00E+00	1.94E-02	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	1.94E-02
Infant	**Total**	**2.35E-02**	**1.94E-02**	**0.00E+00**	**4.62E-04**	**2.79E-03**	**1.98E-02**	**1.11E-01**	**9.56E-02**	**6.56E-02**	**3.38E-01**

Note:

1. Sensitivity case uses measured average carbon-14 in near-field fish in 2025 with all other parameters unchanged.
2. All doses reported in units of microsieverts per year.
3. Dose associated with cesium-137 includes dose due to external exposure to progeny of cesium-137 in air, water, soil, and sediment.
4. Dose associated with tritium oxide includes dose incurred via ingestion of organically bound tritium in fish, plant produce and animal product.

APPENDIX D: RADIOLOGICAL ENVIRONMENTAL MONITORING PROFICIENCY TESTING

As explained in Section 5.1.6.4, acceptance criteria for the Eckert & Ziegler Analytics Proficiency Testing are:

$$\frac{(V_L + 1\sigma_L)}{V_A} \geq 0.75 \text{ AND } \frac{(V_L - 1\sigma_L)}{V_A} \leq 1.2$$

Where:

V_L = Bruce Power Health Physics Laboratory value

σ_L = S_L, Bruce Power Health Physics Laboratory one sigma uncertainty value

V_A = Analytics Supplier value

All results met the acceptance criteria for 2025.

Table 84 – 2025 Eckert & Ziegler Analytics Test Results for Tritium in Water

Quarter	Bruce Power Value V_L (Bq/L)	1 Standard Deviation (S_L)	Eckert & Ziegler Analytics Value V_A (Bq/L)	$(V_L+S_L)/V_A$	$(V_L-S_L)/V_A$
1	3.00E+02	6.84E+00	3.05E+02	101%	96%
2	1.64E+01	1.14E+00	1.72E+01	102%	89%
3	3.72E+02	1.62E+01	3.77E+02	103%	94%
4	4.44E+02	7.36E+00	4.41E+02	102%	99%

Table 85 – 2025 Eckert & Ziegler Analytics Test Results for Gross Beta in Water

Quarter	Bruce Power Value V_L (Bq/L)	1 Standard Deviation (S_L)	Eckert & Ziegler Analytics Value V_A (Bq/L)	$(V_L+S_L)/V_A$	$(V_L-S_L)/V_A$
1	7.96E+00	1.14E+00	8.99E+00	101%	76%
2	7.74E+00	3.69E-01	7.55E+00	107%	98%
3	6.92E+00	3.30E-01	6.66E+00	109%	99%
4	9.40E+00	1.55E-01	9.31E+00	103%	99%

Table 86 – 2025 Eckert & Ziegler Analytics Test Results for Gamma in a Filter

Radionuclide	Bruce Power Value V_L (Bq)	1 Standard Deviation (S_L)	Eckert & Ziegler Analytics Value V_A (Bq)	$(V_L+S_L)/V_A$	$(V_L-S_L)/V_A$
Cerium-141	2.02E+00	3.18E-01	1.94E+00	121%	88%
Cobalt-58	2.59E+00	1.53E-01	2.69E+00	102%	91%
Cobalt-60	4.99E+00	1.95E-01	4.94E+00	105%	97%
Chromium-51	7.74E+00	9.66E-01	7.46E+00	117%	91%
Cesium-134	3.49E+00	1.64E-01	3.65E+00	100%	91%
Cesium-137	4.32E+00	2.62E-01	4.30E+00	107%	94%
Iron-59	3.35E+00	2.60E-01	3.45E+00	105%	90%
Manganese-54	4.98E+00	3.24E-01	4.84E+00	110%	96%
Zinc-65	6.29E+00	4.23E-02	6.42E+00	99%	97%

Table 87 – 2025 Eckert & Ziegler Analytics Test Results for Iodine-131 in a Cartridge

Radionuclide	Bruce Power Value V_L (Bq)	1 Standard Deviation (S_L)	Eckert & Ziegler Analytics Value V_A (Bq)	$(V_L+S_L)/V_A$	$(V_L-S_L)/V_A$
Iodine-131	2.18E+00	1.04E-01	2.92E+00	78%	71%

Table 88 – 2025 Eckert & Ziegler Analytics Test Results for Gamma in Milk

Quarter	Radionuclide	Bruce Power Value V_L (Bq/L)	1 Standard Deviation (S_L)	Eckert & Ziegler Analytics Value V_A (Bq/L)	$(V_L+S_L)/V_A$	$(V_L-S_L)/V_A$
1	Cerium-141	2.69E+00	1.72E-01	2.80E+00	102%	90%
1	Cobalt-58	3.65E+00	1.24E-01	3.89E+00	97%	91%
1	Cobalt-60	6.67E+00	2.01E-01	7.13E+00	96%	91%
1	Chromium-51	1.02E+01	4.89E-01	1.08E+01	99%	90%
1	Cesium-134	4.86E+00	1.81E-01	5.27E+00	96%	89%
1	Cesium-137	5.90E+00	1.32E-01	6.21E+00	97%	93%
1	Iron-59	4.83E+00	1.27E-01	4.99E+00	99%	94%
1	Iodine-131	3.45E+00	1.63E-01	3.50E+00	103%	94%

Quarter	Radionuclide	Bruce Power Value V_L (Bq/L)	1 Standard Deviation (S_L)	Eckert & Ziegler Analytics Value V_A (Bq/L)	$(V_L+S_L)/V_A$	$(V_L-S_L)/V_A$
1	Manganese-54	6.74E+00	2.12E-01	7.00E+00	99%	93%
1	Zinc-65	8.68E+00	2.19E-01	9.27E+00	96%	91%
2	Cerium-141	5.15E+00	2.20E-01	5.29E+00	102%	93%
2	Cobalt-58	5.76E+00	1.50E-01	6.13E+00	96%	92%
2	Cobalt-60	7.82E+00	1.63E-01	8.09E+00	99%	95%
2	Chromium-51	1.09E+01	5.45E-01	1.08E+01	106%	96%
2	Cesium-134	7.00E+00	1.50E-01	7.83E+00	91%	87%
2	Cesium-137	5.34E+00	1.40E-01	5.70E+00	96%	91%
2	Iron-59	4.90E+00	1.18E-01	5.15E+00	97%	93%
2	Iodine-131	2.60E+00	1.72E-01	2.76E+00	100%	88%
2	Manganese-54	5.47E+00	1.42E-01	5.73E+00	98%	93%
2	Zinc-65	1.01E+01	2.71E-01	1.08E+01	96%	91%
3	Cerium-141	3.59E+00	1.66E-01	3.31E+00	113%	103%
3	Cobalt-58	3.65E+00	1.02E-01	3.88E+00	97%	91%
3	Cobalt-60	5.38E+00	1.02E-01	5.57E+00	98%	95%
3	Chromium-51	9.52E+00	4.80E-01	9.60E+00	104%	94%
3	Cesium-134	4.83E+00	9.52E-02	5.24E+00	94%	90%
3	Cesium-137	4.41E+00	1.19E-01	4.67E+00	97%	92%
3	Iron-59	3.53E+00	1.47E-01	3.65E+00	101%	93%
3	Iodine-131	2.85E+00	1.23E-01	2.82E+00	106%	97%
3	Manganese-54	6.00E+00	1.54E-01	5.97E+00	103%	98%
3	Zinc-65	7.04E+00	2.16E-01	7.24E+00	100%	94%
4	Cerium-141	5.59E+00	8.84E-02	5.29E+00	107%	104%
4	Cobalt-58	6.03E+00	1.05E-01	6.26E+00	98%	95%
4	Cobalt-60	7.83E+00	1.34E-01	8.04E+00	99%	96%
4	Chromium-51	1.14E+01	1.85E-01	1.11E+01	104%	101%
4	Cesium-134	5.00E+00	8.60E-02	5.15E+00	99%	95%
4	Cesium-137	6.13E+00	1.04E-01	6.23E+00	100%	97%
4	Iron-59	5.01E+00	8.26E-02	4.94E+00	103%	100%
4	Iodine-131	3.10E+00	5.31E-02	3.18E+00	99%	96%

Quarter	Radionuclide	Bruce Power Value V_L (Bq/L)	1 Standard Deviation (S_L)	Eckert & Ziegler Analytics Value V_A (Bq/L)	$(V_L+S_L)/V_A$	$(V_L-S_L)/V_A$
4	Manganese-54	6.78E+00	1.16E-01	6.93E+00	100%	96%
4	Zinc-65	9.03E+00	1.51E-01	9.04E+00	102%	98%

Table 89 – 2025 Eckert & Ziegler Analytics Test Results for Gamma in Water

Quarter	Analyte	Bruce Power Value V_L (Bq/L)	1 Standard Deviation (S_L)	Eckert & Ziegler Analytics Value V_A (Bq/L)	$(V_L+S_L)/V_A$	$(V_L-S_L)/V_A$
1	Cerium-141	3.07E+00	3.17E-01	2.80E+00	121%	98%
1	Cobalt-58	3.89E+00	1.73E-01	3.89E+00	104%	96%
1	Cobalt-60	7.22E+00	2.54E-01	7.13E+00	105%	98%
1	Chromium-51	1.13E+01	1.21E+00	1.08E+01	116%	93%
1	Cesium-134	5.40E+00	9.76E-02	5.27E+00	104%	101%
1	Cesium-137	6.55E+00	1.67E-01	6.20E+00	108%	103%
1	Iron-59	5.21E+00	1.38E-01	4.98E+00	107%	102%
1	Iodine-131	2.90E+00	5.25E-01	2.81E+00	122%	85%
1	Manganese-54	7.30E+00	2.32E-01	6.99E+00	108%	101%
1	Zinc-65	9.42E+00	2.53E-01	9.27E+00	104%	99%
2	Cerium-141	5.49E+00	2.68E-01	5.12E+00	112%	102%
2	Cobalt-58	6.15E+00	1.77E-01	5.93E+00	107%	101%
2	Cobalt-60	8.54E+00	2.49E-01	7.82E+00	112%	106%
2	Chromium-51	1.03E+01	1.07E+00	1.05E+01	108%	88%
2	Cesium-134	7.96E+00	2.96E-01	7.57E+00	109%	101%
2	Cesium-137	5.71E+00	1.68E-01	5.51E+00	107%	101%
2	Iron-59	5.30E+00	2.21E-01	4.98E+00	111%	102%
2	Iodine-131	2.41E+00	1.60E-01	2.31E+00	111%	97%
2	Manganese-54	5.87E+00	1.68E-01	5.54E+00	109%	103%
2	Zinc-65	1.08E+01	4.00E-01	1.04E+01	108%	100%
3	Cerium-141	4.14E+00	2.36E-01	3.59E+00	122%	109%
3	Cobalt-58	4.21E+00	1.33E-01	4.21E+00	103%	97%
3	Cobalt-60	6.14E+00	1.25E-01	6.04E+00	104%	100%

Quarter	Analyte	Bruce Power Value V_L (Bq/L)	1 Standard Deviation (S_L)	Eckert & Ziegler Analytics Value V_A (Bq/L)	$(V_L+S_L)/V_A$	$(V_L-S_L)/V_A$
3	Chromium-51	9.79E+00	7.47E-01	1.04E+01	101%	87%
3	Cesium-134	5.48E+00	1.23E-01	5.69E+00	99%	94%
3	Cesium-137	5.00E+00	2.08E-01	5.07E+00	103%	95%
3	Iron-59	4.13E+00	1.30E-01	3.96E+00	108%	101%
3	Iodine-131	2.90E+00	1.64E-01	2.77E+00	111%	99%
3	Manganese-54	6.59E+00	1.84E-01	6.47E+00	105%	99%
3	Zinc-65	7.66E+00	2.82E-01	7.85E+00	101%	94%
4	Cerium-141	5.75E+00	8.82E-02	5.28E+00	111%	107%
4	Cobalt-58	6.22E+00	1.04E-01	6.25E+00	101%	98%
4	Cobalt-60	8.20E+00	1.34E-01	8.02E+00	104%	101%
4	Chromium-51	1.20E+01	1.84E-01	1.10E+01	111%	107%
4	Cesium-134	5.03E+00	8.59E-02	5.14E+00	100%	96%
4	Cesium-137	6.03E+00	1.04E-01	6.22E+00	99%	95%
4	Iron-59	5.11E+00	8.24E-02	4.93E+00	105%	102%
4	Iodine-131	1.69E+00	2.79E-02	1.67E+00	103%	100%
4	Manganese-54	6.86E+00	1.15E-01	6.91E+00	101%	98%
4	Zinc-65	8.67E+00	1.51E-01	9.02E+00	98%	94%

Table 90 – 2025 Eckert & Ziegler Analytics Test Results for Gamma in Soil

Quarter	Analyte	Bruce Power Value V_L (Bq/kg)	1 Standard Deviation (S_L)	Eckert & Ziegler Analytics Value V_A (Bq/kg)	$(V_L+S_L)/V_A$	$(V_L-S_L)/V_A$
1	Cerium-141	5.36E+00	3.03E-01	4.76E+00	119%	106%
1	Cobalt-58	6.37E+00	1.50E-01	6.61E+00	99%	94%
1	Cobalt-60	1.16E+01	2.03E-01	1.21E+01	98%	94%
1	Chromium-51	1.81E+01	1.27E+00	1.83E+01	106%	92%
1	Cesium-134	8.37E+00	1.24E-01	8.95E+00	95%	92%
1	Cesium-137	1.26E+01	2.76E-01	1.30E+01	99%	95%
1	Iron-59	8.23E+00	1.65E-01	8.47E+00	99%	95%
1	Manganese-54	1.14E+01	2.53E-01	1.19E+01	98%	94%
1	Zinc-65	1.48E+01	3.35E-01	1.58E+01	96%	92%
2	Cerium-141	8.36E+00	3.13E-01	8.68E+00	100%	93%
2	Cobalt-58	9.10E+00	2.32E-01	1.01E+01	92%	88%
2	Cobalt-60	1.23E+01	2.47E-01	1.33E+01	94%	91%
2	Chromium-51	1.64E+01	7.73E-01	1.78E+01	96%	88%
2	Cesium-134	1.12E+01	1.59E-01	1.28E+01	89%	86%
2	Cesium-137	1.08E+01	2.76E-01	1.18E+01	94%	89%
2	Iron-59	7.66E+00	1.64E-01	8.45E+00	93%	89%
2	Manganese-54	8.47E+00	2.17E-01	9.40E+00	92%	88%
2	Zinc-65	1.61E+01	5.31E-01	1.77E+01	94%	88%
3	Cerium-141	5.75E+00	2.26E-01	5.52E+00	108%	100%
3	Cobalt-58	5.85E+00	1.57E-01	6.47E+00	93%	88%
3	Cobalt-60	8.45E+00	1.51E-01	9.28E+00	93%	89%
3	Chromium-51	1.40E+01	8.27E-01	1.60E+01	93%	82%
3	Cesium-134	7.41E+00	1.82E-01	8.74E+00	87%	83%
3	Cesium-137	9.23E+00	2.32E-01	1.02E+01	93%	88%
3	Iron-59	5.47E+00	2.18E-01	6.08E+00	94%	86%
3	Manganese-54	9.16E+00	2.50E-01	9.94E+00	95%	90%
3	Zinc-65	1.11E+01	2.94E-01	1.21E+01	94%	89%
4	Cerium-141	8.29E+00	1.24E-01	7.41E+00	114%	110%
4	Cobalt-58	8.16E+00	1.46E-01	8.76E+00	95%	91%

Quarter	Analyte	Bruce Power Value V_L (Bq/kg)	1 Standard Deviation (S_L)	Eckert & Ziegler Analytics Value V_A (Bq/kg)	$(V_L+S_L)/V_A$	$(V_L-S_L)/V_A$
4	Cobalt-60	1.06E+01	1.88E-01	1.12E+01	96%	93%
4	Chromium-51	1.48E+01	2.58E-01	1.55E+01	97%	94%
4	Cesium-134	6.72E+00	1.20E-01	7.21E+00	95%	92%
4	Cesium-137	1.07E+01	1.86E-01	1.12E+01	97%	94%
4	Iron-59	6.38E+00	1.16E-01	6.92E+00	94%	91%
4	Manganese-54	9.25E+00	1.62E-01	9.69E+00	97%	94%
4	Zinc-65	1.18E+01	2.11E-01	1.26E+01	95%	92%

APPENDIX E: LAKE WATER QUALITY SAMPLE RESULTS

Where no value is provided for the screening criteria in the following tables, it means that no criteria are available to assess risk to receptors; often because the parameter is not associated with acute or chronic toxicity.

The screening criteria for dissolved oxygen is temperature dependent. For the purposes of this report, a temperature of 15°C was considered to derive the Provincial Water Quality Objective guideline of 6 mg/L.

Un-ionized ammonia (NH_3) is calculated from measurements of total ammonia (NH_3 + NH_4^+), temperature and pH according to [R-170]. Ammonia concentrations reported in mg/L NH_3 units were converted to mg/L NH_3-N units by multiplying by 0.82247.

The following acronyms and shortforms are used in this appendix to describe the screening criteria applied to lake water quality sample results.

- CCME – Canadian Council of Ministers of the Environment
- PWQO – Ontario Provincial Water Quality Objectives
- O. Reg. 169/03 – Ontario Drinking Water Quality Standards
- GCDWQ – Guidelines for Canadian Drinking Water Quality
- SSTL – Site Specific Target Level, as defined in the 2022 Environmental Risk Assessment
- CEPA – Notice Requiring the preparation and implementation of pollution prevention plans in respect of hydrazine related to the electricity sector issued on November 10, 2018 under the Canadian Environmental Protection Act

Table 91 – The Results of Water Quality Samples Taken in 2025 from Bruce A Discharge (LWQ1) (1 metre below the Lake Surface) in Lake Huron.

Screening criteria chosen are the most conservative available. The screening criteria for aluminum varies and is calculated on a per sample basis using pH measured at the time of sampling event. The screening criteria for total cadmium, total copper, total lead and total nickel vary with hardness and are calculated on a per sample basis using hardness measured at the time of sampling event. The screening criteria for zinc varies and is calculated on a per sample basis using hardness, pH and Dissolved Organic Carbon measured at time of sampling event. Table results are in milligrams per litre mg/L and micrograms per litre ug/L.

Analyte	Unit	Lowest Screening Criteria Value	Source of Screening Criteria	Bruce A Discharge LWQ1 05/05/2025	Bruce A Discharge LWQ1 08/14/2025	Bruce A Discharge LWQ1 10/01/2025
Alkalinity, Total (as CaCO3)	mg/L	Not applicable	Not applicable	82.2	78.1	80.2
Aluminum	mg/L	0.075	PWQO	0.0179	0.0057	0.012
Ammonia, total (as N)	mg/L	Not applicable	Not applicable	0.0348	0.300	0.377
Ammonia, unionized (as NH_3-N)	mg/L	0.0156	CCME	0.0038	0.0248	*
Antimony	mg/L	0.006	GCDWQ and O. Reg. 169/03	0.00013	0.00011	0.00021
Arsenic	mg/L	0.005	CCME and PWQO	0.0005	0.00051	0.00049
Barium	mg/L	1.0	O. Reg. 169/03	0.0139	0.0143	0.0146
Benzene	ug/L	1.0	O. Reg. 169/03	< 0.5	< 0.5	< 0.5
Boron	mg/L	0.200	PWQO	0.013	0.013	0.014
Cadmium	mg/L	0.00015	CCME	0.0000056	< 0.000005	< 0.000005
Carbon, dissolved organic [DOC]	mg/L	Not applicable	Not applicable	1.78	1.65	1.59
Chloride (Cl)	mg/L	120	CCME	7.91	7.95	8.02
Chromium (Total)	mg/L	0.050	O. Reg. 169/03 and GC DWQ	< 0.0005	< 0.0005	< 0.0005
Chromium, Hexavalent (Cr6+)	mg/L	0.001	CCME and PWQO	< 0.0005	< 0.0005	< 0.0005
Chromium, trivalent [Cr III]	mg/L	0.0089	CCME and PWQO	< 0.0005	< 0.0005	< 0.0005
Copper	mg/L	0.00231 - 0.00238	CCME	0.0008	0.00053	0.00122

Analyte	Unit	Lowest Screening Criteria Value	Source of Screening Criteria	Bruce A Discharge LWQ1 05/05/2025	Bruce A Discharge LWQ1 08/14/2025	Bruce A Discharge LWQ1 10/01/2025
Dissolved Oxygen	mg/L	6.0	PWQO	8.76	6.17	9.62
Ethylbenzene	ug/L	8.0	PWQO	< 0.5	< 0.5	< 0.5
F1 (C6-C10)	ug/L	Not applicable	Not applicable	< 25	< 25	< 25
F1-BTEX	ug/L	Not applicable	Not applicable	< 25	< 25	< 25
F2 (C10-C16)	ug/L	Not applicable	Not applicable	< 100	< 100	< 100
F3 (C16-C34)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250
F4 (C34-C50)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250
Reached Baseline at C50	None	Not applicable	Not applicable	Yes	Yes	Yes
Fluoride	mg/L	0.120	CCME	0.076	0.074	0.063
Hardness (as CaCO3)	mg/L	Not applicable	Not applicable	96.9	92.3	101
Hydrazine	ug/L	26.0	CEPA	< 3.0	< 3.1	< 3.1
Iron	mg/L	0.300	GCDWQ	0.042	< 0.010	0.033
Lead	mg/L	0.00293 - 0.00318	CCMEC	0.00325	0.000244	0.001
Mercury	mg/L	0.000026	CCME	< 0.000005	< 0.000005	< 0.000005
Molybdenum	mg/L	0.040	PWQO	0.000457	0.000496	0.000499
Morpholine	ug/L	4.0	PWQO	2**	<5.0	-
Nickel	mg/L	0.025	PWQO	< 0.0005	< 0.0005	< 0.0005
Nitrate (as N)	mg/L	2.9	CCME	0.262	0.236	0.228
Nitrite (as N)	mg/L	0.060	CCME	< 0.01	< 0.01	< 0.01
o-Xylene	ug/L	Not applicable	Not applicable	< 0.3	< 0.3	< 0.3
pH	None	6.5-8.5	PWQO	7.62	8.1	8.18
Phenols, total (4AAP)	mg/L	0.001	PWQO	<0.001	0.0012	<0.001
Phosphorus	mg/L	0.020	PWQO	0.0087	0.0041	0.0097
Selenium	mg/L	0.050	CCME	0.000094	0.000079	0.00009
Solids, total suspended [TSS]	mg/L	Not applicable	Not applicable	< 3.0	< 3.0	< 3.0
Specific Conductivity	uS/cm	Not applicable	Not applicable	299	224	225

Analyte	**Unit**	**Lowest Screening Criteria Value**	**Source of Screening Criteria**	**Bruce A Discharge LWQ1 05/05/2025**	**Bruce A Discharge LWQ1 08/14/2025**	**Bruce A Discharge LWQ1 10/01/2025**
Sulfate	mg/L	Not applicable	Not applicable	15.3	14.6	41.7
Temperature	˚C	Not applicable	Not applicable	14.5	28.3	-
Toluene	ug/L	0.8	PWQO	< 0.5	< 0.5	< 0.5
Total dissolved solids	mg/L	Not applicable	Not applicable	126	120	107
Uranium (U)	mg/L	0.020	O. Reg. 169/03	0.000213	0.000227	0.00021
Vanadium	mg/L	0.006	PWQO	< 0.0005	< 0.0005	< 0.0005
Xylenes, m & p	ug/L	Not applicable	Not applicable	< 0.4	< 0.4	< 0.4
Xylenes, Total	ug/L	2.0	PWQO	< 0.5	< 0.5	< 0.5
Zinc	mg/L	0.013 - 0.020	CCMEC and PWQO	< 0.003	< 0.003	0.0062

Note: *Unionized ammonia could not be calculated as temperature was not recorded at LWQ1 in 10/01/2025.

Note: **Due to a bottle transport issues, morpholine could not be analyzed from sample collected 05/05/2025. Samples were collected specifically for morpholine analysis on 06/18/26.

Table 92 – The Results of Water Quality Samples Taken in 2025 from Bruce B Discharge (LWQ2) (1 metre below the Lake Surface) in Lake Huron.

Screening criteria chosen are the most conservative available. The screening criteria for aluminum varies and is calculated on a per sample basis using pH measured at the time of sampling event. The screening criteria for total cadmium, total copper, total lead and total nickel vary with hardness and are calculated on a per sample basis using hardness measured at the time of sampling event. The screening criteria for zinc varies and is calculated on a per sample basis using hardness, pH and Dissolved Organic Carbon measured at time of sampling event. Table results are in milligrams per litre mg/L, micrograms per litre ug/L, and microsiemens per centimeter uS/cm.

Analyte	Unit	Lowest Screening Criteria Value	Source of Screening Criteria	Bruce B Discharge LWQ2 05/05/2025	Bruce B Discharge LWQ2 08/14/2025	Bruce B Discharge LWQ2 10/01/2025
Alkalinity, Total (as CaCO3)	mg/L	Not applicable	Not applicable	81.5	78.8	81.1
Aluminum	mg/L	0.075	PWQO	0.0204	0.0059	0.0091
Ammonia, total (as N)	mg/L	Not applicable	Not applicable	0.189	0.0962	1.36
Ammonia, unionized (as NH_3-N)	mg/L	0.0156	CCME	0.0025	0.0054	0.0121
Antimony	mg/L	0.006	GCDWQ and O. Reg. 169/03	0.00012	0.00012	0.00024
Arsenic	mg/L	0.005	CCME and PWQO	0.0005	0.00052	0.00054
Barium	mg/L	1.0	O. Reg. 169/03	0.0145	0.0144	0.0199
Benzene	ug/L	1.0	O. Reg. 169/03	< 0.5	< 0.5	< 0.5
Boron	mg/L	0.200	PWQO	0.013	0.013	0.014
Cadmium	mg/L	0.00015	CCME	0.0000073	< 0.000005	0.0000053
Carbon, dissolved organic [DOC]	mg/L	Not applicable	Not applicable	1.64	1.53	2.46
Chloride (Cl)	mg/L	120	CCME	9.78	8.08	8.43

Analyte	**Unit**	**Lowest Screening Criteria Value**	**Source of Screening Criteria**	**Bruce B Discharge LWQ2 05/05/2025**	**Bruce B Discharge LWQ2 08/14/2025**	**Bruce B Discharge LWQ2 10/01/2025**
Chromium (Total)	mg/L	0.050	O. Reg. 169/03 and GC DWQ	< 0.0005	< 0.0005	< 0.0005
Chromium, Hexavalent (Cr6+)	mg/L	0.001	CCME and PWQO	< 0.0005	< 0.0005	< 0.0005
Chromium, trivalent [Cr III]	mg/L	0.0089	CCME and PWQO	< 0.0005	< 0.0005	< 0.0005
Copper	mg/L	0.00231 - 0.00238	CCME	0.00065	0.00064	0.00189
Dissolved Oxygen	mg/L	6.0	PWQO	8.4	10.3	8.62
Ethylbenzene	ug/L	8.0	PWQO	< 0.5	< 0.5	< 0.5
F1 (C6-C10)	ug/L	Not applicable	Not applicable	< 25	< 25	< 25
F1-BTEX	ug/L	Not applicable	Not applicable	< 25	< 25	< 25
F2 (C10-C16)	ug/L	Not applicable	Not applicable	< 100	< 100	< 100
F3 (C16-C34)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250
F4 (C34-C50)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250
Reached Baseline at C50	None	Not applicable	Not applicable	Yes	Yes	Yes
Fluoride	mg/L	0.120	CCME	0.08	0.074	0.064
Hardness (as CaCO3)	mg/L	Not applicable	Not applicable	98.5	92.7	102
Hydrazine	ug/L	26.0	CEPA	< 3.0	< 3.1	< 3.1
Iron	mg/L	0.300	GCDWQ	0.053	0.012	0.031
Lead	mg/L	0.00293 - 0.00318	CCME	3.5	1.02	0.284
Mercury	mg/L	0.000026	CCME	< 0.000005	< 0.000005	< 0.000005
Molybdenum	mg/L	0.040	PWQO	0.00049	0.000479	0.000486

Analyte	**Unit**	**Lowest Screening Criteria Value**	**Source of Screening Criteria**	**Bruce B Discharge LWQ2 05/05/2025**	**Bruce B Discharge LWQ2 08/14/2025**	**Bruce B Discharge LWQ2 10/01/2025**
Morpholine	ug/L	4.0	PWQO	3.5	< 2.2	-
Nickel	mg/L	0.025	PWQO	< 0.0005	< 0.0005	< 0.0005
Nitrate (as N)	mg/L	2.9	CCME	0.270	0.260	0.248
Nitrite (as N)	mg/L	0.060	CCME	< 0.01	< 0.01	< 0.01
o-Xylene	ug/L	Not applicable	Not applicable	< 0.3	< 0.3	< 0.3
pH	None	6.5-8.5	PWQO	7.71	8.05	7.39
Phenols, total (4AAP)	mg/L	0.001	PWQO	< 0.001	< 0.001	0.0011
Phosphorus	mg/L	0.020	PWQO	0.0188	0.0040	0.0696
Selenium	mg/L	0.050	CCME	0.000114	0.000107	0.00009
Solids, total suspended [TSS]	mg/L	Not applicable	Not applicable	< 3.0	< 3.0	3.9
Specific Conductivity	uS/cm	Not applicable	Not applicable	299	230	230
Sulfate	mg/L	Not applicable	Not applicable	14.7	14.8	15.3
Temperature	˚C	Not applicable	Not applicable	14.4	24	18.9
Toluene	ug/L	0.8	PWQO	< 0.5	< 0.5	< 0.5
Total dissolved solids	mg/L	Not applicable	Not applicable	125	120	110
Uranium (U)	mg/L	0.020	O. Reg. 169/03	0.000226	0.000223	0.000212
Vanadium	mg/L	0.006	PWQO	< 0.0005	< 0.0005	< 0.0005
Xylenes, m & p	ug/L	Not applicable	Not applicable	< 0.4	< 0.4	< 0.4
Xylenes, Total	ug/L	2.0	PWQO	< 0.5	< 0.5	< 0.5
Zinc	mg/L	0.013 - 0.020	CCME and PWQO	<0.003	< 0.003	0.0047

Table 93 – The Results of Water Quality Samples Taken in 2025 from Baie du Doré (LWQ5) (1 metre below the Lake Surface) in Lake Huron.

Screening criteria chosen are the most conservative available. The screening criteria for aluminum varies and is calculated on a per sample basis using pH measured at the time of sampling event. The screening criteria for total cadmium, total copper, total lead and total nickel vary with hardness and are calculated on a per sample basis using hardness measured at the time of sampling event. The screening criteria for zinc varies and is calculated on a per sample basis using hardness, pH and Dissolved Organic Carbon measured at time of sampling event. Table results are in milligrams per litre mg/L, micrograms per litre ug/L, and microsiemens per centimeter uS/cm.

Analyte	Unit	Lowest Screening Criteria Value	Source of Screening Criteria	Baie du Doré LWQ5 05/05/2025	Baie du Doré LWQ5 08/14/2025	Baie du Doré LWQ5 10/01/2025
Alkalinity, Total (as CaCO3)	mg/L	Not applicable	Not applicable	79	79.6	81.2
Aluminum	mg/L	0.075	PWQO	0.015	0.0087	0.0103
Ammonia, total (as N)	mg/L	Not applicable	Not applicable	0.433	0.0591	3.79
Ammonia, unionized (as NH_3-N)	mg/L	0.0156	CCME	0.0038	0.0031	0.4004
Antimony	mg/L	0.006	G C D W Q and O. Reg. 169/03	0.00015	0.00011	0.00019
Arsenic	mg/L	0.005	CCME and PWQO	0.00048	0.00057	0.00047
Barium	mg/L	1.0	O. Reg. 169/03	0.0144	0.014	0.014
Benzene	ug/L	1.0	O. Reg. 169/03	< 0.5	< 0.5	< 0.5
Boron	mg/L	0.200	PWQO	0.013	0.014	0.014
Cadmium	mg/L	0.00015	CCME	0.0000057	< 0.000005	< 0.000005
Carbon, dissolved organic [DOC]	mg/L	Not applicable	Not applicable	2.21	1.87	1.89
Chloride (Cl)	mg/L	120	CCME	8.04	7.99	7.98
Chromium (Total)	mg/L	0.050	O. Reg. 169/03 and GCDWQ	< 0.0005	< 0.0005	< 0.0005
Chromium, Hexavalent (Cr6+)	mg/L	0.001	CCME and PWQO	< 0.0005	< 0.0005	< 0.0005
Chromium, trivalent [Cr III]	mg/L	0.0089	CCME and PWQO	< 0.0005	< 0.0005	< 0.0005

Analyte	Unit	Lowest Screening Criteria Value	Source of Screening Criteria	Baie du Doré LWQ5 05/05/2025	Baie du Doré LWQ5 08/14/2025	Baie du Doré LWQ5 10/01/2025
Copper	mg/L	0.00231 - 0.00238	CCME	0.0014	< 0.0005	0.00076
Dissolved Oxygen	mg/L	6.0	PWQO	12.3	6	8.28
Ethylbenzene	ug/L	8.0	PWQO	< 0.5	< 0.5	< 0.5
F1 (C6-C10)	ug/L	Not applicable	Not applicable	< 25	< 25	< 25
F1-BTEX	ug/L	Not applicable	Not applicable	< 25	< 25	< 25
F2 (C10-C16)	ug/L	Not applicable	Not applicable	< 100	< 100	< 100
F3 (C16-C34)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250
F4 (C34-C50)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250
Reached Baseline at C50	None	Not applicable	Not applicable	Yes	Yes	Yes
Fluoride	mg/L	0.120	CCME	0.081	0.074	0.064
Hardness (as CaCO3)	mg/L	Not applicable	Not applicable	98.6	91.8	100
Hydrazine	ug/L	26.0	CEPA	< 3.1	< 3.1	< 3.1
Iron	mg/L	0.300	GCDWQ	0.035	0.015	0.026
Lead	mg/L	0.00293 - 0.00318	CCME	0.00579	0.000268	0.00106
Mercury	mg/L	0.000026	CCME	< 0.000005	< 0.000005	< 0.000005
Molybdenum	mg/L	0.040	PWQO	0.000470	0.000505	0.000471
Morpholine	ug/L	4.0	PWQO	< 1.0	< 1.0	-
Nickel	mg/L	0.025	PWQO	< 0.0005	< 0.0005	< 0.0005
Nitrate (as N)	mg/L	2.9	CCME	0.219	0.161	0.174
Nitrite (as N)	mg/L	0.060	CCME	< 0.01	< 0.01	< 0.01
o-Xylene	ug/L	Not applicable	Not applicable	< 0.3	< 0.3	< 0.3

Analyte	Unit	Lowest Screening Criteria Value	Source of Screening Criteria	Baie du Doré LWQ5 05/05/2025	Baie du Doré LWQ5 08/14/2025	Baie du Doré LWQ5 10/01/2025
pH	None	6.5-8.5	PWQO	7.68	7.98	8.5
Phenols, total (4AAP)	mg/L	0.001	PWQO	< 0.001	< 0.001	0.001
Phosphorus	mg/L	0.020	PWQO	0.0092	0.0038	0.004
Selenium	mg/L	0.050	CCME	0.000098	0.000101	0.000102
Solids, total suspended [TSS]	mg/L	Not applicable	Not applicable	< 3.0	< 3.0	4.3
Specific Conductivity	uS/cm	Not applicable	Not applicable	226	254	250
Sulfate	mg/L	Not applicable	Not applicable	14.6	14.5	14.9
Temperature	˚C	Not applicable	Not applicable	9.9	25.1	19.2
Toluene	ug/L	0.8	PWQO	< 0.5	< 0.5	< 0.5
Total dissolved solids	mg/L	Not applicable	Not applicable	115	120	104
Uranium (U)	mg/L	0.020	O. Reg. 169/03	0.00021	0.000216	0.000212
Vanadium	mg/L	0.006	PWQO	< 0.0005	< 0.0005	< 0.0005
Xylenes, m & p	ug/L	Not applicable	Not applicable	< 0.4	< 0.4	< 0.4
Xylenes, Total	ug/L	2.0	PWQO	< 0.5	< 0.5	< 0.5
Zinc	mg/L	0.013 - 0.020	CCME and PWQO	< 0.003	< 0.003	< 0.003

Table 94 – The Results of Water Quality Samples Taken in 2025 near MacGregor Point (LWQ7) (1 metre below the Lake Surface) in Lake Huron.

Screening criteria chosen are the most conservative available. The screening criteria for aluminum varies and is calculated on a per sample basis using pH measured at the time of sampling event. The screening criteria for total cadmium, total copper, total lead and total nickel vary with hardness and are calculated on a per sample basis using hardness measured at the time of sampling event. The screening criteria for zinc varies and is calculated on a per sample basis using hardness, pH and Dissolved Organic Carbon measured at time of sampling event. Table results are in milligrams per litre mg/L, micrograms per litre ug/L, and microsiemens per centimeter uS/cm.

Analyte	Unit	Lowest Screening Criteria Value	Source of Screening Criteria	MacGregor Point LWQ7 05/05/2025	MacGregor Point LWQ7 08/14/2025	MacGregor Point LWQ7 (Duplicate) 08/14/2025	MacGregor Point LWQ7 11/01/2025	MacGregor Point LWQ7 (Duplicate) 10/01/2025
Alkalinity, Total (as CaCO3)	mg/L	Not applicable	Not applicable	80.8	79.8	79.3	80.2	81.8
Aluminum	mg/L	0.075	PWQO	0.0114	0.0091	0.016	0.0197	0.0156
Ammonia, total (as N)	mg/L	Not applicable	Not applicable	0.346	0.298	0.386	1.83	0.238
Ammonia, unionized (as NH_3-N)	mg/L	0.0156	CCME	0.0043	0.0286	0.0370	0.0595	0.0077
Antimony	mg/L	0.006	G C D W Q and O. Reg. 169/03	0.00016	0.00012	0.00016	0.00014	0.00014
Arsenic	mg/L	0.005	CCME and PWQO	0.00047	0.00054	0.00055	0.00048	0.00052
Barium	mg/L	1.0	O. Reg. 169/03	0.0139	0.0142	0.0146	0.0141	0.0139
Benzene	ug/L	1.0	O. Reg. 169/03	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Boron	mg/L	0.200	PWQO	0.013	0.014	0.015	0.014	0.014
Cadmium	mg/L	0.00015	CCME	0.0000051	0.0000074	0.0000168	0.0000065	< 0.000005
Carbon, dissolved organic [DOC]	mg/L	Not applicable	Not applicable	1.96	2.20	2.19	1.60	1.60

Analyte	**Unit**	**Lowest Screening Criteria Value**	**Source of Screening Criteria**	**MacGregor Point LWQ7 05/05/2025**	**MacGregor Point LWQ7 08/14/2025**	**MacGregor Point LWQ7 (Duplicate) 08/14/2025**	**MacGregor Point LWQ7 11/01/2025**	**MacGregor Point LWQ7 (Duplicate) 10/01/2025**
Chloride (Cl)	mg/L	120	CCME	8.16	8.07	10.2	8.84	8.07
Chromium (Total)	mg/L	0.050	O. Reg. 169/03 and GCDWQ	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, Hexavalent (Cr6+)	mg/L	0.001	CCME and PWQO	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, trivalent [Cr III]	mg/L	0.0089	CCME and PWQO	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper	mg/L	0.00231 – 0.00238	CCME	0.00098	0.00084	0.00168	0.00084	0.0007
Dissolved Oxygen	mg/L	6.0	PWQO	11.8	7.34	7.34	9.87	9.87
Ethylbenzene	ug/L	8.0	PWQO	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
F1 (C6-C10)	ug/L	Not applicable	Not applicable	< 25	< 25	< 25	< 25	< 25
F1-BTEX	ug/L	Not applicable	Not applicable	< 25	< 25	< 25	< 25	< 25
F2 (C10-C16)	ug/L	Not applicable	Not applicable	< 110	< 100	< 100	< 100	< 100
F3 (C16-C34)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250	< 250	< 250
F4 (C34-C50)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250	< 250	< 250
Reached Baseline at C50	None	Not applicable	Not applicable	Yes	Yes	Yes	Yes	Yes
Fluoride	mg/L	0.120	CCME	0.078	0.083	0.081	0.066	0.061
Hardness (as CaCO3)	mg/L	Not applicable	Not applicable	97.3	92.4	92.7	102	102
Hydrazine	ug/L	26.0	CEPA	< 3.1	< 3.1	< 3.1	< 3.1	< 3.1
Iron	mg/L	0.300	GCDWQ	0.016	0.015	0.028	0.029	0.057

Analyte	**Unit**	**Lowest Screening Criteria Value**	**Source of Screening Criteria**	**MacGregor Point LWQ7 05/05/2025**	**MacGregor Point LWQ7 08/14/2025**	**MacGregor Point LWQ7 (Duplicate) 08/14/2025**	**MacGregor Point LWQ7 11/01/2025**	**MacGregor Point LWQ7 (Duplicate) 10/01/2025**
Lead	mg/L	0.00293 – 0.00318	CCME	0.00436	0.00089	0.00177	0.000366	0.000361
Mercury	mg/L	0.000026	CCME	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
Molybdenum	mg/L	0.040	PWQO	0.000469	0.000501	0.00048	0.000485	0.000483
Morpholine	ug/L	4.0	PWQO	< 1.0*	< 1	1.7	-	-
Nickel	mg/L	0.025	PWQO	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Nitrate (as N)	mg/L	2.9	CCME	0.315	0.212	0.369	0.329	0.341
Nitrite (as N)	mg/L	0.060	CCME	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	ug/L	Not applicable	Not applicable	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
pH	None	6.5-8.5	PWQO	7.89	8.29	8.29	8.15	8.15
Phenols, total (4AAP)	mg/L	0.001	PWQO	< 0.001	< 0.001	0.0012	< 0.001	< 0.001
Phosphorus	mg/L	0.020	PWQO	0.0085	0.0083	0.0093	0.0042	0.0051
Selenium	mg/L	0.050	CCME	0.000100	0.000101	0.000113	0.000096	0.000099
Solids, total suspended [TSS]	mg/L	Not applicable	Not applicable	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0
Specific Conductivity	uS/cm	Not applicable	Not applicable	238	216	216	212	212
Sulfate	mg/L	Not applicable	Not applicable	14.8	14.5	15.3	16.5	15.2
Temperature	˚C	Not applicable	Not applicable	8.4	24.4	24.4	13.2	13.2
Toluene	ug/L	0.8	PWQO	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Total dissolved solids	mg/L	Not applicable	Not applicable	117	119	122	107	102

Analyte	**Unit**	**Lowest Screening Criteria Value**	**Source of Screening Criteria**	**MacGregor Point LWQ7 05/05/2025**	**MacGregor Point LWQ7 08/14/2025**	**MacGregor Point LWQ7 (Duplicate) 08/14/2025**	**MacGregor Point LWQ7 11/01/2025**	**MacGregor Point LWQ7 (Duplicate) 10/01/2025**
Uranium (U)	mg/L	0.020	O. Reg. 169/03	0.000207	0.000224	0.000218	0.000208	0.00021
Vanadium	mg/L	0.006	PWQO	< 0.0005	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Xylenes, m & p	ug/L	Not applicable	Not applicable	< 0.4	< 0.4	< 0.4	< 0.4	< 0.4
Xylenes, Total	ug/L	2.0	PWQO	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	mg/L	0.013 - 0.020	CCME and PWQO	< 0.003	< 0.003	0.0053	< 0.003	< 0.003

Note: *Due to a bottle transport issues, morpholine could not be analyzed from sample collected 05/05/2025. Samples were collected specifically for morpholine analysis on 06/18/26.

Table 95 – The Results of Water Quality Samples Taken in 2025 near McRae Point (LWQ8) (1 metre below the Lake Surface) in Lake Huron.

Screening criteria chosen are the most conservative available. The screening criteria for aluminum varies and is calculated on a per sample basis using pH measured at the time of sampling event. The screening criteria for total cadmium, total copper, total lead and total nickel vary with hardness and are calculated on a per sample basis using hardness measured at the time of sampling event. The screening criteria for zinc varies and is calculated on a per sample basis using hardness, pH and Dissolved Organic Carbon measured at time of sampling event. Table results are in milligrams per litre mg/L, micrograms per litre ug/L, and microsiemens per centimeter uS/cm.

Analyte	Unit	Lowest Screening Criteria Value	Source of Screening Criteria	McRae Point LWQ8 05/05/2025	McRae Point LWQ8 (Duplicate) 05/05/2025	McRae Point LWQ8 08/14/2025	McRae Point LWQ8 10/01/2025
Alkalinity, Total (as $CaCO_3$)	mg/L	Not applicable	Not applicable	81.7	78.7	80.1	81
Aluminum	mg/L	0.075	PWQO	0.0132	0.033	0.0066	0.0054
Ammonia, total (as N)	mg/L	Not applicable	Not applicable	0.313	0.314	0.198	2.02
Ammonia, unionized (as NH_3-N)	mg/L	0.0156	CCME	0.0022	0.0022	0.0187	0.1301
Antimony	mg/L	0.006	GCDWQ and O. Reg. 169/03	0.00014	0.00019	0.00012	0.00017
Arsenic	mg/L	0.005	CCME and PWQO	0.00054	0.00066	0.00051	0.0005
Barium	mg/L	1.0	O. Reg. 169/03	0.0142	0.017	0.0145	0.014
Benzene	ug/L	1.0	O. Reg. 169/03	< 0.5	< 0.5	< 0.5	< 0.5
Boron	mg/L	0.200	PWQO	0.013	0.014	0.014	0.014
Cadmium	mg/L	0.00015	CCME	0.00001	0.0000199	0.0000058	< 0.000005
Carbon, dissolved organic [DOC]	mg/L	Not applicable	Not applicable	2.21	2.18	2.19	2.24

Analyte	Unit	Lowest Screening Criteria Value	Source of Screening Criteria	McRae Point LWQ8 05/05/2025	McRae Point LWQ8 (Duplicate) 05/05/2025	McRae Point LWQ8 08/14/2025	McRae Point LWQ8 10/01/2025
Chloride (Cl)	mg/L	120	CCME	8.51	11.8	8.14	8.09
Chromium (Total)	mg/L	0.050	O. Reg. 169/03 and GCD WQ	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, Hexavalent (Cr6+)	mg/L	0.001	CCME and PWQO	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Chromium, trivalent [Cr III]	mg/L	0.0089	CCME and PWQO	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Copper	mg/L	0.00231 - 0.00238	CCME	0.00249	0.00409	0.00102	0.0007
Dissolved Oxygen	mg/L	6.0	PWQO	10.92	10.92	8.51	8.4
Ethylbenzene	ug/L	8.0	PWQO	< 0.5	< 0.5	< 0.5	< 0.5
F1 (C6-C10)	ug/L	Not applicable	Not applicable	< 25	< 25	< 25	< 25
F1-BTEX	ug/L	Not applicable	Not applicable	< 25	< 25	< 25	< 25< 25
F2 (C10-C16)	ug/L	Not applicable	Not applicable	< 100	< 100	< 100	< 100
F3 (C16-C34)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250	< 250
F4 (C34-C50)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250	< 250
Reached Baseline at C50	None	Not applicable	Not applicable	Yes	Yes	Yes	Yes
Fluoride	mg/L	0.120	CCME	0.078	0.080	0.080	0.068
Hardness (as CaCO3)	mg/L	Not applicable	Not applicable	97.8	99.2	94.7	101
Hydrazine	ug/L	26.0	CEPA	< 3.1	< 3.1	< 3.1	< 3.1
Iron	mg/L	0.300	GCDWQ	0.018	0.079	0.015	0.024
Lead	mg/L	0.00293 - 0.00318	CCME	0.00246	0.00921	0.000494	0.000318

Analyte	**Unit**	**Lowest Screening Criteria Value**	**Source of Screening Criteria**	**McRae Point LWQ8 05/05/2025**	**McRae Point LWQ8 (Duplicate) 05/05/2025**	**McRae Point LWQ8 08/14/2025**	**McRae Point LWQ8 10/01/2025**
Mercury	mg/L	0.000026	CCME	< 0.000005	< 0.000005	< 0.000005	< 0.000005
Molybdenum	mg/L	0.040	PWQO	0.00046	0.000459	0.000504	0.000491
Morpholine	ug/L	4.0	PWQO	< 1*	-	< 1	-
Nickel	mg/L	0.025	PWQO	0.00063	0.00102	< 0.0005	< 0.0005
Nitrate (as N)	mg/L	2.9	CCME	0.264	0.568	0.239	0.312
Nitrite (as N)	mg/L	0.060	CCME	< 0.01	< 0.01	< 0.01	< 0.01
o-Xylene	ug/L	Not applicable	Not applicable	< 0.3	< 0.3	< 0.3	< 0.3
pH	None	6.5-8.5	PWQO	7.61	7.61	8.32	8.33
Phenols, total (4AAP)	mg/L	0.001	PWQO	<0.001	<0.001	<0.001	<0.001
Phosphorus	mg/L	0.020	PWQO	0.0202	0.0241	0.0075	0.0099
Selenium	mg/L	0.050	CCME	0.000106	0.000112	0.000113	0.000119
Solids, total suspended [TSS]	mg/L	Not applicable	Not applicable	< 3.0	< 3.0	< 3.0	< 3.0
Specific Conductivity	uS/cm	Not applicable	Not applicable	262	262	222	207
Sulfate	mg/L	Not applicable	Not applicable	14.6	15.3	14.6	14.9
Temperature	˚C	Not applicable	Not applicable	8.9	8.9	23.2	17.2
Toluene	ug/L	0.8	PWQO	< 0.5	< 0.5	< 0.5	< 0.5
Total dissolved solids	mg/L	Not applicable	Not applicable	118	132	120	104
Uranium (U)	mg/L	0.020	O. Reg. 169/03	0.00021	0.00021	0.000224	0.000213
Vanadium	mg/L	0.006	PWQO	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Xylenes, m & p	ug/L	Not applicable	Not applicable	< 0.4	< 0.4	< 0.4	< 0.4

Analyte	Unit	Lowest Screening Criteria Value	Source of Screening Criteria	McRae Point LWQ8 05/05/2025	McRae Point LWQ8 (Duplicate) 05/05/2025	McRae Point LWQ8 08/14/2025	McRae Point LWQ8 10/01/2025
Xylenes, Total	ug/L	2.0	PWQO	< 0.5	< 0.5	< 0.5	< 0.5
Zinc	mg/L	0.013 – 0.020	CCME and PWQO	0.0046	0.0092	< 0.003	< 0.003

Note: *Due to bottle transport issues, morpholine could not be analyzed from sample collected 05/05/2025. Samples were collected specifically for morpholine analysis on 06/18/26

Table 96 – The Range and Number of Water Quality Measurements Taken from Lake Huron Monitoring Locations near Bruce Power between 2020 and 2025.

(Table results are in milligrams per litre mg/L, micrograms per litre ug/L, and microsiemens per centimeter uS/cm.)

Parameter	Unit	Historical Trend (2020 – 2025) Range (min to max)	Historical Trend (2020 – 2025) Number of observations	Historical Trend (2020 – 2025) Number of exceedances (if applicable)
Alkalinity, Total (as CaCO3)	mg/L	77.7 – 145	61	Not applicable
Aluminum	mg/L	< 0.005 – 1.650	64	3
Ammonia, total (as N)	mg/L	< 0.0102 – 3.790	69	Not applicable
Ammonia, unionized (as NH_3-N)	mg/L	< Detect - 0.400	69	18
Antimony	mg/L	0.00010 – 0.00048	50	0
Arsenic	mg/L	0.00049 – 1.07000	64	0
Barium	mg/L	0.00142 – 0.02440	50	0
Benzene	ug/L	< 0.50	61	0

Parameter	**Unit**	**Historical Trend (2020 – 2025) Range (min to max)**	**Historical Trend (2020 – 2025) Number of observations**	**Historical Trend (2020 – 2025) Number of exceedances (if applicable)**
Boron	mg/L	0.011 – 0.021	64	0
Cadmium	mg/L	<0.000005 – 0.000037	64	0
Carbon, dissolved organic [DOC]	mg/L	1.5 – 4.8	50	Not applicable
Chloride (Cl)	mg/L	7.60 – 11.9	61	0
Chromium (Total)	mg/L	< 0.5 – 3.46	64	0
Chromium, Hexavalent (Cr6+)	mg/L	< 0.5 – 0.58	61	0
Chromium, trivalent [Cr III]	mg/L	< 0.5 – 3.46	56	0
Copper	mg/L	< 0.5 – 4.1	64	4
Dissolved Oxygen	mg/L	5.3 – 15.9	60	3
Ethylbenzene	ug/L	< 0.20 - <0.50	61	0
F1 (C6-C10)	ug/L	< 25	61	Not applicable
F1-BTEX	ug/L	< 25	61	Not applicable
F2 (C10-C16)	ug/L	< 100	61	Not applicable
F3 (C16-C34)	ug/L	< 250	61	Not applicable
F4 (C34-C50)	ug/L	< 250	61	Not applicable
Reached Baseline at C50	None	Yes	61	Not applicable
Fluoride	mg/L	0.069 – 0.118	61	0
Hardness (as CaCO3)	mg/L	92.6 - 163	56	Not applicable
Hydrazine	ug/L	< 0.20 – 7.1	61	0

Parameter	**Unit**	**Historical Trend (2020 – 2025) Range (min to max)**	**Historical Trend (2020 – 2025) Number of observations**	**Historical Trend (2020 – 2025) Number of exceedances (if applicable)**
Iron	mg/L	< 0.0100 – 1.960	64	1
Lead	mg/L	< 0.00005 – 0.011	64	7
Mercury	mg/L	< 0.000005	64	0
Molybdenum	mg/L	0.00041 – 0.00056	50	0
Morpholine	ug/L	< 1.00 – 3.70	56	0
Nickel	mg/L	< 0.0005 - 2.74	64	0
Nitrate (as N)	mg/L	0.20 – 0.90	61	0
Nitrite (as N)	mg/L	< 0.010 - <0.050	64	0
o-Xylene	ug/L	< 0.20 - <0.30	61	Not applicable
pH	None	7.0 – 9.3	66	11
Phenols, total (4AAP)	mg/L	< 0.0010 – 0.0142	56	30
Phosphorus	mg/L	0.0020 – 0.0702	64	8
Selenium	mg/L	0.000079 – 0.000155	50	0
Solids, total suspended [TSS]	mg/L	< 3.0 – 49.0	64	Not applicable
Specific Conductivity	U S/c m	207 - 553	61	Not applicable
Sulfate	mg/L	11.6 – 41.7	61	Not applicable
Temperature	˚C	0.5 – 32.0	66	Not applicable
Toluene	ug/L	< 0.20 - <0.50	61	0
Total dissolved solids	mg/L	70 - 185	61	Not applicable

Parameter	**Unit**	**Historical Trend (2020 – 2025)** **Range (min to max)**	**Historical Trend (2020 – 2025)** **Number of observations**	**Historical Trend (2020 – 2025)** **Number of exceedances (if applicable)**
Uranium (U)	mg/L	0.000207 – 0.000459	50	0
Vanadium	mg/L	< 0.50 – 3.07	50	0
Xylenes, m & p	ug/L	< 0.40-0.47	61	Not applicable
Xylenes, Total	ug/L	< 0.40 - <0.50	61	0
Zinc	mg/L	< 0.0002 – 0.1300	64	10

APPENDIX F: ON-SITE SURFACE WATER SAMPLE RESULTS

Where no value is provided for the screening criteria in the following tables, it means that no criteria are available to assess risk to receptors; often because the parameter is not associated with acute or chronic toxicity.

The screening criteria for dissolved oxygen is temperature dependent. For the purposes of this report, a temperature of 15°C was considered to derive the Provincial Water Quality Objective guideline of 6 mg/L.

Un-ionized ammonia (NH_3) is calculated from measurements of total ammonia (NH_3+ NH_4^+), temperature and pH according to [R-170]. Ammonia concentrations reported in mg/L NH_3 units were converted to mg/L NH_3-N units by multiplying by 0.82247.

Stream C – Upstream (SW1) is located on the east side of Tie Road and is used an indicator of background water conditions in the stream as it enters the Bruce Power site.

The following acronyms and shortforms are used in this appendix to describe the screening criteria applied to on-site surface water sample results.

- CCME – Canadian Council of Ministers of the Environment
- PWQO – Ontario Provincial Water Quality Objectives
- O. Reg. 169/03 – Ontario Drinking Water Quality Standards
- GCDWQ - Guidelines for Canadian Drinking Water Quality
- SSTL – Site Specific Target Level, as defined in the 2022 Environmental Risk Assessment

Table 97 – The Results of Surface Water Quality Samples Taken in 2025 from Stream C – Upstream (SW1) and Downstream (SW2)

Screening criteria chosen are the most conservative available. The screening criteria for aluminum varies and is calculated on a per sample basis using pH measured at the time of sampling event. The screening criteria for total cadmium, total copper, total lead and total nickel vary with hardness and are calculated on a per sample basis using hardness measured at the time of sampling event. The screening criteria for zinc varies and is calculated on a per sample basis using hardness, pH and Dissolved Organic Carbon measured at time of sampling event. Table results are in milligrams per litre mg/L, micrograms per litre ug/L, and microsiemens per centimeter uS/cm.

Analyte	Unit	Lowest Screening Criteria	Source of Screening Criteria	Stream C Upstream SW1 03/18/2025	Stream C Upstream SW1 08/11/2025	Stream C Upstream SW1 10/28/2025	Stream C Downstream SW2 03/18/2025	Stream C Downstream SW2 08/11/2025	Stream C Downstream SW2 10/28/2025
Alkalinity, Total (as CaCO3)	mg/L	Not applicable	Not applicable	148	290	254	157	261	266
Aluminum	mg/L	0.075	PWQO	0.491	0.376	0.108	0.361	0.14	0.0923
Ammonia, total (as N)	mg/L	Not applicable	Not applicable	0.177	0.669	0.0306	0.0403	0.186	0.0436
Ammonia, unionized (as NH_3-N)	mg/L	0.0156	CCME	0.00123	0.00806	0.00015	0.00403	0.00738	0.00050
Antimony	mg/L	0.006	GCDWQ and O. Reg. 169/03	< 0.0001	0.00014	< 0.00010	0.000109	< 0.00010	< 0.00010
Arsenic	mg/L	0.005	CCME and PWQO	0.000258	0.00119	0.00033	0.000234	0.00058	0.00033
Barium	mg/L	1.0	O. Reg. 169/03	0.0116	0.0253	0.0175	0.0114	0.0157	0.0173
Benzene	ug/L	1.0	O. Reg. 169/03	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Boron	mg/L	0.200	PWQO	0.00121	0.02	0.016	0.00124	0.018	0.019
Cadmium	mg/L	0.00010 – 0.00037	CCME and PWQO	0.0000144	0.0000636	0.0000088	0.000019	0.0000119	0.0000113

Analyte	**Unit**	**Lowest Screening Criteria**	**Source of Screening Criteria**	**Stream C Upstream SW1 03/18/2025**	**Stream C Upstream SW1 08/11/2025**	**Stream C Upstream SW1 10/28/2025**	**Stream C Downstream SW2 03/18/2025**	**Stream C Downstream SW2 08/11/2025**	**Stream C Downstream SW2 10/28/2025**
Carbon, dissolved organic [DOC]	mg/L	Not applicable	Not applicable	4.07	6.08	6.93	4.75	6.04	7
Chloride (Cl)	mg/L	120	CCME	15.1	17.4	26.8	29	22.8	34.3
Chromium	mg/L	0.050	Not applicable	0.000788	0.00105	< 0.00050	0.000697	< 0.00050	< 0.00050
Chromium, Hexavalent (Cr6+)	mg/L	0.001	O. Reg. 169/03 and GCDWQ	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Chromium, trivalent [Cr III]	mg/L	0.0089	CCME and PWQO	0.00079	0.00105	< 0.00050	0.0007	< 0.00050	<0.00050
Copper	mg/L	0.00200 - 0.00 400	CCME	0.00143	0.00402	0.00152	0.00162	0.00122	0.00131
Dissolved Oxygen	mg/L	6.0	CCME	11.2	5.34	9.92	12.06	7.62	9.5
Ethylbenzene	ug/L	8.0	PWQO	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
F1 (C6-C10)	ug/L	Not applicable	PWQO	< 25	< 25	< 25	< 25	< 25	< 25
F1-BTEX	ug/L	Not applicable	Not applicable	< 25	< 25	< 25	< 25	< 25	< 25
F2 (C10-C16)	ug/L	Not applicable	Not applicable	< 100	< 100	< 100	< 100	< 100	< 100
F3 (C16-C34)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250	< 250	< 250	< 250
F4 (C34-C50)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250	< 250	< 250	< 250
Reached Baseline at C50	None	Not applicable	Not applicable	Yes	Yes	Yes	Yes	Yes	Yes

Analyte	**Unit**	**Lowest Screening Criteria**	**Source of Screening Criteria**	**Stream C Upstream SW1 03/18/2025**	**Stream C Upstream SW1 08/11/2025**	**Stream C Upstream SW1 10/28/2025**	**Stream C Downstream SW2 03/18/2025**	**Stream C Downstream SW2 08/11/2025**	**Stream C Downstream SW2 10/28/2025**
Fluoride	mg/L	0.120	CCME	0.182	0.338	0.265	0.225	0.304	0.294
Hardness (as CaCO3)	mg/L	Not applicable	Not applicable	168	304	271	181	266	279
Iron	mg/L	0.300	GCDWQ	0.449	2.84	0.336	0.295	0.331	0.201
Lead	mg/L	0.001 - 0.005	CCME / GCDWQ	0.000222	0.000688	0.000151	0.000169	0.000171	0.000196
Mercury	mg/L	0.000026	CCME	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005	< 0.000005
Molybdenum	mg/L	0.040	PWQO	0.000214	0.000128	0.000178	0.000314	0.000245	0.000319
Nickel	mg/L	0.025	PWQO	0.000824	0.00139	0.00057	0.000671	0.00066	0.00064
Nitrate (as N)	mg/L	2.9	CCME	0.376	<0.020	1.03	0.347	0.026	0.109
Nitrite (as N)	mg/L	0.060	CCME	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	<. 0010.0
o-Xylene	ug/L	Not applicable	Not applicable	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
pH	None	6.5-8.5	PWQO	7.78	7.32	7.46	7.98	7.89	7.86
Phenols, total (4AAP)	mg/L	0.001	PWQO	< 0.0010	< 0.0010	< 0.0010	< 0.0010	< 0.0010	0.0017
Phosphorus	mg/L	0.020	PWQO	0.0339	0.146	0.0412	0.0223	0.0583	0.0168
Selenium	mg/L	0.050	CCME	0.0000867	0.000147	0.000109	0.000118	0.000145	0.000119
Solids, total suspended [TSS]	mg/L	Not applicable	Not applicable	3.1	51.6	4.1	< 3.0	8	5.1
Specific Conductivity	uS/cm	Not applicable	Not applicable	0.356	0.52	0.563	0.419	0.566	0.598
Sulfate	mg/L	Not applicable	Not applicable	5.55	6.89	6.89	7.86	4.02	9.16

Analyte	Unit	Lowest Screening Criteria	Source of Screening Criteria	Stream C Upstream SW1 03/18/2025	Stream C Upstream SW1 08/11/2025	Stream C Upstream SW1 10/28/2025	Stream C Downstream SW2 03/18/2025	Stream C Downstream SW2 08/11/2025	Stream C Downstream SW2 10/28/2025
Temperature	˚C	Not applicable	Not applicable	4.1	25.4	8.6	3.0	24.1	8.2
Toluene	ug/L	0.8	PWQO	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total dissolved solids	mg/L	Not applicable	Not applicable	186	334	331	222	330	335
Uranium (U)	mg/L	0.020	O. Reg. 169/03	0.000314	0.000187	0.000487	0.000448	0.0005	0.000716
Vanadium	mg/L	0.006	PWQO	0.000948	0.00123	0.00057	0.000728	0.00074	0.00054
Xylenes, m & p	ug/L	Not applicable	Not applicable	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Xylenes, Total	ug/L	2.0	PWQO	<0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Zinc	mg/L	0.015 – 0.020	CCME and PWQO	0.00453	0.0235	0.0034	0.00594	0.0032	0.0033

Table 98 – The Results of Surface Water Quality Samples Taken in 2025 from the Eastern Drainage Ditch (SW3)

Screening criteria chosen are the most conservative available. The screening criteria for aluminum varies and is calculated on a per sample basis using pH measured at the time of sampling event. The screening criteria for total cadmium, total copper, total lead and total nickel vary with hardness and are calculated on a per sample basis using hardness measured at the time of sampling event. The screening criteria for zinc varies and is calculated on a per sample basis using hardness, pH and Dissolved Organic Carbon measured at time of sampling event.
Table results are in milligrams per litre mg/L, micrograms per litre ug/L, and microsiemens per centimeter uS/cm.

Analyte	Unit	Lowest Screening Criteria	Source of Screening Criteria	Eastern Drainage Ditch SW3 03/18/2025	Eastern Drainage Ditch SW3 (Duplicate) 08/11/2025	Eastern Drainage Ditch SW3 10/28/2025
Alkalinity, Total (as CaCO3)	mg/L	Not applicable	Not applicable	225	264	297
Aluminum	mg/L	0.075	PWQO	0.0526	0.223	0.0306
Ammonia, total (as N)	mg/L	Not applicable	Not applicable	0.179	0.103	0.032
Ammonia, unionized (as NH_3-N)	mg/L	0.0156	CCME	0.00266	0.00158	0.00029
Antimony	mg/L	0.006	GCDWQ and O. Reg. 169/03	< 0.0010	< 0.00010	< 0.00010
Arsenic	mg/L	0.005	CCME and PWQO	< 0.0010	< 0.0010	< 0.0010
Barium	mg/L	1.0	O. Reg. 169/03	0.0564	0.0945	0.0617
Benzene	ug/L	1.0	O. Reg. 169/03	< 0.50	< 0.50	< 0.50
Boron	mg/L	0.200	PWQO	< 0.100	< 0.100	< 0.100
Cadmium	mg/L	0.00010 - 0.00037	CCME and PWQO	< 0.00005	0.000097	< 0.00005
Carbon, dissolved organic [DOC]	mg/L	Not applicable	Not applicable	6.16	5.99	6.43
Chloride (Cl)	mg/L	120	CCME	716	747	481

Analyte	**Unit**	**Lowest Screening Criteria**	**Source of Screening Criteria**	**Eastern Drainage Ditch SW3 03/18/2025**	**Eastern Drainage Ditch SW3 (Duplicate) 08/11/2025**	**Eastern Drainage Ditch SW3 10/28/2025**
Chromium	mg/L	0.050	Not applicable	< 0.005	< 0.00050	< 0.00050
Chromium, Hexavalent (Cr6+)	mg/L	0.001	O. Reg. 169/03 and GCDWQ	< 0.00050	< 0.00050	< 0.00050
Chromium, trivalent [Cr III]	mg/L	0.0089	CCME and PWQO	< 0.00065	< 0.00050	< 0.00050
Copper	mg/L	0.00200 - 0.00400	CCME	< 0.005	< 0.0050	< 0.0050
Dissolved Oxygen	mg/L	6.0	CCME	11.43	2.84	6.6
Ethylbenzene	ug/L	8.0	PWQO	< 0.50	< 0.50	< 0.50
F1 (C6-C10)	ug/L	Not applicable	PWQO	< 25	< 25	< 25
F1-BTEX	ug/L	Not applicable	Not applicable	< 25	< 25	< 25
F2 (C10-C16)	ug/L	Not applicable	Not applicable	< 100	< 100	< 100
F3 (C16-C34)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250
F4 (C34-C50)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250
Reached Baseline at C50	None	Not applicable	Not applicable	Yes	Yes	Yes
Fluoride	mg/L	0.120	CCME	0.548	0.781	0.769
Hardness (as CaCO3)	mg/L	Not applicable	Not applicable	337	322	299
Iron	mg/L	0.300	GCDWQ	< 0.100	0.739	< 0.100
Lead	mg/L	0.001 – 0.005	CCME / GCDWQ	< 0.0005	0.000693	< 0.00050
Mercury	mg/L	0.000026	CCME	< 0.000005	< 0.000005	< 0.000005
Molybdenum	mg/L	0.040	PWQO	0.00109	0.00197	0.00157
Nickel	mg/L	0.025	PWQO	< 0.005	< 0.0050	< 0.0050
Nitrate (as N)	mg/L	2.9	CCME	0.585	< 100	0.253

Analyte	Unit	Lowest Screening Criteria	Source of Screening Criteria	Eastern Drainage Ditch SW3 03/18/2025	Eastern Drainage Ditch SW3 (Duplicate) 08/11/2025	Eastern Drainage Ditch SW3 10/28/2025
Nitrite (as N)	mg/L	0.060	CCME	< 0.050	< 0.050	< 0.050
o-Xylene	ug/L	Not applicable	Not applicable	< 0.30	< 0.30	< 0.30
pH	None	6.5-8.5	PWQO	8.08	7.51	7.75
Phenols, total (4AAP)	mg/L	0.001	PWQO	< 0.0010	0.0014	0.001
Phosphorus	mg/L	0.020	PWQO	0.0071	60.6	0.008
Selenium	mg/L	0.050	CCME	< 0.0005	< 0.5	< 0.00005
Solids, total suspended [TSS]	mg/L	Not applicable	Not applicable	< 3	39.6	5.3
Specific Conductivity	uS/cm	Not applicable	Not applicable	2.75	2.86	2.07
Sulfate	mg/L	Not applicable	Not applicable	28.2	23.4	22.6
Temperature	˚C	Not applicable	Not applicable	5.1	22.7	8.3
Toluene	ug/L	0.8	PWQO	< 0.50	< 0.50	< 0.50
Total dissolved solids	mg/L	Not applicable	Not applicable	1430	1510	1100
Uranium (U)	mg/L	0.020	O. Reg. 169/03	0.00161	2.37	0.00233
Vanadium	mg/L	0.006	PWQO	0.0176	< 5.0	0.00919
Xylenes, m & p	ug/L	Not applicable	Not applicable	< 0.40	< 0.40	< 0.40
Xylenes, Total	ug/L	2.0	PWQO	< 0.50	< 0.50	< 0.50
Zinc	mg/L	0.015 - 0.020	CCME and PWQO	< 0.030	0.0406	< 0.030

Table 99 – The Results of Surface Water Quality Samples Taken in 2025 from the Former Sewage Lagoon (FSL).

Screening criteria chosen are the most conservative available. The screening criteria for aluminum varies and is calculated on a per sample basis using pH measured at the time of sampling event. The screening criteria for total cadmium, total copper, total lead and total nickel vary with hardness and are calculated on a per sample basis using hardness measured at the time of sampling event. The screening criteria for zinc varies and is calculated on a per sample basis using hardness, pH and Dissolved Organic Carbon measured at time of sampling event. Table results are in milligrams per litre mg/L, micrograms per litre ug/L, and microsiemens per centimeter uS/cm.

Analyte	Unit	Lowest Screening Criteria	Source of Screening Criteria	Former Sewage Lagoon (FSL) 03/18/2025	Former Sewage Lagoon (FSL) 08/11/2025	Former Sewage Lagoon (FSL) (Duplicate) 08/11/2025	Former Sewage Lagoon (FSL) 10/29/2025
Alkalinity, Total (as $CaCO_3$)	mg/L	Not applicable	Not applicable	108	55.1	61.7	77.3
Aluminum	mg/L	0.075	PWQO	0.0254	0.138	0.129	0.0492
Ammonia, total (as N)	mg/L	Not applicable	Not applicable	0.568	0.268	0.0245	0.114
Ammonia, unionized (as NH_3-N)	mg/L	0.0156	CCME	0.02047	0.00323	0.00030	0.02103
Antimony	mg/L	0.006	GCDWQ and O. Reg. 169/03	0.00018	0.0003	0.0003	0.00023
Arsenic	mg/L	0.005	CCME and PWQO	0.00032	0.00044	0.00041	0.00034
Barium	mg/L	1.0	O. Reg. 169/03	0.00838	0.014	0.0147	<.0100
Benzene	ug/L	1.0	O. Reg. 169/03	< 0.50	< 0.50	< 0.50	< 0.50
Boron	mg/L	0.200	PWQO	< 0.010	0.01	< 0.010.0	< 0.010.0
Cadmium	mg/L	0.00010 - 0.00037	CCME and PWQO	0.0000087	0.0000256	0.0000704	0.0000054
Carbon, dissolved organic [DOC]	mg/L	Not applicable	Not applicable	7.71	9.84	10	9.57
Chloride (Cl)	mg/L	120	CCME	1.22	2.49	1.1	1.56
Chromium	mg/L	0.050	Not applicable	< 0.00050	< 0.00050	< 0.00050	< 0.00050

Analyte	**Unit**	**Lowest Screening Criteria**	**Source of Screening Criteria**	**Former Sewage Lagoon (FSL) 03/18/2025**	**Former Sewage Lagoon (FSL) 08/11/2025**	**Former Sewage Lagoon (FSL) (Duplicate) 08/11/2025**	**Former Sewage Lagoon (FSL) 10/29/2025**
Chromium, Hexavalent (Cr6+)	mg/L	0.001	O. Reg. 169/03 and GCD WQ	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Chromium, trivalent [Cr III]	mg/L	0.0089	CCME and PWQO	< 0.00050	< 0.00050	< 0.00050	< 0.00050
Copper	mg/L	0.00200 - 0.00400	CCME	0.00107	0.00078	0.00168	0.00085
Dissolved Oxygen	mg/L	6.0	CCME	9.9	5.34	5.34	-
Ethylbenzene	ug/L	8.0	PWQO	< 0.50	< 0.50	< 0.50	< 0.50
F1 (C6-C10)	ug/L	Not applicable	PWQO	< 25	< 25	< 25	< 25
F1-BTEX	ug/L	Not applicable	Not applicable	< 25	< 25	< 25	< 25
F2 (C10-C16)	ug/L	Not applicable	Not applicable	< 100	< 100	< 100	< 100
F3 (C16-C34)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250	< 250
F4 (C34-C50)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250	< 250
Reached Baseline at C50	None	Not applicable	Not applicable	Yes	Yes	Yes	Yes
Fluoride	mg/L	0.120	CCME	0.363	0.42	0.422	0.418
Hardness (as $CaCO_3$)	mg/L	Not applicable	Not applicable	115	83.8	83.9	77.3
Iron	mg/L	0.300	GCDWQ	0.02	0.134	0.028	0.03
Lead	mg/L	0.001 – 0.005	CCME / GCDWQ	< 0.00005	0.00026	0.00177	0.000203
Mercury	mg/L	0.000026	CCME	< 0.000005	< 0.000005	< 0.000005	< 0.000005
Molybdenum	mg/L	0.040	PWQO	0.000098	0.000173	0.000188	0.000076
Nickel	mg/L	0.025	PWQO	< 0.00050	< 0.0005	< 0.0005	< 0.00050

Analyte	**Unit**	**Lowest Screening Criteria**	**Source of Screening Criteria**	**Former Sewage Lagoon (FSL) 03/18/2025**	**Former Sewage Lagoon (FSL) 08/11/2025**	**Former Sewage Lagoon (FSL) (Duplicate) 08/11/2025**	**Former Sewage Lagoon (FSL) 10/29/2025**
Nitrate (as N)	mg/L	2.9	CCME	< 0.02	0.288	< 0.020	< 0.020
Nitrite (as N)	mg/L	0.060	CCME	< 0.010	< 0.010	< 0.010	< 0.010
o-Xylene	ug/L	Not applicable	Not applicable	< 0.30	< 0.30	< 0.30	< 0.30
pH	None	6.5-8.5	PWQO	8.4	7.32	7.32	9.13
Phenols, total (4AAP)	mg/L	0.001	PWQO	< 0.0010	0.0011	< 0.0010	< 0.0010
Phosphorus	mg/L	0.020	PWQO	0.0162	0.075	0.0886	0.0187
Selenium	mg/L	0.050	CCME	< 0.00005	< 0.00005	< 0.00005	< 0.00005
Solids, total suspended [TSS]	mg/L	Not applicable	Not applicable	< 3.0	29.6	55.4	< 3.0
Specific Conductivity	U S/cm	Not applicable	Not applicable	0.285	0.52	0.52	0.15
Sulfate	mg/L	Not applicable	Not applicable	0.3	4.46	< 0.30	0.62
Temperature	˚C	Not applicable	Not applicable	7.2	25.4	25.4	8.7
Toluene	ug/L	0.8	PWQO	< 0.50	< 0.50	< 0.50	< 0.50
Total dissolved solids	mg/L	Not applicable	Not applicable	116	95	76	75
Uranium (U)	mg/L	0.020	O. Reg. 169/03	<0.000115	0.000099	0.000097	0.000067
Vanadium	mg/L	0.006	PWQO	< 0.0005	< 0.0005	< 0.0005	< 0.00050
Xylenes, m & p	ug/L	Not applicable	Not applicable	< 0.40	< 0.40	< 0.40	< 0.40
Xylenes, Total	ug/L	2.0	PWQO	< 0.50	< 0.50	< 0.50	< 0.50
Zinc	mg/L	0.015 - 0.020	CCME and PWQO	0.0042	0.0068	0.0069	< 0.003

Table 100 – The Results of Surface Water Quality Samples Taken in 2025 from the B31 Pond

Screening criteria chosen are the most conservative available. The screening criteria for aluminum varies and is calculated on a per sample basis using pH measured at the time of sampling event. The screening criteria for total cadmium, total copper, total lead and total nickel vary with hardness and are calculated on a per sample basis using hardness measured at the time of sampling event. The screening criteria for zinc varies and is calculated on a per sample basis using hardness, pH and Dissolved Organic Carbon measured at time of sampling event. Table results are in milligrams per litre mg/L, micrograms per litre ug/L, and microsiemens per centimeter uS/cm.

Analyte	Unit	Lowest Screening Criteria	Source of Screening Criteria	B31 Pond 03/18/2025	B31 Pond 08/11/2025	B31 Pond 10/29/2025
Alkalinity, Total (as $CaCO_3$)	mg/L	Not applicable	Not applicable	166	122	88.5
Aluminum	mg/L	0.075	PWQO	0.0715	0.334	0.0113
Ammonia, total (as N)	mg/L	Not applicable	Not applicable	0.0291	0.438	0.0711
Ammonia, unionized (as NH_3-N)	mg/L	0.0156	CCME	0.00032	0.01798	0.00192
Antimony	mg/L	0.006	GCDWQ and O. Reg. 169/03	0.0001	0.00012	0.00011
Arsenic	mg/L	0.005	CCME and PWQO	0.00022	0.00082	0.00022
Barium	mg/L	1.0	O. Reg. 169/03	0.0197	0.0238	0.0108
Benzene	ug/L	1.0	O. Reg. 169/03	< 0.50	< 0.50	< 0.50
Boron	mg/L	0.200	PWQO	0.016	0.096	0.066
Cadmium	mg/L	0.00010 - 0.00037	CCME and PWQO	0.0000367	0.0000337	0.0000069
Carbon, dissolved organic [DOC]	mg/L	Not applicable	Not applicable	3.63	11.2	4.6
Chloride (Cl)	mg/L	120	CCME	91	116	77.6
Chromium	mg/L	0.050	Not applicable	< 0.00050	0.00104	< 0.00050
Chromium, Hexavalent (Cr6+)	mg/L	0.001	O. Reg. 169/03 and GCDWQ	< 0.00050	< 0.00050	< 0.00050
Chromium, trivalent [Cr III]	mg/L	0.0089	CCME and PWQO	< 0.00050	0.00104	< 0.00050
Copper	mg/L	0.00200 - 0.00400	CCME	0.00222	0.00315	0.00164

Analyte	**Unit**	**Lowest Screening Criteria**	**Source of Screening Criteria**	**B31 Pond 03/18/2025**	**B31 Pond 08/11/2025**	**B31 Pond 10/29/2025**
Dissolved Oxygen	mg/L	6.0	CCME	10.9	3.86	8.9
Ethylbenzene	ug/L	8.0	PWQO	< 0.50	< 0.50	< 0.50
F1 (C6-C10)	ug/L	Not applicable	PWQO	< 25	< 25	< 25
F1-BTEX	ug/L	Not applicable	Not applicable	< 25	< 25	< 25
F2 (C10-C16)	ug/L	Not applicable	Not applicable	< 100	< 100	< 100
F3 (C16-C34)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250
F4 (C34-C50)	ug/L	Not applicable	Not applicable	< 250	< 250	< 250
Reached Baseline at C50	None	Not applicable	Not applicable	Yes	Yes	Yes
Fluoride	mg/L	0.120	CCME	0.252	0.379	0.296
Hardness (as CaCO3)	mg/L	Not applicable	Not applicable	212	247	98
Iron	mg/L	0.300	GCDWQ	0.077	1.17	0.049
Lead	mg/L	0.001 – 0.005	CCME / GCDWQ	0.000178	0.00123	0.000264
Mercury	mg/L	0.000026	CCME	< 0.000005	< 0.000005	< 0.000005
Molybdenum	mg/L	0.040	PWQO	0.0004	0.00032	0.0004
Nickel	mg/L	0.025	PWQO	< 0.00050	0.00096	< 0.00050
Nitrate (as N)	mg/L	2.9	CCME	0.045	0.11	<0.020
Nitrite (as N)	mg/L	0.060	CCME	< 0.010	< 0.010	< 0.010
o-Xylene	ug/L	Not applicable	Not applicable	< 0.30	< 0.30	< 0.30
pH	None	6.5 – 8.5	PWQO	7.89	7.89	8.32
Phenols, total (4AAP)	mg/L	0.001	PWQO	< 0.0010	0.0015	< 0.0010
Phosphorus	mg/L	0.020	PWQO	0.0159	0.07412	0.0134

Analyte	**Unit**	**Lowest Screening Criteria**	**Source of Screening Criteria**	**B31 Pond 03/18/2025**	**B31 Pond 08/11/2025**	**B31 Pond 10/29/2025**
Selenium	mg/L	0.050	CCME	0.000098	0.000104	< 0.00005
Solids, total suspended [TSS]	mg/L	Not applicable	Not applicable	< 3.0	100	< 3.0
Specific Conductivity	U S/c m	Not applicable	Not applicable	0.698	0.636	0.414
Sulfate	mg/L	Not applicable	Not applicable	23.6	2.24	10.2
Temperature	˚C	Not applicable	Not applicable	6.8	24.6	5.8
Toluene	ug/L	0.8	PWQO	< 0.50	< 0.50	< 0.50
Total dissolved solids	mg/L	Not applicable	Not applicable	354	338	232
Uranium (U)	mg/L	0.020	O. Reg. 169/03	0.000654	0.000366	0.000194
Vanadium	mg/L	0.006	PWQO	< 0.0005	0.00147	< 0.00050
Xylenes, m & p	ug/L	Not applicable	Not applicable	< 0.40	< 0.40	< 0.40
Xylenes, Total	ug/L	2.0	PWQO	< 0.50	< 0.50	< 0.50
Zinc	mg/L	0.015 – 0.020	CCME and PWQO	0.0207	0.0163	0.0038

Table 101 – The Range and Number of Water Quality Measurements Taken from On-site Surface Water Monitoring Locations at Bruce Power between 2020 and 2025.

(Table results are in milligrams per litre mg/L, micrograms per litre ug/L, and microsiemens per centimeter uS/cm.)

Parameter	Unit	Historical Trend (2020 – 2025) Range (min to max)	Historical Trend (2020 – 2025) Number of observations	Historical Trend (2020 – 2025) Number of exceedances (if applicable)
Alkalinity, Total (as CaCO3)	mg/L	51.7 – 315	90	Not applicable
Aluminum	mg/L	0.0065 – 2.23	90	44
Ammonia, total (as N)	mg/L	0.0092 – 22	90	Not applicable
Ammonia, unionized (as NH_3-N)	mg/L	0.000065 – 1.6	88	10
Antimony	mg/L	< 0.0001 – 0.0004	84	0
Arsenic	mg/L	< 0.00010 – 0.0012	84	0
Barium	mg/L	0.0017 – 0.16	90	0
Benzene	ug/L	< 0.20 – <0.50	87	0
Boron	mg/L	< 0.010 – 0.13	84	0
Cadmium	mg/L	< 0.0000050 – 0.000097	90	0
Carbon, dissolved organic [DOC]	mg/L	3.25 – 12.4	77	Not applicable
Chloride (Cl)	mg/L	1.04 - 838	80	20
Chromium	mg/L	0.00010 – 0.012	90	0
Chromium, Hexavalent (Cr6+)	mg/L	0.0002 – <0.0005	90	0
Chromium, trivalent [Cr III]	mg/L	< 0.00050 – 0.011	85	1

Parameter	**Unit**	**Historical Trend (2020 – 2025)** **Range (min to max)**	**Historical Trend (2020 – 2025)** **Number of observations**	**Historical Trend (2020 – 2025)** **Number of exceedances (if applicable)**
Copper	mg/L	<0.00050 – 0.019	90	11
Dissolved Oxygen	mg/L	2.50 – 19.3	82	8
Ethylbenzene	ug/L	< 0.20 – <0.50	87	0
F1 (C6-C10)	ug/L	< 25	87	Not applicable
F1-BTEX	ug/L	< 25 – <100	81	Not applicable
F2 (C10-C16)	ug/L	< 100	88	Not applicable
F3 (C16-C34)	ug/L	< 200 – 860	88	Not applicable
F4 (C34-C50)	ug/L	< 200 – 280	88	Not applicable
Reached Baseline at C50	None	Yes	82	Not applicable
Fluoride	mg/L	0.0293 – 0.862	88	84
Hardness (as $CaCO_3$)	mg/L	52.7 – 347	88	Not applicable
Iron	mg/L	0.020 – 3.07	90	34
Lead	mg/L	< 0.00001 – 0.0022	90	0
Mercury	mg/L	< 0.000001 – 0.000025	90	0
Molybdenum	mg/L	0.000076 – 0.0021	90	0
Nickel	mg/L	0.00030 – 0.0030	90	0
Nitrate (as N)	mg/L	< 0.020 – 4.6	88	1
Nitrite (as N)	mg/L	< 0.010 – <0.050	88	0
o-Xylene	ug/L	< 0.20 – <0.50	87	Not applicable
pH	None	7.0 – 9.9	90	10

Parameter	**Unit**	**Historical Trend (2020 – 2025) Range (min to max)**	**Historical Trend (2020 – 2025) Number of observations**	**Historical Trend (2020 – 2025) Number of exceedances (if applicable)**
Phenols, total (4AAP)	mg/L	< 0.0010 – 0.022	77	39
Phosphorus	mg/L	0.0054 – 0.23	88	49
Selenium	mg/L	< 0.000050 – 0.00022	84	0
Solids, total suspended [TSS]	mg/L	2.00 – 123	90	Not applicable
Specific Conductivity	U S/c m	111 – 3180	88	Not applicable
Sulfate	mg/L	< 0.30 – 33	82	Not applicable
Temperature	˚C	1.05 – 26.4	86	Not applicable
Toluene	ug/L	< 0.0002 – <0.0005	81	0
Total dissolved solids	mg/L	36 – 1560	90	Not applicable
Uranium (U)	mg/L	0.000067 – 0.0023	90	0
Vanadium	mg/L	0.00022 – 0.025	90	12
Xylenes, m & p	ug/L	< 0.40 – 0.50	87	Not applicable
Xylenes, Total	ug/L	< 0.40 – 0.81	87	0
Zinc	mg/L	< 0.0011 – 0.066	90	6

APPENDIX G:ON-SITE SEDIMENT SAMPLE RESULTS

Table 102 – Sediment Quality Results from Samples Collected Between 11/15/2024 to 09/10/2025 in the Eastern Drainage Ditch (SW3), Former Sewage Lagoon (FSL) and Stream C (SW1, SW2).
(All units are in milligram per kilogram, except for moisture which is a percentage.)

Analyte	Unit	Eastern Drainage Ditch SW3 11/15/2024	Eastern Drainage Ditch SW3 09/10/2025	Former Sewage Lagoon FSL-1 11/15/2024	Former Sewage Lagoon FSL-2 11/15/2024	Stream C Upstream SW1 09/10/2025	Stream C Downstream SW2 09/10/2025
1,4-Difluorobenzene	%	-	-	79	78	-	-
2-Bromobenzotrifluoride	%	-	-	104	95.4	-	-
3,4-Dichlorotoluene	%	-	-	67.8	63.9	-	-
1- & 2-Methylnaphthalene	mg/kg	-	0.05	-	-	0.05	0.05
1-Methylnaphthalene	mg/kg	-	0.03	-	-	0.03	0.03
2-Methylnaphthalene	mg/kg	-	0.03	-	-	0.03	0.03
Acenaphthene	mg/kg	-	0.05	-	-	0.05	0.05
Acenaphthylene	mg/kg	-	0.05	-	-	0.05	0.05
Aluminum	mg/kg	6150	4130	7960	8360	4700	3490
Anthracene	mg/kg	-	0.05	-	-	0.05	0.05
Antimony	mg/kg	0.42	0.28	0.93	2.64	0.1	0.1
Arsenic	mg/kg	2.52	1.65	2.63	2.25	1.8	1.12
Barium	mg/kg	77.3	57.8	34.5	39.8	25.7	14.6
Benzene	mg/kg	0.0161	0.0066	< 0.005	< 0.0107	0.005	0.005
Benzo(a)anthracene	mg/kg	-	0.05	-	-	0.05	0.05
Benzo(a)pyrene	mg/kg	-	0.05	-	-	0.05	0.05
Benzo(b/j)fluoranthene	mg/kg	-	0.05	-	-	0.05	0.05
Benzo(g,h,i)perylene	mg/kg	-	0.05	-	-	0.05	0.05

Analyte	**Unit**	**Eastern Drainage Ditch SW3 11/15/2024**	**Eastern Drainage Ditch SW3 09/10/2025**	**Former Sewage Lagoon FSL-1 11/15/2024**	**Former Sewage Lagoon FSL-2 11/15/2024**	**Stream C Upstream SW1 09/10/2025**	**Stream C Downstream SW2 09/10/2025**
Benzo(k)fluoranthene	mg/kg	-	0.05	-	-	0.05	0.05
Beryllium	mg/kg	0.3	0.15	0.27	0.13	0.2	0.13
Bismuth	mg/kg	0.2	0.3	0.39	0.83	0.2	0.2
Boron	mg/kg	17.4	9.3	12.7	9.1	9.4	8.5
Cadmium	mg/kg	0.672	0.369	0.665	1.29	0.073	0.09
Calcium	mg/kg	173000	200000	121000	123000	98500	81900
Chrom. to baseline at nC50	None	1	1	< 1	< 1	1	1
Chromium	mg/kg	16.1	10.7	16.2	17.1	10.9	8.92
Chromium, Hexavalent (Cr6+)	mg/kg	0.1	0.1	< 0.1	< 0.1	0.1	0.1
Chromium, Trivalent (Cr 3+)	mg/kg	16.1	10.7	16.2	17.1	10.9	8.92
Chrysene	mg/kg	-	0.05	-	-	0.05	0.05
Cobalt	mg/kg	4.51	2.87	3.68	2.05	3.58	2.11
Copper	mg/kg	32	27	44.6	77.2	9.01	5.18
Dibenzo(a,h)anthracene	mg/kg	-	0.05	-	-	0.05	0.05
Dissolved Oxygen, Field	mg/L	-	2	-	-	8.7	8.6
Ethylbenzene	mg/kg	0.04	0.016	< 0.015	< 0.027	0.015	0.015
F1 (C6-C10)	mg/kg	5	20	< 5	< 5	5	6.5
F1 (C6-C10)-BTEX	mg/kg	5	20	< 5	< 5	5	6.5
F2 (C10-C16)	mg/kg	31	19	< 10	< 23	10	11
F3 (C16-C34)	mg/kg	338	503	233	350	50	50
F4 (C34-C50)	mg/kg	219	346	< 50	96	50	50
F4G-SG (GHH-Silica)	mg/kg	-	1260	-	-	-	-
Field Conductivity	mS/cm	-	2.56	-	-	0.62	0.637

Analyte	**Unit**	**Eastern Drainage Ditch SW3 11/15/2024**	**Eastern Drainage Ditch SW3 09/10/2025**	**Former Sewage Lagoon FSL-1 11/15/2024**	**Former Sewage Lagoon FSL-2 11/15/2024**	**Stream C Upstream SW1 09/10/2025**	**Stream C Downstream SW2 09/10/2025**
Field Temperature	deg c	-	14	-	-	17.4	17.9
Fluoranthene	mg/kg	-	0.05	-	-	0.05	0.05
Fluorene	mg/kg	-	0.05	-	-	0.05	0.05
Fraction of Organic Carbon (FOC)	None	0.0515	0.0293	0.0231	0.0325	0.007	0.0169
Fraction of Organic Carbon (FOC) - Calculated	None	0.0515	0.0293	-	-	0.007	0.0169
Indeno(1,2,3-cd)pyrene	mg/kg	-	0.05	-	-	0.05	0.05
Iron	mg/kg	10800	7630	10200	6910	10100	7200
Lead	mg/kg	10.9	11.8	14.2	24.7	3.32	3.87
Lithium	mg/kg	9.2	4.3	7.8	4.6	5.8	3.8
Magnesium	mg/kg	38900	50400	37900	58700	32100	31700
Manganese	mg/kg	328	223	331	195	670	274
Mercury	mg/kg	0.0574	0.0337	0.126	0.178	0.0158	0.0156
Methylmercury (as MeHg)	µg/kg	-	0.333	-	-	0.127	0.121
Moisture	%	81.5	59	38.5	70.9	32.1	41
Molybdenum	mg/kg	1.32	1.42	0.96	1.64	0.18	0.17
Naphthalene	mg/kg	-	0.01	-	-	0.01	0.01
Nickel	mg/kg	16.8	10.6	13	10.8	7.56	5.38
P-Bromofluorobenzene	%	-	-	82.3	81.1	-	-
pH	pH	-	7.44	-	-	7.43	8.26
Phenanthrene	mg/kg	-	0.05	-	-	0.05	0.05
Phosphorus	mg/kg	-	-	1990	2850	-	-
Potassium	mg/kg	1280	830	1020	420	990	620
Pyrene	mg/kg	-	0.05	-	-	0.05	0.05

Analyte	**Unit**	**Eastern Drainage Ditch SW3 11/15/2024**	**Eastern Drainage Ditch SW3 09/10/2025**	**Former Sewage Lagoon FSL-1 11/15/2024**	**Former Sewage Lagoon FSL-2 11/15/2024**	**Stream C Upstream SW1 09/10/2025**	**Stream C Downstream SW2 09/10/2025**
Selenium	mg/kg	0.91	0.42	0.27	0.65	0.2	0.27
Silver	mg/kg	1.72	5.78	7.24	17.3	0.1	0.1
Sodium	mg/kg	1190	725	179	148	181	184
Strontium	mg/kg	792	940	423	456	121	85.4
Sulfur	mg/kg	3900	1700	< 1000	1800	1000	1000
Thallium	mg/kg	0.41	0.216	0.079	0.061	0.052	0.05
Tin	mg/kg	2	3	4.4	7.6	2	2
Titanium	mg/kg	188	195	220	84	265	300
Toluene	mg/kg	0.05	0.05	< 0.05	< 0.05	0.05	0.05
Total BTEX	mg/kg	0.1	0.1	< 0.1	< 0.1	0.1	0.1
Total Hydrocarbons (C6-C50)	mg/kg	557	888	233	446	80	80
Total Organic Carbon (TOC)	mg/kg	51500	29300	2.31	3.25	7000	16900
Tungsten	mg/kg	0.5	0.74	< 0.5	< 0.5	0.5	0.5
Uranium	mg/kg	1.98	1.11	0.709	1.49	0.45	0.672
Vanadium	mg/kg	71.7	40.3	17.8	14.8	16	14.4
Xylene, o	mg/kg	0.04	0.03	< 0.03	< 0.03	0.03	0.03
Xylenes, m & p	mg/kg	0.06	0.03	< 0.03	< 0.04	0.03	0.03
Xylenes, Total	mg/kg	0.072	0.05	< 0.05	< 0.05	0.05	0.05
Zinc	mg/kg	388	233	97.5	162	22.7	22.6
Zirconium	mg/kg	1.1	1.5	< 1	< 1	1.5	1

APPENDIX H: ON-SITE SOIL SAMPLE RESULTS

Table 103 – The Number of Soil Samples Collected, and the Min, and Max, of Soil Chemistry Analyses of Samples Collected from Construction Landfill Site #4 (CL4) on 11/27/2024.
(All units are milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
1- & 2-Methylnaphthalene	15	< 0.15	< 0.15
1,1'-Biphenyl	15	< 0.1	< 0.1
1,2,4-Trichlorobenzene	15	< 0.1	< 0.1
1,2-Dichlorobenzene	15	< 0.1	< 0.1
1,3-Dichlorobenzene	15	< 0.1	< 0.1
1,4-Dichlorobenzene	15	< 0.1	< 0.1
1-Methylnaphthalene	15	< 0.1	< 0.1
2,3,4,5-Tetrachlorophenol	15	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	15	< 0.1	< 0.1
2,3,4-Trichlorophenol	15	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	15	< 0.1	< 0.1
2,3,5-Trichlorophenol	15	< 0.1	< 0.1
2,4- & 2,6-Dinitrotoluene	15	< 0.2	< 0.2
2,4,5-Trichlorophenol	15	< 0.1	< 0.1
2,4,6-Trichlorophenol	15	< 0.1	< 0.1
2,4-Dichlorophenol	15	< 0.1	< 0.1
2,4-Dimethylphenol	15	< 0.1	< 0.1
2,4-Dinitrophenol	15	< 1	< 1
2,4-Dinitrotoluene	15	< 0.1	< 0.1
2,6-Dichlorophenol	15	< 0.1	< 0.1
2,6-Dinitrotoluene	15	< 0.1	< 0.1
2-Chloronaphthalene	15	< 0.1	< 0.1
2-Chlorophenol	15	< 0.1	< 0.1
2-Methylnaphthalene	15	< 0.1	< 0.1
3,3'-Dichlorobenzidine	15	< 0.1	< 0.1
4-Bromophenyl Phenyl Ether	15	< 0.1	< 0.1
4-Chloro-3-methylphenol	15	< 0.1	< 0.1
4-Chlorophenyl Phenyl Ether	15	< 0.1	< 0.1
4-Nitrophenol	15	< 0.2	< 0.2
Acenaphthene	15	< 0.1	0.61
Acenaphthylene	15	< 0.1	< 0.1
Aluminum	29	3990	18200
Anthracene	15	0.17	1.35
Antimony	29	0.12	2.51
Arsenic	29	1.3	3.83
Barium	29	11.9	98.8
Benzo(a)anthracene	15	0.13	3.73
Benzo(a)pyrene	15	0.1	2.67
Benzo(b/j)fluoranthene	15	0.46	3.02
Benzo(g,h,i)perylene	15	0.17	1.14

Analyte	Number of Samples	Min	Max
Benzo(k)fluoranthene	15	0.11	2.21
Benzyl Butyl Phthalate	15	< 0.1	< 0.1
Beryllium	29	0.16	0.73
Bis(2-chlorisopropyl)ether	15	< 0.1	< 0.1
Bis(2-chloroethoxy)methane	15	< 0.1	< 0.1
Bis(2-chloroethyl)ether	15	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	15	< 0.1	< 0.1
Bismuth	29	< 0.2	< 0.2
Boron	29	5.9	21.4
Cadmium	29	0.097	0.655
Calcium	29	7730	67200
Chromium	29	11.3	33.1
Chromium, Hexavalent (Cr6+)	29	< 0.1	< 0.1
Chromium, Trivalent (Cr 3+)	29	11.3	33.1
Chrysene	15	0.11	3.39
Cobalt	29	2.41	9.4
Copper	29	6.22	204
Dibenzo(a,h)anthracene	15	0.38	0.38
Diethyl Phthalate	15	< 0.1	0.38
Dimethylphthalate	15	< 0.1	< 0.1
Di-n-butyl Phthalate	15	< 0.1	< 0.1
Di-n-octyl Phthalate	15	< 0.1	< 0.1
Diphenylamine	15	< 0.1	< 0.1
Fluoranthene	15	< 0.1	9.38
Fluorene	15	< 0.1	0.48
Hexachlorobenzene	15	< 0.1	< 0.1
Hexachlorobutadiene	15	< 0.1	< 0.1
Hexachlorocyclopentadiene	15	< 0.1	< 0.1
Hexachloroethane	15	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	15	< 0.1	1.81
Iron	29	9590	20100
Isophorone	15	< 0.1	< 0.1
Lead	29	4.2	29
Lithium	29	4.1	25.3
Magnesium	29	6890	30200
Manganese	29	134	668
Mercury	29	0.0114	0.0826
Moisture	29	9.99	36.6
Molybdenum	29	0.17	575
Naphthalene	15	< 0.1	< 0.1
Nickel	29	5.36	27.4
Nitrobenzene	15	< 0.1	< 0.1
N-Nitrosodi-n-propylamine	15	< 0.1	< 0.1
o-Cresol	15	< 0.1	< 0.1
p-Chloroanaline	15	< 0.1	< 0.1
Pentachlorophenol	15	< 0.1	< 0.1
Phenanthrene	15	< 0.1	5.48
Phenol	15	< 0.1	< 0.1

Analyte	**Number of Samples**	**Min**	**Max**
Phosphorus	29	325	809
Potassium	29	380	2980
Pyrene	15	< 0.1	5.37
Selenium	29	< 0.2	1.06
Silver	29	< 0.1	0.46
Sodium	29	77	184
Strontium	29	21.5	499
Sulfur	29	< 1000	1700
Thallium	29	< 0.05	0.202
Tin	29	< 2	2.6
Titanium	29	182	403
Tungsten	29	< 0.5	0.66
Uranium	29	0.308	0.888
Vanadium	29	21.3	65.1
Zinc	29	25.8	380
Zirconium	29	< 1	2

Table 104 – The Number of Soil Samples Collected, and the Min, and Max, of Soil Chemistry Analyses of Samples Collected from Distribution Station #1 (DS1) on 06/10/2025.
(All units are milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
Aroclor 1016	5	< 0.01	< 0.01
Aroclor 1221	5	< 0.01	< 0.01
Aroclor 1232	5	< 0.01	< 0.01
Aroclor 1242	5	< 0.01	< 0.01
Aroclor 1248	5	< 0.01	< 0.01
Aroclor 1254	5	< 0.01	< 0.01
Aroclor 1260	5	< 0.01	< 0.01
Aroclor 1262	5	< 0.01	< 0.01
Aroclor 1268	5	< 0.01	< 0.01
Chrom. to baseline at nC50	5	< 1	< 1
F1 (C6-C10)	5	< 5	< 5
F2 (C10-C16)	5	< 10	< 10
F3 (C16-C34)	5	< 50	< 50
F4 (C34-C50)	5	< 50	< 50
Moisture	5	6.16	7.46
Polychlorinated Biphenyls	5	< 0.03	< 0.03
Total Hydrocarbons (C6-C50)	5	< 80	< 80

Table 105 – The Number of Soil Samples Collected, and the Min, and Max, of Soil Chemistry Analyses of Samples Collected from Distribution Station #4 (DS4) on 12/02/2024.
(All units are milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
1,1,1,2-Tetrachloroethane	5	< 0.05	< 0.05
1,1,1-Trichloroethane	5	< 0.05	< 0.05
1,1,2,2-Tetrachloroethane	5	< 0.05	< 0.05
1,1,2-Trichloroethane	5	< 0.05	< 0.05
1,1-Dichloroethane	5	< 0.05	< 0.05
1,1-Dichloroethene	5	< 0.05	< 0.05
1,2-Dibromoethane	5	< 0.05	< 0.05
1,2-Dichlorobenzene	5	< 0.05	< 0.05
1,2-Dichloroethane	5	< 0.05	< 0.05
1,2-Dichloropropane	5	< 0.05	< 0.05
1,3-Dichlorobenzene	5	< 0.05	< 0.05
1,3-Dichloropropene	5	< 0.05	< 0.05
1,4-Dichlorobenzene	5	< 0.05	< 0.05
Acetone	5	< 0.5	< 0.5
Benzene	5	< 0.005	< 0.005
Bromodichloromethane	5	< 0.05	< 0.05
Bromoform	5	< 0.05	< 0.05
Bromomethane	5	< 0.05	< 0.05
Carbon Disulfide	5	< 0.05	< 0.05
Carbon Tetrachloride	5	< 0.05	< 0.05
Chlorobenzene	5	< 0.05	< 0.05
Chlorodibromomethane	5	< 0.05	< 0.05
Chloroethane	5	< 0.05	< 0.05
Chloroform	5	< 0.05	< 0.05
Chloromethane	5	< 0.05	< 0.05
cis-1,2-Dichloroethene	5	< 0.05	< 0.05
cis-1,3-Dichloropropene	5	< 0.03	< 0.03
Dichlorodifluoromethane	5	< 0.05	< 0.05
Dichloromethane	5	< 0.045	< 0.045
Ethylbenzene	5	< 0.015	< 0.015
Hexanone	5	< 0.5	< 0.5
Methyl Ethyl Ketone	5	< 0.5	< 0.5
Methyl Isobutyl Ketone	5	< 0.5	< 0.5
Methyl tert-butyl ether (MTBE)	5	< 0.04	< 0.04
Moisture	5	10.8	23.6

Analyte	Number of Samples	Min	Max
n-Hexane	5	< 0.05	< 0.05
o-Xylene	5	< 0.03	< 0.03
Styrene	5	< 0.05	< 0.05
Tetrachloroethene	5	< 0.05	< 0.05
Toluene	5	< 0.05	< 0.05
Total Benzene, Toluene, Ethylbenzene and Xylenes	5	< 0.1	< 0.1
Total Trihalomethanes	5	< 0.1	< 0.1
trans-1,2-Dichloroethene	5	< 0.05	< 0.05
trans-1,3-Dichloropropene	5	< 0.03	< 0.03
Trichloroethylene (TCE)	5	< 0.01	< 0.01
Trichlorofluoromethane	5	< 0.05	< 0.05
Vinyl Chloride	5	< 0.02	< 0.02
Xylenes, m & p	5	< 0.03	< 0.03
Xylenes, Total	5	< 0.05	< 0.05

Table 106 – The Number of Soil Samples Collected, and the Min, and Max, of Soil Chemistry Analyses of Samples Collected from the Fire Training Facility (FTF) on 12/03/2024.
(All units are milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
Chrom. to baseline at nC50	5	< 1	< 1
F1 (C6-C10)	5	< 5	< 5
F2 (C10-C16)	5	<10	<10
F3 (C16-C34)	5	< 50	< 50
F4 (C34-C50)	5	<50	<50
Moisture	5	11.4	16.5
Total Hydrocarbons (C6-C50)	5	< 80	< 80

Table 107 – The Number of Soil Samples Collected, and the Min, and Max, of Soil Chemistry Analyses of Samples Collected from the Fire Training Facility (FTF) on 12/18/2024.
(All units are in milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
1- & 2-Methylnaphthalene	4	< 0.15	< 0.15
1,1,1,2-Tetrachloroethane	4	< 0.05	< 0.05
1,1,1-Trichloroethane	4	< 0.05	< 0.05
1,1,2,2-Tetrachloroethane	4	< 0.05	< 0.05
1,1,2-Trichloroethane	4	< 0.05	< 0.05
1,1'-Biphenyl	4	< 0.1	< 0.1
1,1-Dichloroethane	4	< 0.05	< 0.05
1,1-Dichloroethene	4	< 0.05	< 0.05
1,2,4-Trichlorobenzene	4	< 0.1	< 0.1
1,2-Dibromoethane	4	< 0.05	< 0.05
1,2-Dichlorobenzene	8	< 0.05	< 0.1
1,2-Dichloroethane	4	< 0.05	< 0.05
1,2-Dichloropropane	4	< 0.05	< 0.05
1,3-Dichlorobenzene	8	< 0.05	< 0.1
1,3-Dichloropropene	4	< 0.05	< 0.05
1,4-Dichlorobenzene	8	< 0.05	< 0.1
1-Methylnaphthalene	4	< 0.1	< 0.1
2,3,4,5-Tetrachlorophenol	4	< 0.1	< 0.1
2,3,4,6-Tetrachlorophenol	4	< 0.1	< 0.1
2,3,4-Trichlorophenol	4	< 0.1	< 0.1
2,3,5,6-Tetrachlorophenol	4	< 0.1	< 0.1
2,3,5-Trichlorophenol	4	< 0.1	< 0.1
2,4- & 2,6-Dinitrotoluene	4	< 0.2	< 0.2
2,4,5-Trichlorophenol	4	< 0.1	< 0.1
2,4,6-Trichlorophenol	4	< 0.1	< 0.1
2,4-Dichlorophenol	4	< 0.1	< 0.1
2,4-Dimethylphenol	4	< 0.1	< 0.1
2,4-Dinitrophenol	4	< 1	< 1
2,4-Dinitrotoluene	4	< 0.1	< 0.1
2,6-Dichlorophenol	4	< 0.1	< 0.1
2,6-Dinitrotoluene	4	< 0.1	< 0.1
2-Chloronaphthalene	4	< 0.1	< 0.1
2-Chlorophenol	4	< 0.1	< 0.1
2-Methylnaphthalene	4	< 0.1	< 0.1
3,3'-Dichlorobenzidine	4	< 0.1	< 0.1

Analyte	Number of Samples	Min	Max
4-Bromophenyl Phenyl Ether	4	< 0.1	< 0.1
4-Chloro-3-methylphenol	4	< 0.1	< 0.1
4-Chlorophenyl Phenyl Ether	4	< 0.1	< 0.1
4-Nitrophenol	4	< 0.2	< 0.2
Acenaphthene	4	< 0.1	< 0.1
Acenaphthylene	4	< 0.1	< 0.1
Acetone	4	< 0.5	< 0.5
Anthracene	4	< 0.1	< 0.1
Benzene	4	< 0.005	< 0.005
Benzo(a)anthracene	4	< 0.1	< 0.1
Benzo(a)pyrene	4	< 0.1	< 0.1
Benzo(b/j)fluoranthene	4	< 0.1	< 0.1
Benzo(g,h,i)perylene	4	< 0.1	< 0.1
Benzo(k)fluoranthene	4	< 0.1	< 0.1
Benzyl Butyl Phthalate	4	< 0.1	< 0.1
Bis(2-chlorisopropyl)ether	4	< 0.1	< 0.1
Bis(2-chloroethoxy)methane	4	< 0.1	< 0.1
Bis(2-chloroethyl)ether	4	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	4	< 0.1	< 0.1
Bromodichloromethane	4	< 0.05	< 0.05
Bromoform	4	< 0.05	< 0.05
Bromomethane	4	< 0.05	< 0.05
Carbon Tetrachloride	4	< 0.05	< 0.05
Chlorobenzene	4	< 0.05	< 0.05
Chlorodibromomethane	4	< 0.05	< 0.05
Chloroform	4	< 0.05	< 0.05
Chrom. to baseline at nC50	13	< 1	< 1
Chrysene	4	< 0.1	< 0.1
cis-1,2-Dichloroethene	4	< 0.05	< 0.05
cis-1,3-Dichloropropene	4	< 0.03	< 0.03
Dibenzo(a,h)anthracene	4	< 0.1	< 0.1
Dichlorodifluoromethane	4	< 0.05	< 0.05
Dichloromethane	4	< 0.045	< 0.045
Diethyl Phthalate	4	< 0.1	< 0.1
Dimethylphthalate	4	< 0.1	< 0.1
Di-n-butyl Phthalate	4	< 0.1	< 0.1
Di-n-octyl Phthalate	4	< 0.1	< 0.1
Diphenylamine	4	< 0.1	< 0.1

Analyte	**Number of Samples**	**Min**	**Max**
Ethylbenzene	4	< 0.015	< 0.015
F1 (C6-C10)	13	< 5	< 5
F1 (C6-C10)-BTEX	4	< 5	< 5
F2 (C10-C16)	13	< 10	15
F3 (C16-C34)	13	< 50	< 50
F4 (C34-C50)	13	< 50	< 50
Fluoranthene	4	< 0.1	< 0.1
Fluorene	4	< 0.1	< 0.1
Hexachlorobenzene	4	< 0.1	< 0.1
Hexachlorobutadiene	4	< 0.1	< 0.1
Hexachlorocyclopentadiene	4	< 0.1	< 0.1
Hexachloroethane	4	< 0.1	< 0.1
Indeno(1,2,3-cd)pyrene	4	< 0.1	< 0.1
Isophorone	4	< 0.1	< 0.1
Methyl Ethyl Ketone	4	< 0.5	< 0.5
Methyl Isobutyl Ketone	4	< 0.5	< 0.5
Methyl tert-butyl ether (MTBE)	4	< 0.04	< 0.04
Moisture	13	13.2	29
Naphthalene	4	< 0.1	< 0.1
n-Hexane	4	< 0.05	< 0.05
Nitrobenzene	4	< 0.1	< 0.1
N-Nitrosodi-n-propylamine	4	< 0.1	< 0.1
o-Cresol	4	< 0.1	< 0.1
o-Xylene	4	< 0.03	< 0.03
p-Chloroanaline	4	< 0.1	< 0.1
Pentachlorophenol	4	< 0.1	< 0.1
Phenanthrene	4	< 0.1	< 0.1
Phenol	4	< 0.1	< 0.1
Pyrene	4	< 0.1	< 0.1
Styrene	4	< 0.05	< 0.05
Tetrachloroethene	4	< 0.05	< 0.05
Toluene	4	< 0.05	< 0.05
Total Benzene, Toluene, Ethylbenzene and Xylenes	4	< 0.1	< 0.1
Total Hydrocarbons (C6-C50)	13	< 80	< 81
trans-1,2-Dichloroethene	4	< 0.05	< 0.05
trans-1,3-Dichloropropene	4	< 0.03	< 0.03
Trichloroethylene (TCE)	4	< 0.01	< 0.01
Trichlorofluoromethane	4	< 0.05	< 0.05
Vinyl Chloride	4	< 0.02	< 0.02

Analyte	**Number of Samples**	**Min**	**Max**
Xylenes, m & p	4	< 0.03	< 0.03
Xylenes, Total	4	< 0.05	< 0.05

Table 108 – The Number of Soil Samples Collected, and the Min, and Max, of Soil Chemistry Analyses of Samples Collected from the Fire Training Facility (FTF) on 06/10/2025.
(All units are milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
1- & 2-Methylnaphthalene	4	< 0.15	0
1,1'-Biphenyl	4	< 0.1	0
1,2,4-Trichlorobenzene	4	< 0.1	0
1,2-Dichlorobenzene	4	< 0.1	0
1,3-Dichlorobenzene	4	< 0.1	0
1,4-Dichlorobenzene	4	< 0.1	0
1-Methylnaphthalene	4	< 0.1	0
2,3,4,5-Tetrachlorophenol	4	< 0.1	0
2,3,4,6-Tetrachlorophenol	4	< 0.1	0
2,3,4-Trichlorophenol	4	< 0.1	0
2,3,5,6-Tetrachlorophenol	4	< 0.1	0
2,3,5-Trichlorophenol	4	< 0.1	0
2,4- & 2,6-Dinitrotoluene	4	< 0.2	0
2,4,5-Trichlorophenol	4	< 0.1	0
2,4,6-Trichlorophenol	4	< 0.1	0
2,4-Dichlorophenol	4	< 0.1	0
2,4-Dimethylphenol	4	< 0.1	0
2,4-Dinitrophenol	4	< 1	0
2,4-Dinitrotoluene	4	< 0.1	0
2,6-Dichlorophenol	4	< 0.1	0
2,6-Dinitrotoluene	4	< 0.1	0
2-Chloronaphthalene	4	< 0.1	0
2-Chlorophenol	4	< 0.1	0
2-Methylnaphthalene	4	< 0.1	0
3,3'-Dichlorobenzidine	4	< 0.1	0
4-Bromophenyl Phenyl Ether	4	< 0.1	0
4-Chloro-3-methylphenol	4	< 0.1	0
4-Chlorophenyl Phenyl Ether	4	< 0.1	0
4-Nitrophenol	4	< 0.2	0
Acenaphthene	4	< 0.1	0
Acenaphthylene	4	< 0.1	0
Aluminum	4	5040	9940
Anthracene	4	< 0.1	< 0.1
Antimony	4	0.16	0.16
Arsenic	4	2.19	4.25

Analyte	**Number of Samples**	**Min**	**Max**
Barium	4	19.4	40.7
Benzo(a)anthracene	4	< 0.1	< 0.1
Benzo(a)pyrene	4	< 0.1	< 0.1
Benzo(b/j)fluoranthene	4	< 0.1	< 0.1
Benzo(g,h,i)perylene	4	< 0.1	< 0.1
Benzo(k)fluoranthene	4	< 0.1	< 0.1
Benzyl Butyl Phthalate	4	< 0.1	< 0.1
Beryllium	4	0.19	0.32
Bis(2-chlorisopropyl)ether	4	< 0.1	< 0.1
Bis(2-chloroethoxy)methane	4	< 0.1	< 0.1
Bis(2-chloroethyl)ether	4	< 0.1	< 0.1
Bis(2-ethylhexyl)phthalate	4	< 0.1	< 0.1
Bismuth	4	< 0.2	< 0.2
Boron	4	6.5	9.9
Cadmium	4	0.138	0.355
Calcium	4	4120	110000
Chrom. to baseline at nC50	4	< 1	< 1
Chromium	4	9.88	15.6
Chromium, Hexavalent (Cr6+)	4	< 0.1	< 0.1
Chromium, Trivalent (Cr 3+)	4	9.88	15.6
Chrysene	4	< 0.1	< 0.1
Cobalt	4	3.06	4.57
Copper	4	8.26	13.3
Dibenzo(a,h)anthracene	4	< 0.1	< 0.1
Diethyl Phthalate	4	< 0.1	< 0.1
Dimethylphthalate	4	< 0.1	< 0.1
Di-n-butyl Phthalate	4	< 0.1	< 0.1
Di-n-octyl Phthalate	4	< 0.1	< 0.1
Diphenylamine	4	< 0.1	< 0.1
F1 (C6-C10)	4	< 5	< 5.4
F2 (C10-C16)	4	< 10	< 10
F3 (C16-C34)	4	< 50	< 50
F4 (C34-C50)	4	< 50	< 50
Fluoranthene	4	< 0.1	< 0.1
Fluorene	4	< 0.1	< 0.1
Hexachlorobenzene	4	< 0.1	< 0.1
Hexachlorobutadiene	4	< 0.1	< 0.1
Hexachlorocyclopentadiene	4	< 0.1	< 0.1
Hexachloroethane	4	< 0.1	< 0.1

Analyte	Number of Samples	Min	Max
Indeno(1,2,3-cd)pyrene	4	< 0.1	< 0.1
Iron	4	8650	13600
Isophorone	4	< 0.1	< 0.1
Lead	4	5.4	11.3
Lithium	4	6.3	8.9
Magnesium	4	2600	41900
Manganese	4	380	536
Mercury	4	0.0222	0.0509
Moisture	4	14.1	17.9
Molybdenum	4	0.34	0.43
Naphthalene	4	< 0.1	< 0.1
Nickel	4	7.3	9.24
Nitrobenzene	4	< 0.1	< 0.1
N-Nitrosodi-n-propylamine	4	< 0.1	< 0.1
o-Cresol	4	< 0.1	< 0.1
p-Chloroanaline	4	< 0.1	< 0.1
Pentachlorophenol	4	< 0.1	< 0.1
Phenanthrene	4	< 0.1	< 0.1
Phenol	4	< 0.1	< 0.1
Phosphorus	4	285	355
Potassium	4	640	770
Pyrene	4	< 0.1	< 0.1
Selenium	4	0.42	0.42
Silver	4	< 0.1	< 0.1
Sodium	4	99	174
Strontium	4	12.2	214
Sulfur	4	< 1000	< 1000
Thallium	4	0.072	0.104
Tin	4	< 2	< 2
Titanium	4	261	314
Total Hydrocarbons (C6-C50)	4	< 80	< 80
Tungsten	4	< 0.5	< 0.5
Uranium	4	0.409	0.626
Vanadium	4	16.7	26.4
Zinc	4	29	48.5
Zirconium	4	< 1	< 1

Table 109 – The Number of Soil Samples Collected, and the Min, and Max, of Soil Chemistry Analyses of Samples Collected from the Fire Training Facility (FTF) on 06/24/2025.
(All units are milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
1,1,1,2-Tetrachloroethane	5	< 0.050	< 0.050
1,1,1-Trichloroethane	5	< 0.050	< 0.050
1,1,2,2-Tetrachloroethane	5	< 0.050	< 0.050
1,1,2-Trichloroethane	5	< 0.050	< 0.050
1,1-Dichloroethane	5	< 0.050	< 0.050
1,1-Dichloroethene	5	< 0.050	< 0.050
1,2-Dibromoethane	5	< 0.050	< 0.050
1,2-Dichlorobenzene	5	< 0.050	< 0.050
1,2-Dichloroethane	5	< 0.050	< 0.050
1,2-Dichloropropane	5	< 0.050	< 0.050
1,3-Dichlorobenzene	5	< 0.050	< 0.050
1,3-Dichloropropene	5	< 0.05	< 0.05
1,4-Dichlorobenzene	5	< 0.050	< 0.050
Acetone	5	< 0.50	< 0.50
Benzene	5	< 0.0050	< 0.0050
Bromodichloromethane	5	< 0.050	< 0.050
Bromoform	5	< 0.050	< 0.050
Bromomethane	5	< 0.050	< 0.050
Carbon Tetrachloride	5	< 0.050	< 0.050
Chlorobenzene	5	< 0.050	< 0.050
Chlorodibromomethane	5	< 0.050	< 0.050
Chloroform	5	< 0.050	< 0.050
Chrom. to baseline at nC50	9	< 1	< 2
cis-1,2-Dichloroethene	5	< 0.050	< 0.050
cis-1,3-Dichloropropene	5	< 0.030	< 0.030
Dichlorodifluoromethane	5	< 0.050	< 0.050
Dichloromethane	5	< 0.045	< 0.045
Ethylbenzene	5	< 0.015	< 0.015
F1 (C6-C10)	9	< 5.0	< 5.2
F1 (C6-C10)-BTEX	5	< 5.0	< 5.2
F2 (C10-C16)	9	< 10	< 10
F3 (C16-C34)	9	< 50	< 50
F4 (C34-C50)	9	< 50	61
Methyl Ethyl Ketone	5	< 0.50	< 0.50
Methyl Isobutyl Ketone	5	< 0.50	< 0.50

Analyte	**Number of Samples**	**Min**	**Max**
Methyl tert-butyl ether (MTBE)	5	< 0.040	< 0.040
Moisture	9	7.38	23.1
n-Hexane	5	< 0.050	< 0.050
o-Xylene	5	< 0.030	< 0.030
Styrene	5	< 0.050	< 0.050
Tetrachloroethene	5	< 0.050	< 0.050
Toluene	5	< 0.050	< 0.050
Total Benzene, Toluene, Ethylbenzene and Xylenes	5	< 0.1	< 0.1
Total Hydrocarbons (C6-C50)	9	< 80	< 81
trans-1,2-Dichloroethene	5	< 0.050	< 0.050
trans-1,3-Dichloropropene	5	< 0.030	< 0.030
Trichloroethylene (TCE)	5	< 0.010	< 0.010
Trichlorofluoromethane	5	< 0.050	< 0.050
Vinyl Chloride	5	< 0.020	< 0.020
Xylenes, m & p	5	< 0.030	< 0.030
Xylenes, Total	5	< 0.05	< 0.05

Table 110 – The Number of Soil Samples Collected, and the Min, and Max, of Soil Chemistry Analyses of Samples Collected from the Fire Training Facility (FTF) on 06/25/2025.
(All units are milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
1- & 2-Methylnaphthalene	5	< 0.15	< 0.15
1,1,1,2-Tetrachloroethane	9	< 0.050	< 0.050
1,1,1-Trichloroethane	9	< 0.050	< 0.050
1,1,2,2-Tetrachloroethane	9	< 0.050	< 0.050
1,1,2-Trichloroethane	9	< 0.050	< 0.050
1,1'-Biphenyl	5	< 0.10	< 0.10
1,1-Dichloroethane	9	< 0.050	< 0.050
1,1-Dichloroethene	9	< 0.050	< 0.050
1,2,4-Trichlorobenzene	5	< 0.10	< 0.10
1,2-Dibromoethane	9	< 0.050	< 0.050
1,2-Dichlorobenzene	14	< 0.050	< 0.10
1,2-Dichloroethane	9	< 0.050	< 0.050
1,2-Dichloropropane	9	< 0.050	< 0.050
1,3-Dichlorobenzene	14	< 0.050	< 0.10
1,3-Dichloropropene	9	< 0.05	< 0.05
1,4-Dichlorobenzene	14	< 0.050	< 0.10
1-Methylnaphthalene	5	< 0.10	< 0.10
2,3,4,5-Tetrachlorophenol	5	< 0.10	< 0.10
2,3,4,6-Tetrachlorophenol	5	< 0.10	< 0.10
2,3,4-Trichlorophenol	5	< 0.10	< 0.10
2,3,5,6-Tetrachlorophenol	5	< 0.10	< 0.10
2,3,5-Trichlorophenol	5	< 0.10	< 0.10
2,4- & 2,6-Dinitrotoluene	5	< 0.2	< 0.2
2,4,5-Trichlorophenol	5	< 0.10	< 0.10
2,4,6-Trichlorophenol	5	< 0.10	< 0.10
2,4-Dichlorophenol	5	< 0.10	< 0.10
2,4-Dimethylphenol	5	< 0.10	< 0.10
2,4-Dinitrophenol	5	< 1.0	< 1.0
2,4-Dinitrotoluene	5	< 0.10	< 0.10
2,6-Dichlorophenol	5	< 0.10	< 0.10
2,6-Dinitrotoluene	5	< 0.10	< 0.10
2-Chloronaphthalene	5	< 0.10	< 0.10
2-Chlorophenol	5	< 0.10	< 0.10
2-Methylnaphthalene	5	< 0.10	< 0.10
3,3'-Dichlorobenzidine	5	< 0.10	< 0.10

Analyte	Number of Samples	Min	Max
4-Bromophenyl Phenyl Ether	5	< 0.10	< 0.10
4-Chloro-3-methylphenol	5	< 0.10	< 0.10
4-Chlorophenyl Phenyl Ether	5	< 0.10	< 0.10
4-Nitrophenol	5	< 0.20	< 0.20
Acenaphthene	5	< 0.10	< 0.10
Acenaphthylene	5	< 0.10	< 0.10
Acetone	9	< 0.50	< 0.50
Anthracene	5	< 0.10	< 0.10
Benzene	9	< 0.0050	< 0.0050
Benzo(a)anthracene	5	< 0.10	< 0.10
Benzo(a)pyrene	5	< 0.10	< 0.10
Benzo(b/j)fluoranthene	5	< 0.10	< 0.10
Benzo(g,h,i)perylene	5	< 0.10	< 0.10
Benzo(k)fluoranthene	5	< 0.10	< 0.10
Benzyl Butyl Phthalate	5	< 0.10	< 0.10
Bis(2-chlorisopropyl)ether	5	< 0.10	< 0.10
Bis(2-chloroethoxy)methane	5	< 0.10	< 0.10
Bis(2-chloroethyl)ether	5	< 0.10	< 0.20
Bis(2-ethylhexyl)phthalate	5	< 0.10	< 0.10
Bromodichloromethane	9	< 0.050	< 0.050
Bromoform	9	< 0.050	< 0.050
Bromomethane	9	< 0.050	< 0.050
Carbon Tetrachloride	9	< 0.050	< 0.050
Chlorobenzene	9	< 0.050	< 0.050
Chlorodibromomethane	9	< 0.050	< 0.050
Chloroform	9	< 0.050	< 0.050
Chrom. to baseline at nC50	9	< 1	< 1
Chrysene	5	< 0.10	< 0.10
cis-1,2-Dichloroethene	9	< 0.050	< 0.050
cis-1,3-Dichloropropene	9	< 0.030	< 0.030
Dibenzo(a,h)anthracene	5	< 0.10	< 0.10
Dichlorodifluoromethane	9	< 0.050	< 0.050
Dichloromethane	9	< 0.045	< 0.045
Diethyl Phthalate	5	< 0.10	< 0.10
Dimethylphthalate	5	< 0.10	< 0.10
Di-n-butyl Phthalate	5	< 0.10	< 0.10
Di-n-octyl Phthalate	5	< 0.10	< 0.10
Diphenylamine	5	< 0.10	< 0.10

Analyte	Number of Samples	Min	Max
Ethylbenzene	9	< 0.015	< 0.015
F1 (C6-C10)	9	< 5.0	< 5.0
F1 (C6-C10)-BTEX	9	< 5.0	< 5.0
F2 (C10-C16)	9	< 10	< 10
F3 (C16-C34)	9	< 50	< 50
F4 (C34-C50)	9	< 50	67
Fluoranthene	5	< 0.10	< 0.10
Fluorene	5	< 0.10	< 0.10
Hexachlorobenzene	5	< 0.10	< 0.10
Hexachlorobutadiene	5	< 0.10	< 0.10
Hexachlorocyclopentadiene	5	< 0.10	< 0.10
Hexachloroethane	5	< 0.10	< 0.10
Indeno(1,2,3-cd)pyrene	5	< 0.10	< 0.10
Isophorone	5	< 0.10	< 0.10
Methyl Ethyl Ketone	9	< 0.50	< 0.50
Methyl Isobutyl Ketone	9	< 0.50	< 0.50
Methyl tert-butyl ether (MTBE)	9	< 0.040	< 0.040
Moisture	9	13.2	25.1
Naphthalene	5	< 0.10	< 0.10
n-Hexane	9	< 0.050	< 0.050
Nitrobenzene	5	< 0.10	< 0.10
N-Nitrosodi-n-propylamine	5	< 0.10	< 0.10
o-Cresol	5	< 0.10	< 0.10
o-Xylene	9	< 0.030	< 0.030
p-Chloroanaline	5	< 0.10	< 0.10
Pentachlorophenol	5	< 0.10	< 0.10
Phenanthrene	5	< 0.10	< 0.10
Phenol	5	< 0.10	< 0.10
Pyrene	5	< 0.10	< 0.10
Styrene	9	< 0.050	< 0.050
Tetrachloroethene	9	< 0.050	< 0.050
Toluene	9	< 0.050	< 0.050
Total Benzene, Toluene, Ethylbenzene and Xylenes	9	< 0.1	< 0.1
Total Hydrocarbons (C6-C50)	9	< 80	< 81
trans-1,2-Dichloroethene	9	< 0.050	< 0.050
trans-1,3-Dichloropropene	9	< 0.030	< 0.030
Trichloroethylene (TCE)	9	< 0.010	< 0.010
Trichlorofluoromethane	9	< 0.050	< 0.050
Vinyl Chloride	9	< 0.020	< 0.020

Analyte	Number of Samples	Min	Max
Xylenes, m & p	9	< 0.030	< 0.030
Xylenes, Total	9	< 0.05	< 0.05

Table 111 – The Number of Soil Samples Collected, and the Min, and Max, of Soil Chemistry Analyses of Samples Collected from Across the Bruce Power Site (BPS-01) on 12/02/2024.
(All units are milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
Aluminum	5	1920	3780
Antimony	5	< 0.1	0.16
Arsenic	5	1.74	2.39
Barium	5	10.9	18.4
Beryllium	5	0.1	0.2
Bismuth	5	< 0.2	< 0.2
Boron	5	8.2	10.7
Cadmium	5	0.122	0.357
Calcium	5	112000	166000
Chrom. to baseline at nC50	5	< 1	< 1
Chromium	5	4.07	8.96
Chromium, Hexavalent (Cr6+)	5	< 0.1	< 0.1
Chromium, Trivalent (Cr 3+)	5	4.07	8.96
Cobalt	5	1.38	2.84
Copper	5	4.59	8.98
F1 (C6-C10)	5	< 5	< 5
F2 (C10-C16)	5	< 10	33
F3 (C16-C34)	5	< 50	56
F4 (C34-C50)	5	< 50	71
Iron	5	3330	7610
Lead	5	7.92	25.4
Lithium	5	3	6.6
Magnesium	5	48600	84500
Manganese	5	212	366
Mercury	5	0.0126	0.0259
Moisture	5	18.3	29.1
Molybdenum	5	0.21	0.32
Nickel	5	6.08	8.08
Phosphorus	5	228	323
Potassium	5	320	710
Selenium	5	< 0.2	0.36
Silver	5	< 0.1	< 0.1
Sodium	5	134	152
Strontium	5	118	458
Sulfur	5	< 1000	< 1000

Analyte	Number of Samples	Min	Max
Thallium	5	< 0.05	0.053
Tin	5	< 2	< 2
Titanium	5	61.6	172
Total Hydrocarbons (C6-C50)	5	< 80	160
Tungsten	5	< 0.5	0
Uranium	5	0.472	0.752
Vanadium	5	10.2	14.4
Zinc	5	23.3	46.2
Zirconium	5	< 1	1.1

Table 112 – The Number of Soil Samples Collected, and the Min, and Max, of Soil Chemistry Analyses of Samples Collected from Across the Bruce Power Site (BPS-01) on 10/14/2025.
(All units are milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
1- & 2-Methylnaphthalene	1	< 0.05	< 0.05
1-Methylnaphthalene	1	< 0.03	< 0.03
2-Methylnaphthalene	1	< 0.03	< 0.03
Acenaphthene	1	< 0.05	< 0.05
Acenaphthylene	1	< 0.05	< 0.05
Aluminum	1	3180	3180
Anthracene	1	< 0.05	< 0.05
Antimony	1	< 0.1	< 0.1
Arsenic	1	1.92	1.92
Barium	1	9.44	9.44
Benzo(a)anthracene	1	< 0.05	< 0.05
Benzo(a)pyrene	1	< 0.05	< 0.05
Benzo(b/j)fluoranthene	1	< 0.05	< 0.05
Benzo(g,h,i)perylene	1	< 0.05	< 0.05
Benzo(k)fluoranthene	1	< 0.05	< 0.05
Beryllium	1	0.15	0.15
Bismuth	1	< 0.2	< 0.2
Boron	1	7.5	7.5
Cadmium	1	0.06	0.06
Calcium	1	108000	108000
Chromium	1	7.72	7.72
Chromium, Hexavalent (Cr6+)	1	< 0.1	< 0.1

Analyte	**Number of Samples**	**Min**	**Max**
Chromium, Trivalent (Cr 3+)	1	7.72	7.72
Chrysene	1	< 0.05	< 0.05
Cobalt	1	2.34	2.34
Copper	1	6.87	6.87
Dibenzo(a,h)anthracene	1	< 0.05	< 0.05
Fluoranthene	1	< 0.05	< 0.05
Fluorene	1	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	1	< 0.05	< 0.05
Iron	1	6550	6550
Lead	1	2.83	2.83
Lithium	1	4.5	4.5
Magnesium	1	39800	39800
Manganese	1	276	276
Mercury	1	0.0081	0.0081
Moisture	1	6.32	6.32
Molybdenum	1	0.13	0.13
Naphthalene	1	< 0.01	< 0.01
Nickel	1	6.28	6.28
Phenanthrene	1	< 0.05	< 0.05
Phosphorus	1	202	202
Potassium	1	540	540
Pyrene	1	< 0.05	< 0.05
Selenium	1	< 0.2	< 0.2
Silver	1	< 0.1	< 0.1
Sodium	1	132	132
Strontium	1	102	102
Sulfur	1	< 1000	< 1000
Thallium	1	< 0.05	< 0.05
Tin	1	< 2	< 2
Titanium	1	208	208
Tungsten	1	< 0.5	< 0.5
Uranium	1	0.366	0.366
Vanadium	1	11.6	11.6
Zinc	1	12.5	12.5
Zirconium	1	< 1	< 1

Table 113 – The Number of Soil Samples Collected, and the Min, and Max, of Soil Chemistry Analyses of Samples Collected from Across the Bruce Power Site (BPS-02) on 12/03/2024.
(All units are milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
Aluminum	5	3070	6250
Antimony	5	< 0.1	0.1
Arsenic	5	1.85	2.43
Barium	5	22.5	43.2
Beryllium	5	0.17	0.26
Bismuth	5	< 0.2	< 0.2
Boron	5	10.8	16.4
Cadmium	5	0.105	0.523
Calcium	5	81000	155000
Chromium	5	5.78	12
Chromium, Hexavalent (Cr6+)	5	< 0.1	< 0.1
Chromium, Trivalent (Cr 3+)	5	5.78	12
Cobalt	5	2.04	4.5
Copper	5	8.97	13.2
Iron	5	5570	10200
Lead	5	5.58	26.7
Lithium	5	3.6	7.8
Magnesium	5	26800	71900
Manganese	5	217	1000
Mercury	5	0.0155	0.0514
Moisture	5	32.6	48.7
Molybdenum	5	0.19	0.28
Nickel	5	7.36	9.68
Phosphorus	5	369	558
Potassium	5	320	1000
Selenium	5	< 0.2	0.74
Silver	5	< 0.1	< 0.1
Sodium	5	164	244
Strontium	5	95.4	250
Sulfur	5	< 1000	1300
Thallium	5	0.052	0.079
Tin	5	< 2	< 2
Titanium	5	79.4	265
Tungsten	5	< 0.5	< 0.5
Uranium	5	0.388	0.949

Analyte	Number of Samples	Min	Max
Vanadium	5	14	17.3
Zinc	5	52.7	102
Zirconium	5	1	1.3

Table 114 – The Number of Soil Samples Collected, and the Min, and Max, of Soil Chemistry Analyses of Samples Collected from Across the Bruce Power Site (BPS-02) on 10/14/2025.
(All units are milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
1- & 2-Methylnaphthalene	1	< 0.05	< 0.05
1-Methylnaphthalene	1	< 0.03	< 0.03
2-Methylnaphthalene	1	< 0.03	< 0.03
Acenaphthene	1	< 0.05	< 0.05
Acenaphthylene	1	< 0.05	< 0.05
Aluminum	1	3530	3530
Anthracene	1	< 0.05	< 0.05
Antimony	1	< 0.1	< 0.1
Arsenic	1	1.47	1.47
Barium	1	19.1	19.1
Benzo(a)anthracene	1	< 0.05	< 0.05
Benzo(a)pyrene	1	< 0.05	< 0.05
Benzo(b/j)fluoranthene	1	< 0.05	< 0.05
Benzo(g,h,i)perylene	1	< 0.05	< 0.05
Benzo(k)fluoranthene	1	< 0.05	< 0.05
Beryllium	1	0.15	0.15
Bismuth	1	< 0.2	< 0.2
Boron	1	10.5	10.5
Cadmium	1	0.093	0.093
Calcium	1	121000	121000
Chromium	1	8	8
Chromium, Hexavalent (Cr6+)	1	< 0.1	< 0.1
Chromium, Trivalent (Cr 3+)	1	8	8
Chrysene	1	< 0.05	< 0.05
Cobalt	1	2.61	2.61
Copper	1	7.08	7.08
Dibenzo(a,h)anthracene	1	< 0.05	< 0.05
Fluoranthene	1	< 0.05	< 0.05
Fluorene	1	< 0.05	< 0.05

Analyte	**Number of Samples**	**Min**	**Max**
Indeno(1,2,3-cd)pyrene	1	< 0.05	< 0.05
Iron	1	7490	7490
Lead	1	4.81	4.81
Lithium	1	3.5	3.5
Magnesium	1	41200	41200
Manganese	1	429	429
Mercury	1	0.0102	0.0102
Moisture	1	15.1	15.1
Molybdenum	1	0.15	0.15
Naphthalene	1	< 0.01	< 0.01
Nickel	1	5.85	5.85
Phenanthrene	1	< 0.05	< 0.05
Phosphorus	1	410	410
Potassium	1	630	630
Pyrene	1	< 0.05	< 0.05
Selenium	1	0.23	0.23
Silver	1	< 0.1	< 0.1
Sodium	1	231	231
Strontium	1	159	159
Sulfur	1	< 1000	< 1000
Thallium	1	< 0.05	< 0.05
Tin	1	< 2	< 2
Titanium	1	194	194
Tungsten	1	< 0.5	< 0.5
Uranium	1	0.473	0.473
Vanadium	1	12.5	12.5
Zinc	1	21.9	21.9
Zirconium	1	< 1	< 1

Table 115 – The Number of Soil Samples Collected, and the Min, and Max, of soil chemistry Analyses of Samples Collected from Across the Bruce Power Site (BPS-03) on 10/14/2025.
(All units are milligram per kilogram, except for moisture which is a percentage.)

Analyte	Number of Samples	Min	Max
1- & 2-Methylnaphthalene	1	< 0.05	< 0.05
1-Methylnaphthalene	1	< 0.03	< 0.03
2-Methylnaphthalene	1	< 0.03	< 0.03
Acenaphthene	1	< 0.05	< 0.05
Acenaphthylene	1	< 0.05	< 0.05
Aluminum	1	8310	8310
Anthracene	1	< 0.05	< 0.05
Antimony	1	0.17	0.17
Arsenic	1	2.84	2.84
Barium	1	50.3	50.3
Benzo(a)anthracene	1	< 0.05	< 0.05
Benzo(a)pyrene	1	< 0.05	< 0.05
Benzo(b/j)fluoranthene	1	< 0.05	< 0.05
Benzo(g,h,i)perylene	1	< 0.05	< 0.05
Benzo(k)fluoranthene	1	< 0.05	< 0.05
Beryllium	1	0.37	0.37
Bismuth	1	< 0.2	< 0.2
Boron	1	12.9	12.9
Cadmium	1	1.05	1.05
Calcium	1	48300	48300
Chromium	1	14.3	14.3
Chromium, Hexavalent (Cr6+)	1	< 0.1	< 0.1
Chromium, Trivalent (Cr 3+)	1	14.3	14.3
Chrysene	1	< 0.05	< 0.05
Cobalt	1	5.53	5.53
Copper	1	20.2	20.2
Dibenzo(a,h)anthracene	1	< 0.05	< 0.05
Fluoranthene	1	< 0.05	< 0.05
Fluorene	1	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	1	< 0.05	< 0.05
Iron	1	12600	12600
Lead	1	35.1	35.1
Lithium	1	10	10
Magnesium	1	23100	23100
Manganese	1	331	331

Analyte	**Number of Samples**	**Min**	**Max**
Mercury	1	0.0996	0.0996
Moisture	1	58.8	58.8
Molybdenum	1	0.32	0.32
Naphthalene	1	< 0.01	< 0.01
Nickel	1	13.1	13.1
Phenanthrene	1	< 0.05	< 0.05
Phosphorus	1	1070	1070
Potassium	1	1090	1090
Pyrene	1	< 0.05	< 0.05
Selenium	1	1.03	1.03
Silver	1	< 0.1	< 0.1
Sodium	1	1510	1510
Strontium	1	60.2	60.2
Sulfur	1	1300	1300
Thallium	1	0.114	0.114
Tin	1	< 2	< 2
Titanium	1	114	114
Tungsten	1	< 0.5	< 0.5
Uranium	1	0.731	0.731
Vanadium	1	21.1	21.1
Zinc	1	128	128
Zirconium	1	2.6	2.6

APPENDIX I: GROUNDWATER SAMPLING RESULTS

Table 116 – Bruce A Protected Area Tritium Results
(Table units are Bequerels per Litre Bq/L.)

Well ID	Spring Result	Spring Detection Limit	Spring Uncertainty	Fall Result	Fall Detection Limit	Fall Uncertainty
BA-1-1	11.70	2.80	2.98	11.50	2.93	3.05
BA-1-2	107.00	2.80	6.04	57.10	2.93	4.70
BA-2-1	<Ld	2.80	1.98	<Ld	2.93	2.07
BA-2-2	88.90	2.80	5.58	3.01	2.93	2.37
BA-2-3	550.00	2.80	12.80	366.00	2.93	10.40
BA-3-1	2.96	2.80	2.28	<Ld	2.93	2.07
BA-3-2	<Ld	2.80	1.98	<Ld	2.93	2.07
BA-3-3	289.00	2.80	9.43	132.00	2.93	6.56
BA-4-1	<Ld	2.80	1.98	<Ld	2.93	2.07
BA-4-2	3930.00	2.80	33.70	3610.00	2.93	31.90
BA-5-1	3.54	2.80	2.56	<Ld	2.93	2.07
BA-5-2	<Ld	2.80	2.26	<Ld	2.93	2.07
BATR-1-12	2620.00	3.16	27.60	1470.00	3.32	20.70
BATR-1-13	1550.00	3.16	21.30	1410.00	2.69	20.10
BATR-1-14A	334.00	3.16	10.20	341.00	3.32	10.20
BATR-1-14B	8800.00	3.16	50.40	4870.00	3.32	37.40
BATR-1-15	1050.00	3.16	17.60	1040.00	3.32	17.40
BATR-3-11	568.00	3.16	13.10	768.00	3.32	15.00
BATR-3-12	3430.00	3.16	31.60	2580.00	3.32	27.30
BATR-4-10	2770.00	3.16	28.40	1650.00	3.32	21.70

Note: <Ld where result is below the Detection Limit

Table 117 – Bruce B Protected Area Tritium Results
(Table units are Bequerels per Litre Bq/L.)

Well ID	Spring Result	Spring Detection Limit	Spring Uncertainty	Fall Result	Fall Detection Limit	Fall Uncertainty
BB-1-2	328.00	2.64	9.84	313.00	2.67	9.63
BB-1-3	480.00	2.64	11.80	352.00	2.67	10.20
BB-2-1	34.30	2.64	3.81	17.30	2.67	3.15
BB-2-2	772.00	2.64	14.90	831.00	2.67	15.40
BB-3-1	5.03	2.64	2.52	6.26	2.67	2.61
BB-3-2	12.80	2.64	2.92	26.20	2.67	3.52
BB-3-3	281.00	2.64	9.14	287.00	2.67	9.25
BB-4-1	22.00	2.64	3.33	19.60	2.67	3.25
BB-4-2	158.00	2.64	7.01	119.00	2.67	6.19
BB-4-3	1520.00	2.64	20.80	1500.00	2.67	20.60
BB-5-1	241.00	2.80	8.65	250.00	2.67	8.67
BB-5-2	403.00	2.64	10.90	370.00	2.67	10.40
BB-5-3	537.00	2.64	12.50	443.00	2.67	11.40
BBTR-5-11	1150.00	3.16	18.40	951.00	3.32	16.70
BBTR-6-28	1600.00	3.16	21.60	800.00	3.32	15.40
BBTR-6-30	2210.00	3.16	25.40	1450.00	3.32	20.50
BBTR-6-40	2740.00	3.16	28.20	1740.00	3.32	22.40
BBTR-7-12	5960.00	3.16	41.50	3000.00	3.32	29.40
BBTR-8-12	1180.00	3.16	18.60	703.00	3.32	14.40

Table 118 – Fire Training Facility Hydrocarbons Results
(Table units are micrograms per litre ug/L)

	Parameter	F1 (C6-C10)	F1-BTEX	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)
	Evaluation Criteria	750	750	150	500	500
	Units	ug/l	ug/l	ug/l	ug/l	ug/l
Well ID	Sample Date	Result	Result	Result	Result	Result
FTF-23	4/24/2025	< 25	< 25	< 100	< 250	< 250
FTF-23	10/6/2025	< 25	< 25	< 100	< 250	< 250
FTF-24	4/24/2025	< 25	< 25	< 100	< 250	< 250
FTF-24	10/6/2025	< 25	< 25	< 100	< 250	< 250
FTF-26	4/24/2025	< 25	< 25	< 100	< 250	< 250
FTF-26	10/6/2025	< 25	< 25	< 100	< 250	< 250
FTF-28	4/24/2025	< 25	< 25	< 100	< 250	< 250
FTF-28	10/6/2025	< 25	< 25	< 100	< 250	< 250
FTF-38	4/24/2025	37	32	940	470	< 250
FTF-38	10/6/2025	< 25	< 25	960	620	< 250
FTF-42	4/23/2025	< 25	< 25	210	< 250	< 250
FTF-42	10/6/2025	< 25	< 25	150	< 250	< 250
FTF-45	4/24/2025	< 25	< 25	< 100	< 250	< 250
FTF-45	10/6/2025	< 25	< 25	< 100	< 250	< 250
FTF-46	4/23/2025	< 25	< 25	< 100	< 250	< 250
FTF-46	10/6/2025	< 25	< 25	< 100	< 250	< 250
FTF-50	4/24/2025	< 25	< 25	< 100	< 250	< 250
FTF-50	10/6/2025	< 25	< 25	< 100	< 250	< 250
FTF-52	4/23/2025	< 25	< 25	< 100	< 250	< 250
FTF-52	10/6/2025	< 25	< 25	< 100	< 250	< 250
FTF-61	4/23/2025	< 25	< 25	< 100	< 250	< 250
FTF-61	10/6/2025	< 25	< 25	< 100	< 250	< 250
FTF-68S	4/23/2025	< 25	< 25	< 100	< 250	< 250
FTF-68S	10/6/2025	< 25	< 25	< 100	< 250	< 250

Table 119 – Bruce Heavy Water Lands (Former Oil Storage Area) Hydrocarbons Results
(Table units are micrograms per litre ug/L)

	Parameter	F1 (C6-C10)	F1-BTEX	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)
	Evaluation Criteria	420	420	150	500	500
	Units	ug/l	ug/l	ug/l	ug/l	ug/l
Well ID	Sample Date	Result	Result	Result	Result	Result
MW1-07	4/24/2025	< 25	< 25	< 100	2170	< 250
MW1-07	10/6/2025	< 25	< 25	< 100	4570	260
MW2-07	4/23/2025	< 25	< 25	< 100	670	< 250
MW2-07	10/6/2025	< 25	< 25	< 100	< 250	< 250
MW3-07	4/23/2025	< 25	< 25	< 100	< 250	< 250
MW3-07	10/6/2025	< 25	< 25	< 100	< 250	< 250
MW4-07	4/23/2025	< 25	< 25	< 100	< 250	< 250
MW4-07	10/6/2025	< 25	< 25	< 100	< 250	< 250
MW-4A	4/23/2025	< 25	< 25	< 100	< 250	< 250
MW-4A	10/6/2025	< 25	< 25	< 100	< 250	< 250
MW-4B	4/23/2025	< 25	< 25	< 100	< 250	< 250
MW-4B	10/6/2025	< 25	< 25	< 100	< 250	< 250
MW5-07	4/23/2025	< 25	< 25	< 100	< 250	< 250
MW5-07	10/6/2025	< 25	< 25	< 100	< 250	< 250

Table 120 – Soil Management Area Nutrients and Anions Results
(Table units are milligrams per litre mg/L and microsiemens per centimetre uS/cm.
The evaluation criteria for Chloride is 780 milligrams per Litre.)

Well ID	Sample Date	Alkalinity, Total (as CaCO3) mg/l	Ammonia total (as N) mg/l	Chloride (Cl) mg/l	Conductivity us/cm	Fluoride mg/l	Nitrate as N mg/l	Nitrate-Nitrite, as N, Total mg/l	Nitrite, as N mg/l	pH UNITs	Sulfate mg/l	Total Kjeldahl Nitrogen mg/l
MW05-7	9/3/2025	385	0.233	23.7	759	0.427	< 0.020	< 0.0224	< 0.010	8.17	1.52	0.461
SMA-MW01	9/3/2025	316	0.263	27.3	688	0.863	0.032	0.032	< 0.010	8.23	14.3	0.334
SMA-MW02	9/3/2025	1110	0.166	173	2290	0.705	< 0.100	< 0.112	< 0.050	7.79	10.1	6.6
SMA-MW03	9/3/2025	389	0.205	36.4	841	0.927	0.029	0.029	< 0.010	7.85	9.24	0.582
SMA-MW04	9/3/2025	353	0.188	48.7	1520	1.24	< 0.100	< 0.112	< 0.050	8.21	428	0.351
SMA-MW05	9/4/2025	553	0.234	23.8	1440	1.06	< 0.100	< 0.112	< 0.050	7.86	276	0.438
SMA-MW06	9/4/2025	129	0.318	13	1600	0.946	< 0.100	< 0.112	< 0.050	8.31	762	0.311
SMA-MW07	9/4/2025	262	0.124	130	944	0.874	< 0.020	< 0.0224	0.012	8.31	14.7	0.173

Table 121 – Soil Management Area Metals Results
(Table units are micrograms per litre ug/L)

		Well ID	MW05-7	SMA-MW01	SMA-MW02	SMA-MW03	SMA-MW04	SMA-MW05	SMA-MW06	SMA-MW07
		Sample Date	9/3/2025	9/3/2025	9/3/2025	9/3/2025	9/3/2025	9/4/2025	9/4/2025	9/4/2025
Parameter	**Evaluation Criteria**	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Antimony	6	ug/L	< 0.10	< 0.10	< 1.00	< 0.10	0.19	< 1.00	< 1.00	< 0.10
Arsenic	25	ug/L	0.97	0.23	3.65	1.8	0.64	10.5	< 1.00	0.38
Barium	1000	ug/L	40.5	27.2	196	45.1	39.4	61.8	25.4	45.9
Beryllium	4	ug/L	< 0.020	< 0.020	< 0.200	< 0.020	< 0.020	< 0.200	< 0.200	< 0.020
Boron	5000	ug/L	103	74	104	52	353	151	459	24
Cadmium	2.1	ug/L	0.0072	0.0075	0.05	< 0.0050	0.0094	< 0.0500	< 0.0500	< 0.0050
Chromium	50	ug/L	< 0.50	< 0.50	< 5.00	< 0.50	< 0.50	< 5.00	< 5.00	< 0.50
Chromium, Hexavalent (Cr6+)	25	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cobalt	3.8	ug/L	0.42	< 0.10	15.1	0.45	0.95	1.94	< 1.00	0.29
Copper	69	ug/L	1.78	1.42	68.7	0.42	0.77	< 2.00	< 2.00	0.25
Lead	10	ug/L	< 0.050	< 0.050	< 0.500	< 0.050	< 0.050	< 0.500	< 0.500	< 0.050
Mercury	0.29	ug/L	< 0.0050	< 0.0050	0.0315	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Molybdenum	70	ug/L	0.26	1.17	2.96	3.07	7.18	2.67	12.8	0.661
Nickel	100	ug/L	0.89	< 0.50	87.1	1	1.5	< 5.00	< 5.00	0.53
Selenium	10	ug/L	0.077	0.101	0.816	0.118	0.065	< 0.500	< 0.500	< 0.050
Silver	1.2	ug/L	< 0.010	< 0.010	< 0.100	< 0.010	< 0.010	< 0.100	< 0.100	< 0.010
Sodium	490000	ug/L	18500	31100	91400	33000	134000	32500	78900	105000
Thallium	2	ug/L	< 0.010	0.011	< 0.100	0.014	0.039	< 0.100	< 0.100	< 0.010
Uranium	20	ug/L	0.829	0.783	9.28	0.942	7.58	7.58	2.97	0.72
Vanadium	6.2	ug/L	< 0.50	< 0.50	< 5.00	< 0.50	< 0.50	< 5.00	< 5.00	< 0.50
Zinc	890	ug/L	< 1.0	< 1.0	< 10.0	< 1.0	< 1.0	< 10.0	< 10.0	< 1.0

Table 122 – Soil Management Area Hydrocarbons Results
(Table units are micrograms per litre ug/L)

	Parameter	F1 (C6-C10)	F1-BTEX	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)
	Evaluation Criteria	**420**	**420**	**150**	**500**	**500**
	Units	**ug/l**	**ug/l**	**ug/l**	**ug/l**	**ug/l**
Well ID	**Sample Date**	**Result**	**Result**	**Result**	**Result**	**Result**
MW05-7	9/3/2025	< 25	< 25	< 100	< 250	< 250
SMA-MW01	9/3/2025	< 25	< 25	< 100	< 250	< 250
SMA-MW02	9/3/2025	< 25	< 25	< 100	< 250	< 250
SMA-MW03	9/3/2025	< 25	< 25	< 100	< 250	< 250
SMA-MW04	9/3/2025	< 25	< 25	< 100	< 250	< 250
SMA-MW05	9/4/2025	< 25	< 25	< 100	< 250	< 250
SMA-MW06	9/4/2025	< 25	< 25	< 100	< 250	< 250
SMA-MW07	9/4/2025	< 25	< 25	< 100	< 250	< 250

Table 123 – Soil Management Area Volatile Organic Compounds Results
(Table units are micrograms per litre ug/L)

		Well ID	**MW05-7**	**SMA-MW01**	**SMA-MW02**	**SMA-MW03**	**SMA-MW04**	**SMA-MW05**	**SMA-MW06**	**SMA-MW07**
		Sample Date	**9/3/2025**	**9/3/2025**	**9/3/2025**	**9/3/2025**	**9/3/2025**	**9/4/2025**	**9/4/2025**	**9/4/2025**
Parameter	**Evaluation Criteria**	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
1,1,1,2-Tetrachloroethane	1.1	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,1-Trichloroethane	200	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2,2-Tetrachloroethane	1	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1,2-Trichloroethane	4.7	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-Dichloroethane	5	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,1-Dichloroethene	1.6	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dibromoethane	0.2	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
1,2-Dichlorobenzene	3	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichloroethane	1.6	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,2-Dichloropropane	5	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichlorobenzene	59	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
1,3-Dichloropropene	0.5	ug/L	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
1,4-Dichlorobenzene	1	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Acetone	2700	ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Benzene	5	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Bromomethane	0.89	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Carbon tetrachloride	0.79	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Chlorobenzene	30	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,2-Dichloroethene	1.6	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
cis-1,3-Dichloropropene	0.5	ug/L	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Dichlorodifluoromethane	590	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Dichloromethane	50	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	2.4	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Methyl Ethyl Ketone	1800	ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20
Methyl Isobutyl Ketone	640	ug/L	< 20	< 20	< 20	< 20	< 20	< 20	< 20	< 20

		Well ID	MW05-7	SMA-MW01	SMA-MW02	SMA-MW03	SMA-MW04	SMA-MW05	SMA-MW06	SMA-MW07
		Sample Date	9/3/2025	9/3/2025	9/3/2025	9/3/2025	9/3/2025	9/4/2025	9/4/2025	9/4/2025
Parameter	**Evaluation Criteria**	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Methyl tert-butyl ether	15	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
n-Hexane	51	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Styrene	5.4	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Tetrachloroethene	1.6	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Toluene	22	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Total BTEX	-	ug/L	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	1.6	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
trans-1,3-Dichloropropene	0.5	ug/L	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Trichloroethylene	1.6	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Trichlorofluoromethane	150	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Vinyl Chloride	0.5	ug/L	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20	< 0.20
Xylene, o-	-	ug/L	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30	< 0.30
Xylenes, m- & p-	-	ug/L	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40	< 0.40
Xylenes, Total	300	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50

Table 124 – Bruce A Standby Generators Area Hydrocarbon Results
(Table units are micrograms per litre ug/L)

	Parameter	F1 (C6-C10)	F1-BTEX	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)
	Evaluation Criteria	**420**	**420**	**150**	**500**	**500**
	Units	**ug/l**	**ug/l**	**ug/l**	**ug/l**	**ug/l**
Well ID	**Sample Date**	**Result**	**Result**	**Result**	**Result**	**Result**
BASG-13	4/2/2025	< 25	< 25	< 100	< 250	< 250
BASG-13	10/8/2025	< 25	< 25	< 100	< 250	< 250
BASG-14	4/2/2025	< 25	< 25	< 100	< 250	< 250
BASG-14	10/8/2025	< 25	< 25	< 100	< 250	< 250
BASG-15	4/2/2025	< 25	< 25	< 100	< 250	< 250
BASG-15	10/8/2025	< 25	< 25	< 100	< 250	< 250
BASG-16	4/1/2025	< 25	< 25	< 100	< 250	< 250
BASG-16	10/8/2025	< 25	< 25	< 100	< 250	< 250
BASG-17	4/2/2025	< 25	< 25	< 100	< 250	< 250
BASG-17	10/8/2025	< 25	< 25	< 100	< 250	< 250
BASG-21	4/2/2025	< 25	< 25	< 100	< 250	< 250
BASG-21	10/8/2025	< 25	< 25	< 100	< 250	< 250
BASG-22	4/1/2025	< 25	< 25	< 100	< 250	< 250
BASG-22	10/8/2025	< 25	< 25	< 100	< 250	< 250
BASG-25	4/2/2025	< 25	< 25	< 100	< 250	< 250
BASG-25	10/8/2025	< 25	< 25	< 100	< 250	< 250
BASG-26	4/2/2025	< 25	< 25	< 100	< 250	< 250
BASG-26	10/8/2025	< 25	< 25	< 100	< 250	< 250

Table 125 – Bruce A Standby Generators Area Nutrients and Anions Results
(Table units are milligrams per litre mg/Land microsiemens per centimetre uS/cm.)

	Parameter	Alkalinity, Total (as CaCO3)	Ammonia, total (as N)	Chloride (Cl)	Conductivity	Fluoride	Nitrate, as N	Nitrate-Nitrite, as N, Total	Nitrite, as N	pH	Sulfate	Total Kjeldahl Nitrogen
	Evaluation Criteria	–	–	790	–	–	–	–	–	–	–	–
	Units	mg/l	mg/l	mg/l	us/cm	mg/l	mg/l	mg/l	mg/l	pH UNITS	mg/l	mg/l
Well ID	Sample Date	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
BASG-13	10/8/2025	178	0.23	21.3	1530	1.1	< 0.100	< 0.112	< 0.050	8.04	750	0.312
BASG-14	10/8/2025	568	0.0658	11.5	2630	0.685	< 0.100	< 0.112	< 0.050	7.3	1180	0.255
BASG-15	10/8/2025	376	< 0.0050	85.5	1030	1.28	0.045	0.045	< 0.020	8.12	53.8	0.091
BASG-16	10/8/2025	304	0.0349	2.96	784	1.53	< 0.020	< 0.0224	< 0.010	8.12	128	0.104
BASG-17	10/8/2025	216	0.0061	1030	3730	0.546	0.921	0.921	< 0.100	8.08	73.8	0.123
BASG-21	10/8/2025	294	0.13	2690	9010	0.526	< 0.400	< 0.447	< 0.200	7.91	75.1	0.287
BASG-22	10/8/2025	379	0.187	1190	4370	0.59	< 0.200	< 0.224	< 0.100	8.07	65.7	0.325
BASG-25	10/8/2025	284	< 0.0050	0.92	581	0.971	0.344	0.344	< 0.010	7.97	41.7	0.174
BASG-26	10/8/2025	261	0.22	1.38	521	0.684	0.212	0.212	< 0.010	8.03	19.4	0.358

Table 126 – Bruce A Standby Generators Area Polycyclic Aromatic Hydrocarbon Results
(Table units are micrograms per litre ug/L)

		Well ID	**BASG-13**	**BASG-14**	**BASG-15**	**BASG-16**	**BASG-17**	**BASG-21**	**BASG-22**	**BASG-25**	**BASG-26**
		Sample Date	**10/8/2025**	**10/8/2025**	**10/8/2025**	**10/8/2025**	**10/8/2025**	**10/8/2025**	**10/8/2025**	**10/8/2025**	**10/8/2025**
Parameter	**Evaluation Criteria**	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
1-2-MethylNaphthalenes	3.2	ug/l	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.046	< 0.015	< 0.015
1-Methylnaphthalene	3.2	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.045	< 0.010	< 0.010
2-Methylnaphthalene	3.2	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.011	< 0.010	< 0.010
Acenaphthene	4.1	ug/l	0.012	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.066	< 0.010	< 0.010
Acenaphthylene	1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Anthracene	1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(a)anthracene	1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(a)pyrene	0.01	ug/l	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Benzo(b&j)fluoranthene	-	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(g,h,i)perylene	0.2	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(k)fluoranthene	0.1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chrysene	0.1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dibenzo(a,h)anthracene	0.2	ug/l	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Fluoranthene	0.41	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluorene	120	ug/l	0.012	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.208	< 0.010	< 0.010
Indeno(1,2,3-cd)Pyrene	0.2	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Naphthalene	11	ug/l	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.075	< 0.050	< 0.050
Phenanthrene	1	ug/l	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Pyrene	4.1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

Table 127 – Bruce A Transformers Area Hydrocarbon Results
(Table units are micrograms per litre ug/L.)

	Parameter	F1 (C6-C10)	F1-BTEX	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)
	Evaluation Criteria	420	420	150	500	500
	Units	ug/l	ug/l	ug/l	ug/l	ug/l
Well ID	Sample Date	Result	Result	Result	Result	Result
BATR-1-12	4/30/2025	< 25	< 25	< 100	< 250	< 250
BATR-1-12	9/15/2025	< 25	< 25	< 100	< 250	< 250
BATR-1-13	4/30/2025	< 25	< 25	< 100	< 250	< 250
BATR-1-13	9/15/2025	< 25	< 25	< 100	< 250	< 250
BATR-1-14A	4/30/2025	< 25	< 25	< 100	< 250	< 250
BATR-1-14A	9/15/2025	< 25	< 25	< 100	< 250	< 250
BATR-1-14B	4/30/2025	< 25	< 25	< 100	< 250	< 250
BATR-1-14B	9/15/2025	< 25	< 25	< 100	< 250	< 250
BATR-1-15	4/30/2025	< 25	< 25	< 100	< 250	< 250
BATR-1-15	9/15/2025	< 25	< 25	< 100	< 250	< 250
BATR-3-11	4/30/2025	< 25	< 25	< 100	< 250	< 250
BATR-3-11	9/16/2025	< 25	< 25	< 100	< 250	< 250
BATR-3-12	4/30/2025	< 25	< 25	< 100	< 250	< 250
BATR-3-12	9/15/2025	< 25	< 25	< 100	< 250	< 250
BATR-4-10	4/30/2025	< 25	< 25	< 100	< 250	< 250
BATR-4-10	9/16/2025	< 25	< 25	< 100	< 250	< 250

Table 128 – Bruce A Transformers Area Nutrients and Anions Results
(Table units are milligrams per litre mg/Land microsiemens per centimetre uS/cm.)

	Parameter	Alkalinity, Total (as CaCO3)	Ammonia, total (as N)	Chloride (Cl)	Conductivity	Fluoride	Nitrate, as N	Nitrate-Nitrite, as N, Total	Nitrite, as N	pH	Sulfate	Total Kjeldahl Nitrogen
	Evaluation Criteria	–	–	790	–	–	–	–	–	–	–	–
	Units	mg/l	mg/l	mg/l	us/cm	mg/l	mg/l	mg/l	mg/l	pH UNITS	mg/l	mg/l
Well ID	Sample Date	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
BATR-1-12	9/15/2025	134	< 0.0050	277	1200	0.804	1.06	1.06	< 0.050	8.22	14.2	0.086
BATR-1-13	9/15/2025	228	< 0.0099	485	2620	1.06	< 0.100	< 0.112	< 0.050	8.04	404	0.095
BATR-1-14A	9/15/2025	141	< 0.0144	132	1650	1.43	< 0.100	< 0.112	< 0.050	8.26	573	0.061
BATR-1-14B	9/15/2025	129	< 0.0050	39.3	395	0.803	0.391	0.435	0.044	8.22	10.1	0.137
BATR-1-15	9/15/2025	174	< 0.0050	125	1180	1.14	< 0.100	< 0.112	< 0.050	8.13	239	0.114
BATR-3-11	9/16/2025	105	< 0.0132	439	1730	0.867	0.719	0.719	< 0.050	8.15	53.3	0.146
BATR-3-12	9/15/2025	247	< 0.0050	525	2250	1.46	3.44	3.44	< 0.050	8.51	41	0.25
BATR-4-10	9/16/2025	220	< 0.0104	305	1470	1.84	2.38	2.38	< 0.050	8.37	31.2	0.449

Table 129 – Bruce A Transformers Area Select Volatile Organic Compounds Results
(Table units are micrograms per litre ug/L)

	Parameter	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane	Total Trihalomethanes
	Evaluation Criteria	**16**	**25**	**2.4**	**25**	**–**
	Units	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Well ID	**Sample Date**	**Result**	**Result**	**Result**	**Result**	**Result**
BATR-1-12	9/15/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BATR-1-13	9/15/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BATR-1-14A	9/15/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BATR-1-14B	9/15/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BATR-1-15	9/15/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BATR-3-11	9/16/2025	< 1.0	< 1.0	16	< 1.0	16
BATR-3-12	9/15/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BATR-4-10	9/16/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0

Table 130 – Bruce B Transformers Area Hydrocarbons Results
(Table units are micrograms per litre ug/L)

	Parameter	F1 (C6-C10)	F1-BTEX	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)
	Evaluation Criteria	420	420	150	500	500
	Units	ug/l	ug/l	ug/l	ug/l	ug/l
Well ID	Sample Date	Result	Result	Result	Result	Result
BBTR-5-11	4/29/2025	< 25	< 25	< 100	< 250	< 250
BBTR-5-11	9/8/2025	< 25	< 25	< 100	< 250	< 250
BBTR-5-12	4/29/2025	< 25	< 25	< 100	< 250	< 250
BBTR-5-12	9/8/2025	< 25	< 25	< 100	< 250	< 250
BBTR-5-13	4/29/2025	< 25	< 25	< 100	< 250	< 250
BBTR-5-13	9/8/2025	< 25	< 25	< 100	< 250	< 250
BBTR-5-14	4/29/2025	< 25	< 25	< 100	< 250	< 250
BBTR-5-14	9/8/2025	< 25	< 25	< 100	< 250	< 250
BBTR-6-28	4/29/2025	< 25	< 25	< 100	< 250	< 250
BBTR-6-28	9/8/2025	< 25	< 25	< 100	< 250	< 250
BBTR-6-30	4/29/2025	< 25	< 25	< 100	< 250	< 250
BBTR-6-30	9/8/2025	< 25	< 25	< 100	< 250	< 250
BBTR-6-40	4/29/2025	< 25	< 25	< 100	< 250	< 250
BBTR-6-40	9/8/2025	< 25	< 25	< 100	< 250	< 250
BBTR-7-12	4/29/2025	< 25	< 25	< 100	< 250	< 250
BBTR-7-12	9/8/2025	< 25	< 25	< 100	< 250	< 250
BBTR-8-12	4/29/2025	< 25	< 25	< 100	< 250	< 250
BBTR-8-12	9/8/2025	< 25	< 25	< 100	< 250	< 250

Table 131 – Bruce B Transformers Area Nutrients and Anions Results
(Table units are milligrams per litre mg/Land microsiemens per centimetre uS/cm.)

	Parameter	Alkalinity, Total (as CaCO3)	Ammonia, total (as N)	Chloride (Cl)	Conductivity	Fluoride	Nitrate, as N	Nitrate -Nitrite, as N, Total	Nitrite, as N	pH	Sulfate	Total Kjeldahl Nitrogen
	Evaluation Criteria	–	–	790	–	–	–	–	–	–	–	–
	Units	mg/l	mg/l	mg/l	us/cm	mg/l	mg/l	mg/l	mg/l	pH UNITS	mg/l	mg/l
Well ID	Sample Date	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result	Result
BBTR-5-11	9/8/2025	198	0.0067	470	1890	1.57	0.488	0.488	< 0.050	8.05	35.2	0.147
BBTR-5-12	9/8/2025	122	< 0.0050	449	1750	0.953	0.326	0.326	< 0.050	8.17	47.8	0.133
BBTR-5-13	9/8/2025	169	< 0.0050	1010	3520	1.34	0.347	0.347	< 0.100	8.19	86.3	0.11
BBTR-5-14	9/8/2025	176	< 0.0050	1070	3770	1.4	0.319	0.319	< 0.100	8.16	93.9	0.084
BBTR-6-28	9/8/2025	120	< 0.0050	80.7	523	1.98	1.57	1.57	< 0.010	8.19	13.3	0.164
BBTR-6-30	9/8/2025	129	< 0.0050	96.9	741	1.89	0.855	0.855	< 0.010	8.17	91.3	0.162
BBTR-6-40	9/8/2025	296	0.0932	940	3530	1.8	< 0.200	< 0.224	< 0.100	8.35	52.6	0.234
BBTR-7-12	9/8/2025	138	0.0063	1950	6150	1.76	< 0.400	< 0.447	< 0.200	8.11	79	0.313
BBTR-8-12	9/8/2025	219	< 0.0050	686	2580	1.41	0.447	0.447	< 0.050	8.09	46.4	0.139

Table 132 – Bruce B Transformers Area Select Volatile Organic Compounds Results
(Table units are micrograms per litre ug/L)

	Parameter	Bromodichloromethane	Bromoform	Chloroform	Dibromochloromethane	Total Trihalomethanes
	Evaluation Criteria	**16**	**25**	**2.4**	**25**	**–**
	Units	**ug/L**	**ug/L**	**ug/L**	**ug/L**	**ug/L**
Well ID	**Sample Date**	**Result**	**Result**	**Result**	**Result**	**Result**
BBTR-5-11	9/8/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BBTR-5-12	9/8/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BBTR-5-13	9/8/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BBTR-5-14	9/8/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BBTR-6-28	9/8/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BBTR-6-30	9/8/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BBTR-6-40	9/8/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BBTR-7-12	9/8/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0
BBTR-8-12	9/8/2025	< 1.0	< 1.0	< 1.0	< 1.0	< 2.0

Table 133 – Bruce B Standby Generators Area – South Hydrocarbons Results
(Table units are micrograms per litre ug/L)

	Parameter	F1 (C6-C10)	F1-BTEX	F3 (C16-C34)	F4 (C34-C50)
	Evaluation Criteria	**420**	**420**	**500**	**500**
	Units	**ug/l**	**ug/l**	**ug/l**	**ug/l**
Well ID	**Sample Date**	**Result**	**Result**	**Result**	**Result**
BBSG-16	4/1/2025	< 25	< 25	< 250	< 250
BBSG-16	10/9/2025	< 25	< 25	< 250	< 250
BBSG-18	4/1/2025	< 25	< 25	800	550
BBSG-18	10/9/2025	< 25	< 25	< 250	< 250
BBSG-19	4/1/2025	< 25	< 25	< 250	< 250
BBSG-19	10/9/2025	< 25	< 25	< 250	< 250
BBSG-42	10/9/2025	< 25	< 25	< 250	< 250
BBSG-44	10/9/2025	< 25	< 25	< 250	< 250
BBSG-45	10/9/2025	< 25	< 25	< 250	< 250
BBSG-46	4/1/2025	< 25	< 25	< 250	< 250
BBSG-46	10/9/2025	< 25	< 25	< 250	< 250

Table 134 – Bruce B Standby Generators Area – South Nutrients and Anions Results
(Table units are milligrams per litre mg/Land microsiemens per centimetre uS/cm.)

	Parameter	Alkalinity, Total (as CaCO3)	Ammonia, total (as N)	Chloride (Cl)	Conductivity	Fluoride	Nitrate, as N	Nitrate-Nitrite, as N, Total	Nitrite, as N	pH	Sulfate	Total Kjeldahl Nitrogen
	Evaluation Criteria	–	–	790	–	–	–	–	–	–	–	–
	Units	mg/l	mg/l	mg/l	us/cm	mg/l	mg/l	mg/l	mg/l	pH UNITS	mg/l	mg/l
Well ID	**Sample Date**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
BBSG-16	10/9/2025	165	< 0.0050	138	853	1.22	1.4	1.4	< 0.010	8.05	52.6	0.168
BBSG-18	10/9/2025	126	0.0273	54	452	0.94	0.278	0.278	< 0.010	7.94	17.8	0.086
BBSG-19	10/9/2025	99.2	0.0127	43.2	371	0.576	0.383	0.383	< 0.010	7.87	18.2	0.064
BBSG-42	10/9/2025	104	< 0.0050	31.1	349	0.97	0.494	0.494	< 0.010	8	19.8	0.068
BBSG-44	10/9/2025	101	< 0.0050	30.5	326	0.738	0.839	0.839	< 0.010	7.94	16.6	0.295
BBSG-45	10/9/2025	142	< 0.0050	244	1140	1.1	0.84	0.84	< 0.020	8.11	37.2	0.163
BBSG-46	10/9/2025	117	< 0.0050	92.2	577	0.91	0.707	0.707	< 0.010	8.08	25.4	0.08

Table 135 – Central Maintenance Facility Hydrocarbons Results
(Table units are micrograms per litre ug/L)

	Parameter	F1 (C6-C10)	F1-BTEX	F2 (C10-C16)	F3 (C16-C34)	F4 (C34-C50)
	Evaluation Criteria	**750**	**750**	**150**	**500**	**500**
	Units	**ug/l**	**ug/l**	**ug/l**	**ug/l**	**ug/l**
Well ID	**Sample Date**	**Result**	**Result**	**Result**	**Result**	**Result**
CMLF-10	4/25/2025	< 25	< 25	< 100	< 250	< 250
CMLF-10	10/7/2025	< 25	< 25	< 100	< 250	< 250
CMLF-11	4/24/2025	< 25	< 25	< 100	< 250	< 250
CMLF-11	10/7/2025	< 25	< 25	< 100	< 250	< 250
CMLF-6	4/24/2025	< 25	< 25	< 100	< 250	< 250
CMLF-6	10/7/2025	< 25	< 25	< 100	< 250	< 250
CMLF-7	4/24/2025	< 25	< 25	< 100	< 250	< 250
CMLF-7	10/7/2025	< 25	< 25	< 100	< 250	< 250
CMLF-8	4/25/2025	< 25	< 25	< 100	< 250	< 250
CMLF-8	10/7/2025	< 25	< 25	< 100	< 250	< 250
CMLF-9	4/25/2025	< 25	< 25	< 100	< 250	< 250
CMLF-9	10/7/2025	< 25	< 25	< 100	< 250	< 250

Table 136 – Bunker C Oil Ignition Day Tank Area Metals Results
(Table units are micrograms per litre ug/L)

		Well ID	**BCO-20**	**BCO-27**	**BCO-28A**	**BCO-28B**	**BCO-31A**	**BCO-31B**	**BCO-32**	**BCO-34A**	**BCO-34B**
		Sample Date	**10/7/2025**	**10/7/2025**	**10/7/2025**	**10/7/2025**	**10/7/2025**	**10/7/2025**	**10/7/2025**	**10/7/2025**	**10/7/2025**
Parameter	**Evaluation Criteria**	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
Antimony	6	ug/L	< 1.00	< 1.00	< 1.00	0.28	< 1.00	< 1.00	0.38	< 1.00	< 1.00
Arsenic	25	ug/L	2.17	1.9	3.16	1.53	< 1.00	< 1.00	0.29	< 1.00	1.01
Barium	1000	ug/L	34.8	70.8	38.6	29.6	44.7	39	21.9	42.1	36.4
Beryllium	4	ug/L	< 0.200	< 0.200	< 0.200	< 0.020	< 0.200	< 0.200	< 0.020	< 0.200	< 0.200
Boron	5000	ug/L	171	172	186	240	116	204	76	172	278
Cadmium	2.7	ug/L	< 0.0500	< 0.0500	< 0.0500	0.0201	< 0.0500	< 0.0500	0.0342	0.054	< 0.0500
Chromium	50	ug/L	< 5.00	< 5.00	< 5.00	< 0.50	< 5.00	< 5.00	< 0.50	< 5.00	< 5.00
Chromium, Hexavalent (Cr6+)	25	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50	< 0.50
Cobalt	3.8	ug/L	< 1.00	< 1.00	< 1.00	< 0.10	< 1.00	< 1.00	< 0.10	< 1.00	< 1.00
Copper	87	ug/L	< 2.00	< 2.00	< 2.00	0.72	< 2.00	< 2.00	2.05	< 2.00	< 2.00
Lead	10	ug/L	< 0.500	< 0.500	< 0.500	< 0.050	< 0.500	< 0.500	< 0.050	< 0.500	< 0.500
Mercury	0.29	ug/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	0.0057	< 0.0050	< 0.0050
Molybdenum	70	ug/L	5.24	4.7	6.37	4.37	6.02	3.62	1.71	6	4.01
Nickel	100	ug/L	< 5.00	< 5.00	14.5	3.38	9.19	< 5.00	1.19	6.94	< 5.00
Selenium	10	ug/L	< 0.500	< 0.500	< 0.500	0.639	0.952	0.737	0.515	0.911	0.618
Silver	1.5	ug/L	< 0.100	< 0.100	< 0.100	< 0.010	< 0.100	< 0.100	< 0.010	< 0.100	< 0.100
Sodium	490000	ug/L	365000	387000	410000	200000	511000	340000	53400	456000	301000
Thallium	2	ug/L	0.299	< 0.100	0.281	0.103	0.443	< 0.100	0.018	0.456	< 0.100
Uranium	20	ug/L	6.23	7.65	7.09	1.66	12.5	4.59	0.725	8.72	1.6
Vanadium	6.2	ug/L	20.3	< 5.00	< 5.00	74.6	< 5.00	< 5.00	9.93	< 5.00	18.1
Zinc	1100	ug/L	< 10.0	< 10.0	< 10.0	2.8	< 10.0	< 10.0	7.7	< 10.0	< 10.0

Table 137 – Former Acid Wash Pond Area Metals Results
(Table units are micrograms per litre ug/L)

		Well ID	BCO-AWP-18	BCO-AWP-33	BCO-AWP-36	BCO-AWP-38	BCO-AWP-39
		Sample Date	**10/7/2025**	**10/7/2025**	**10/7/2025**	**10/7/2025**	**10/7/2025**
Parameter	**Evaluation Criteria**	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**
Antimony	6	ug/L	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Arsenic	25	ug/L	1.17	< 1.00	< 1.00	1.61	1.74
Barium	1000	ug/L	76.3	145	52.6	60.2	53.8
Beryllium	4	ug/L	< 0.200	< 0.200	< 0.200	< 0.200	< 0.200
Boron	5000	ug/L	< 100	< 100	< 100	122	107
Cadmium	2.7	ug/L	< 0.0500	< 0.0500	< 0.0500	< 0.0500	< 0.0500
Chromium	50	ug/L	< 5.00	< 5.00	< 5.00	< 5.00	< 5.00
Chromium, Hexavalent (Cr6+)	25	ug/L	< 0.50	< 0.50	< 0.50	< 0.50	1.04
Cobalt	3.8	ug/L	< 1.00	< 1.00	< 1.00	< 1.00	< 1.00
Copper	87	ug/L	< 2.00	< 2.00	< 2.00	< 2.00	< 2.00
Lead	10	ug/L	< 0.500	< 0.500	< 0.500	< 0.500	< 0.500
Mercury	0.29	ug/L	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Molybdenum	70	ug/L	18.8	40.5	4.03	15.5	15.1
Nickel	100	ug/L	107	< 5.00	< 5.00	15.4	71.5
Selenium	10	ug/L	< 0.500	< 0.500	1.36	1.06	1.32
Silver	1.5	ug/L	< 0.100	< 0.100	< 0.100	< 0.100	< 0.100
Sodium	490000	ug/L	625000	539000	450000	929000	411000
Thallium	2	ug/L	0.295	< 0.100	< 0.100	< 0.100	0.153
Uranium	20	ug/L	8.56	3.7	3.5	7.68	4.97
Vanadium	6.2	ug/L	824	9.38	42.7	307	2540
Zinc	1100	ug/L	< 10.0	< 10.0	< 10.0	< 10.0	< 10.0

Table 138 – Soil Management Area Polycyclic Aromatic Hydrocarbons Results
(Table units are micrograms per litre ug/L)

		Well ID	**MW05-7**	**SMA-MW01**	**SMA-MW02**	**SMA-MW03**	**SMA-MW04**	**SMA-MW05**	**SMA-MW06**	**SMA-MW07**
		Sample Date	**9/3/2025**	**9/3/2025**	**9/3/2025**	**9/3/2025**	**9/3/2025**	**9/4/2025**	**9/4/2025**	**9/4/2025**
Parameter	**Evaluation Criteria**	**Units**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**	**Result**
1-2-MethylNaphthalenes	3.2	ug/l	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	< 0.015	0.05	< 0.015
1-Methylnaphthalene	3.2	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.018	< 0.010
2-Methylnaphthalene	3.2	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	0.032	< 0.010
Acenaphthene	4.1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Acenaphthylene	1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Anthracene	1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(a)anthracene	1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(a)pyrene	0.01	ug/l	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Benzo(b&j)fluoranthene	-	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(g,h,i)perylene	0.2	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Benzo(k)fluoranthene	0.1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Chrysene	0.1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dibenzo(a,h)anthracene	0.2	ug/l	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Fluoranthene	0.41	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Fluorene	120	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Indeno(1,2,3-cd)Pyrene	0.2	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Naphthalene	11	ug/l	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050	< 0.050
Phenanthrene	1	ug/l	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020	< 0.020
Pyrene	4.1	ug/l	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010

APPENDIX J: GROUNDWATER MAPS

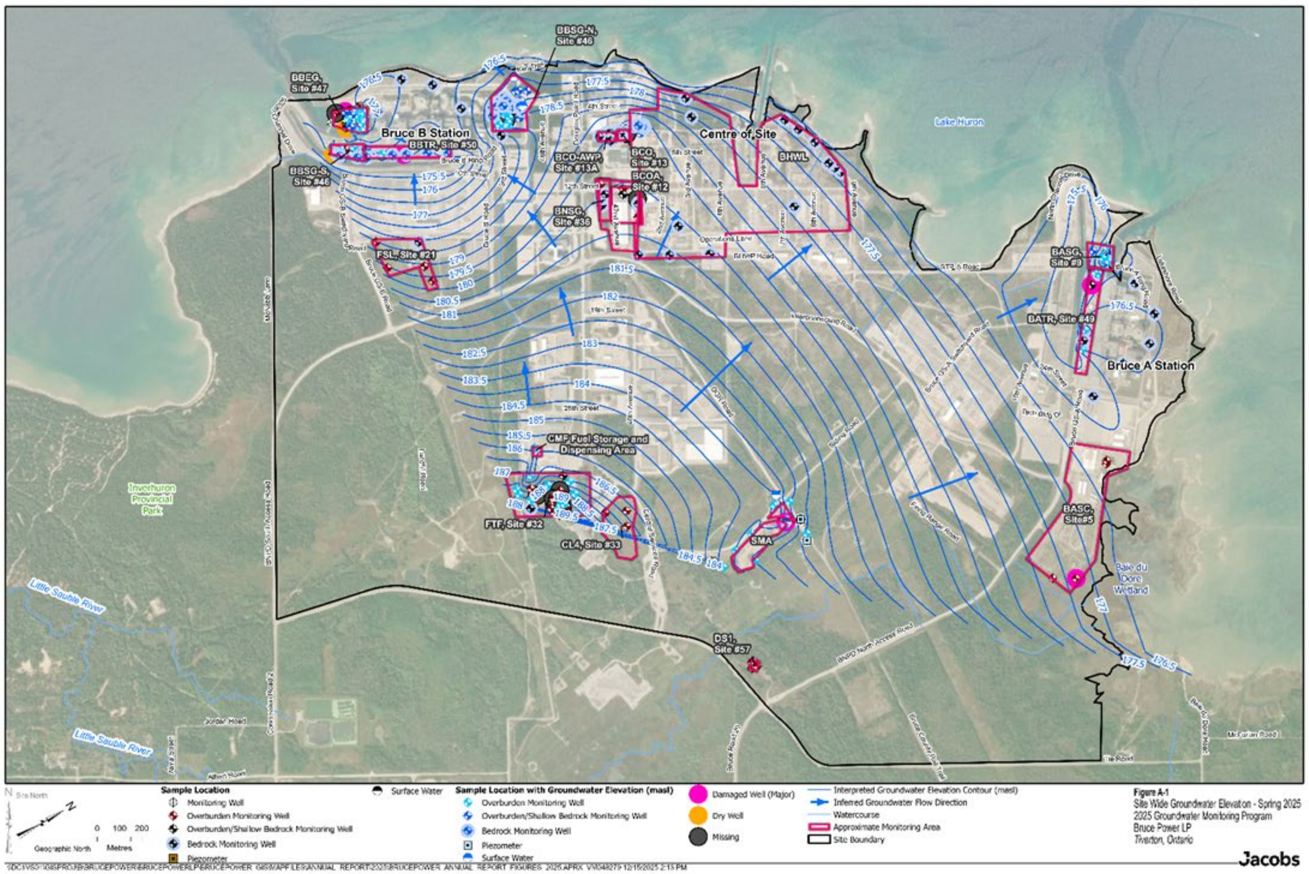

Figure 81 – Site Wide Groundwater Elevation – Spring 2025

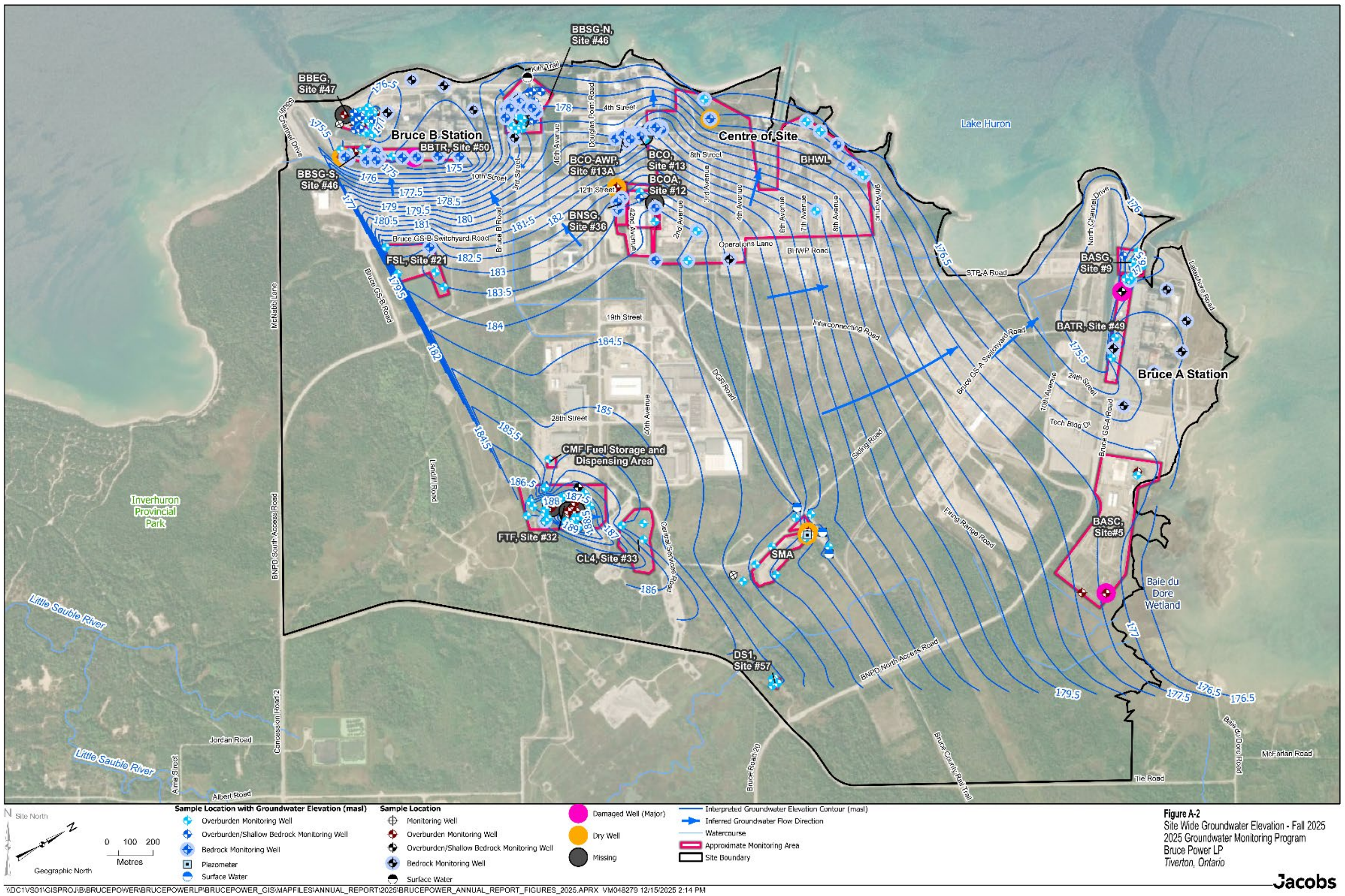

Figure 82 – Site Wide Groundwater Elevation – Fall 2025

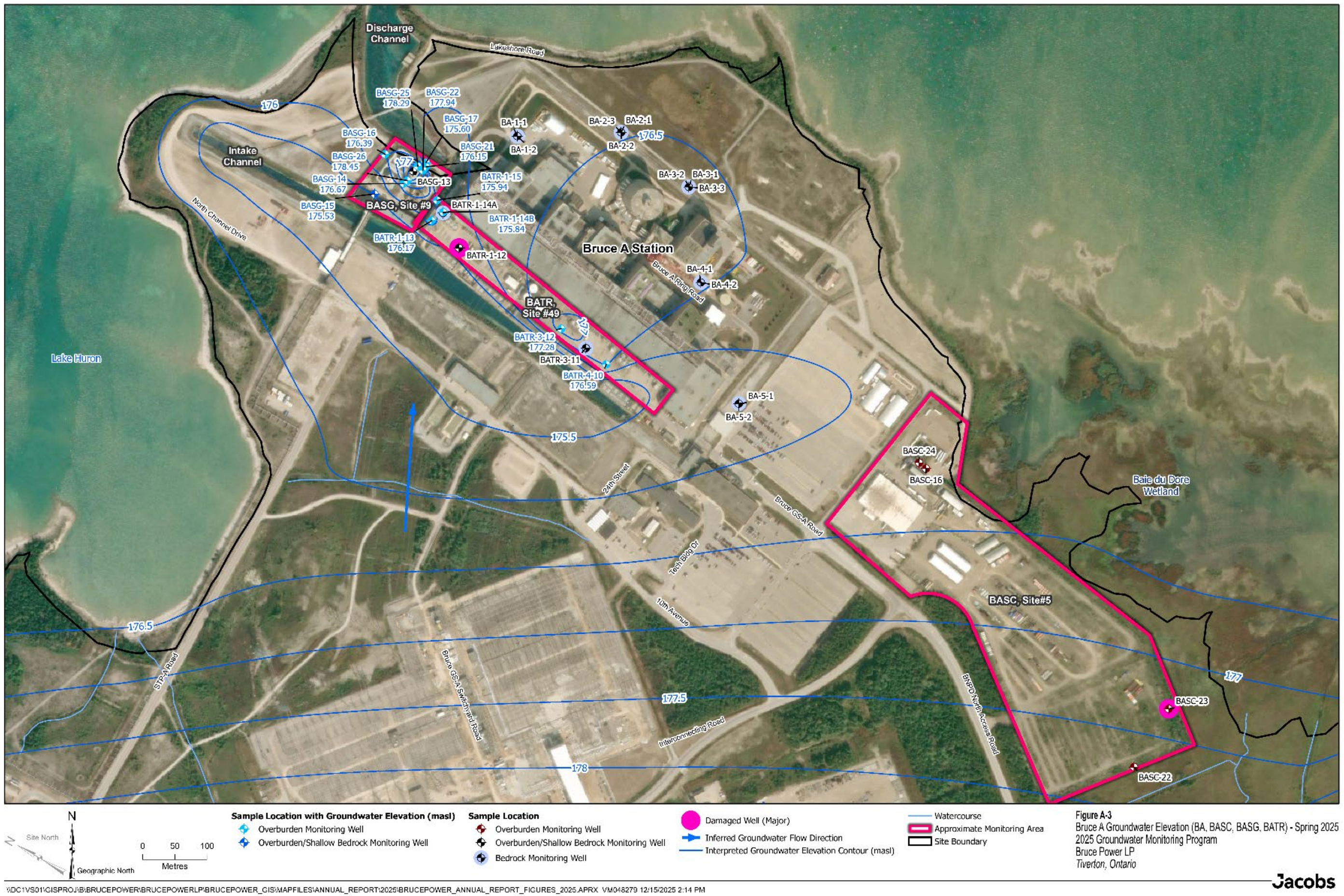

Figure 83 – Bruce A Groundwater Elevation – Spring 2025

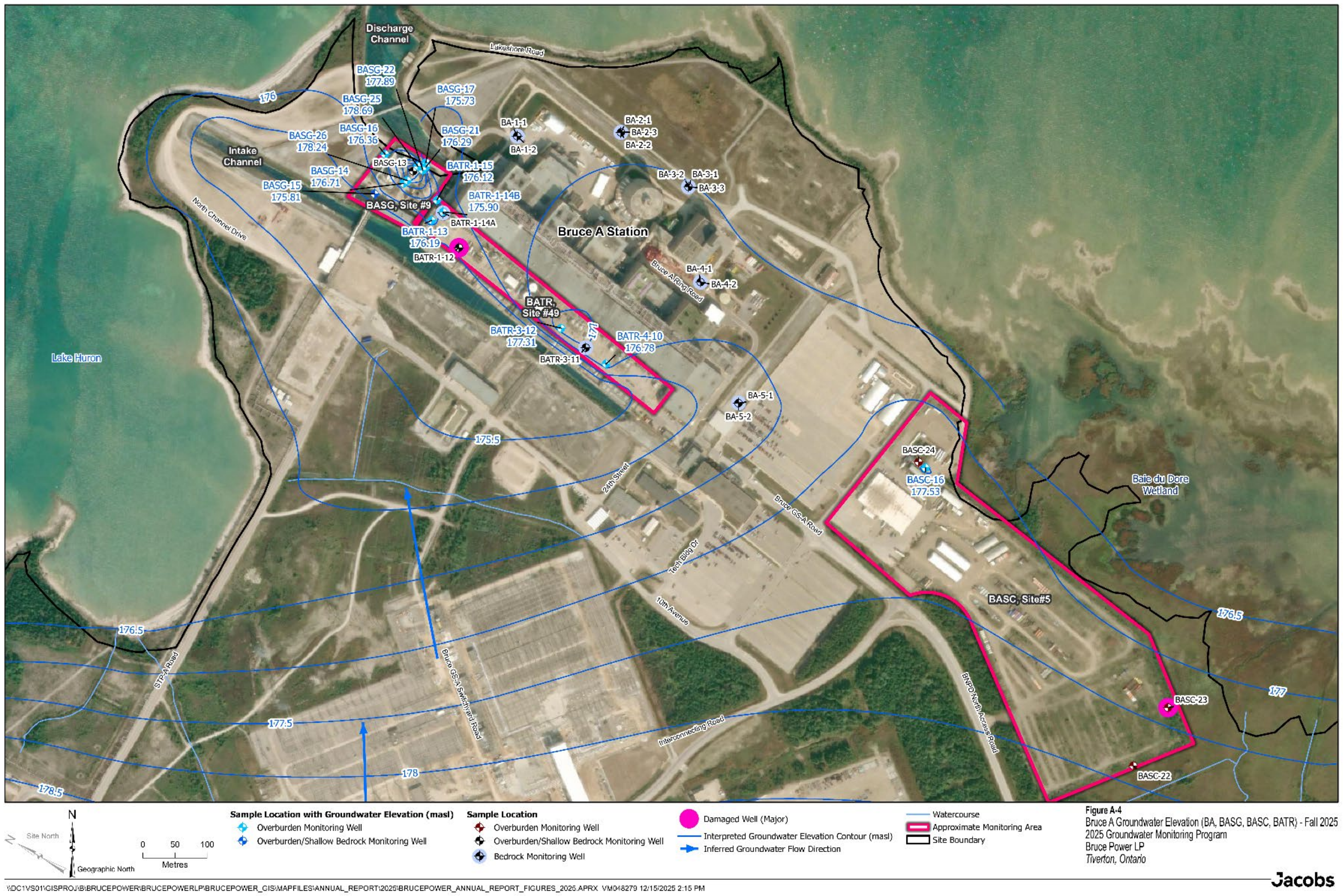

Figure 84 – Bruce A Groundwater Elevation – Fall 2025

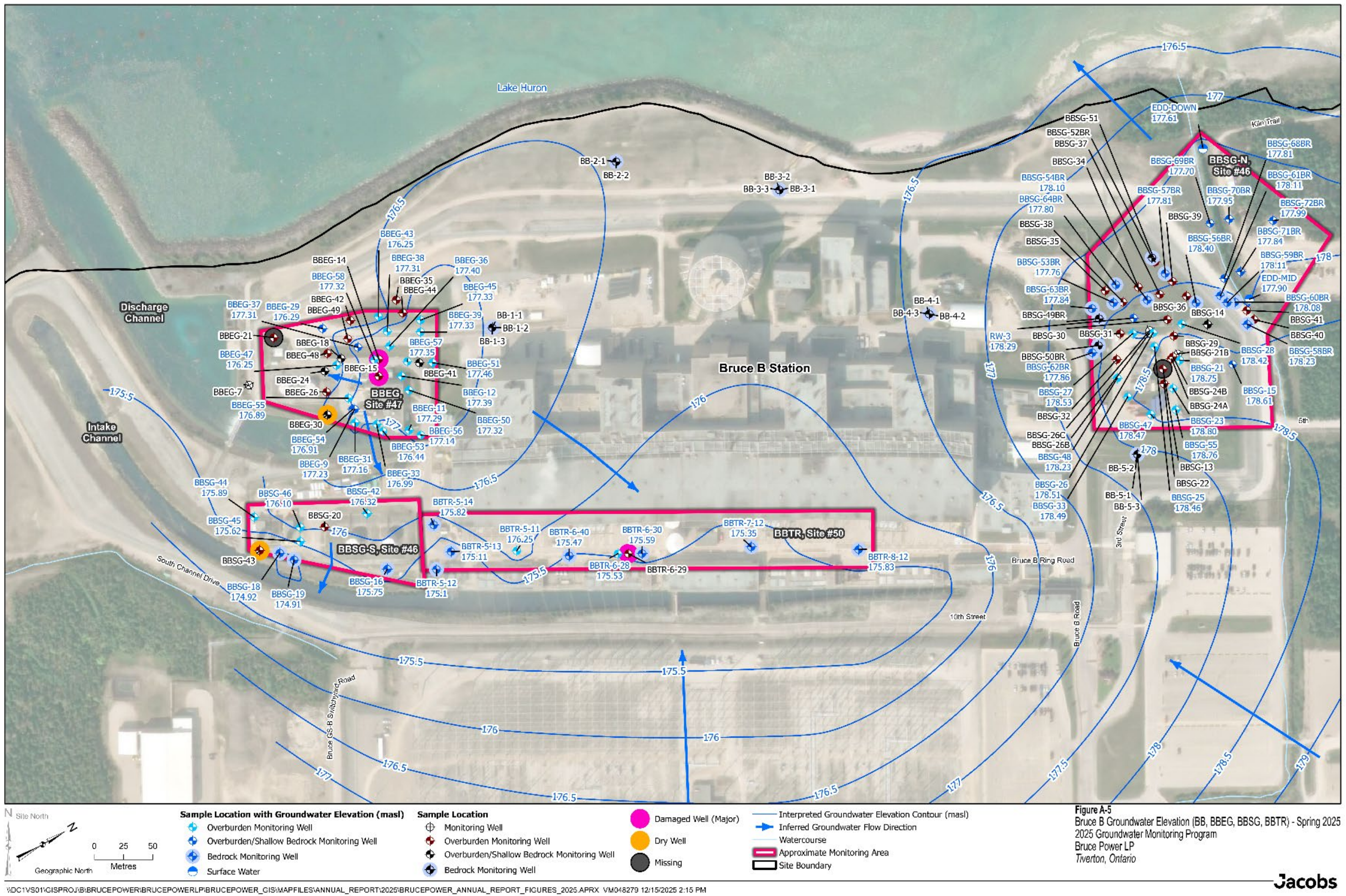

Figure 85 – Bruce B Groundwater Elevation – Spring 2025

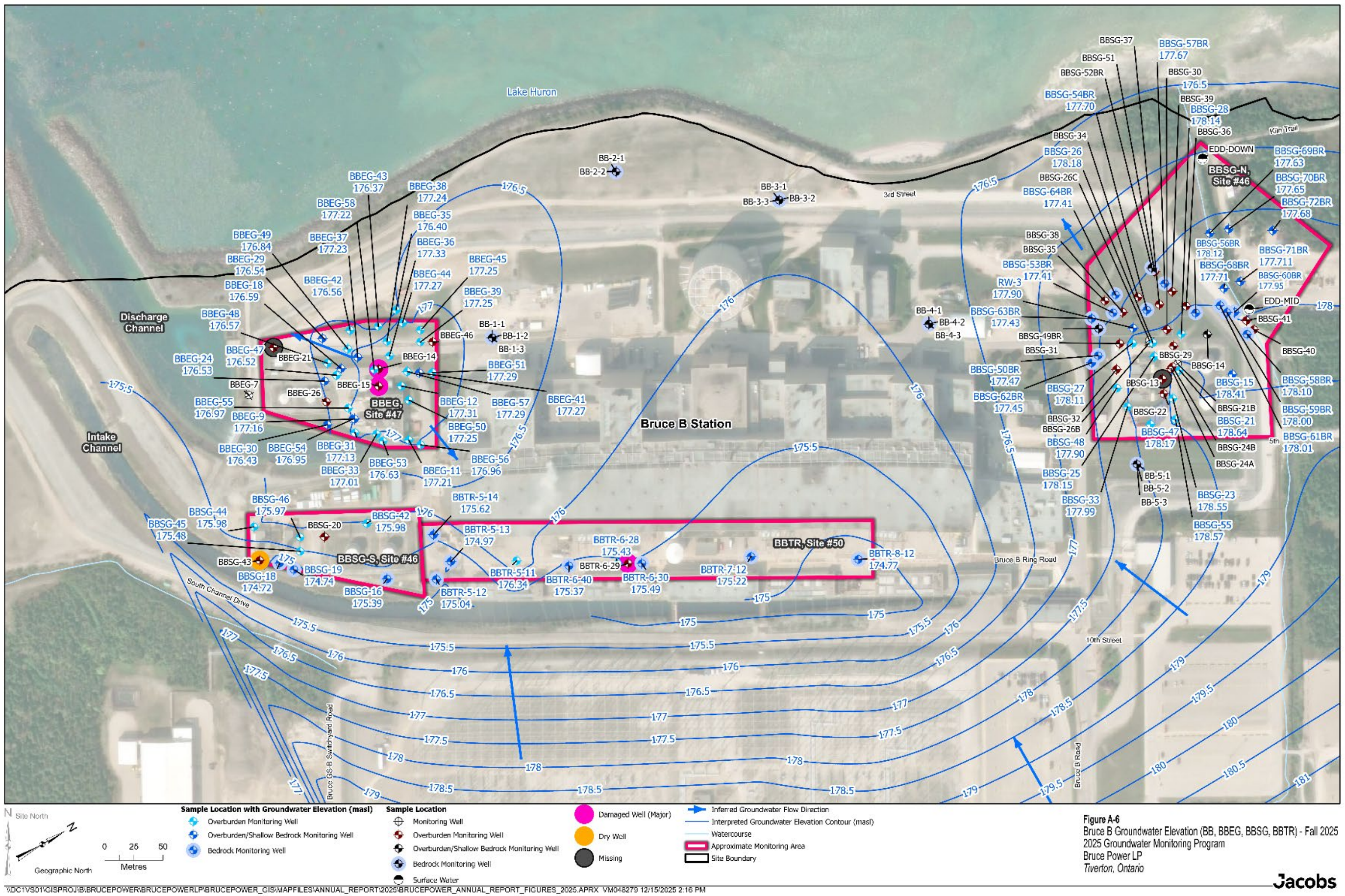

Figure 86 – Bruce B Groundwater Elevation – Fall 2025

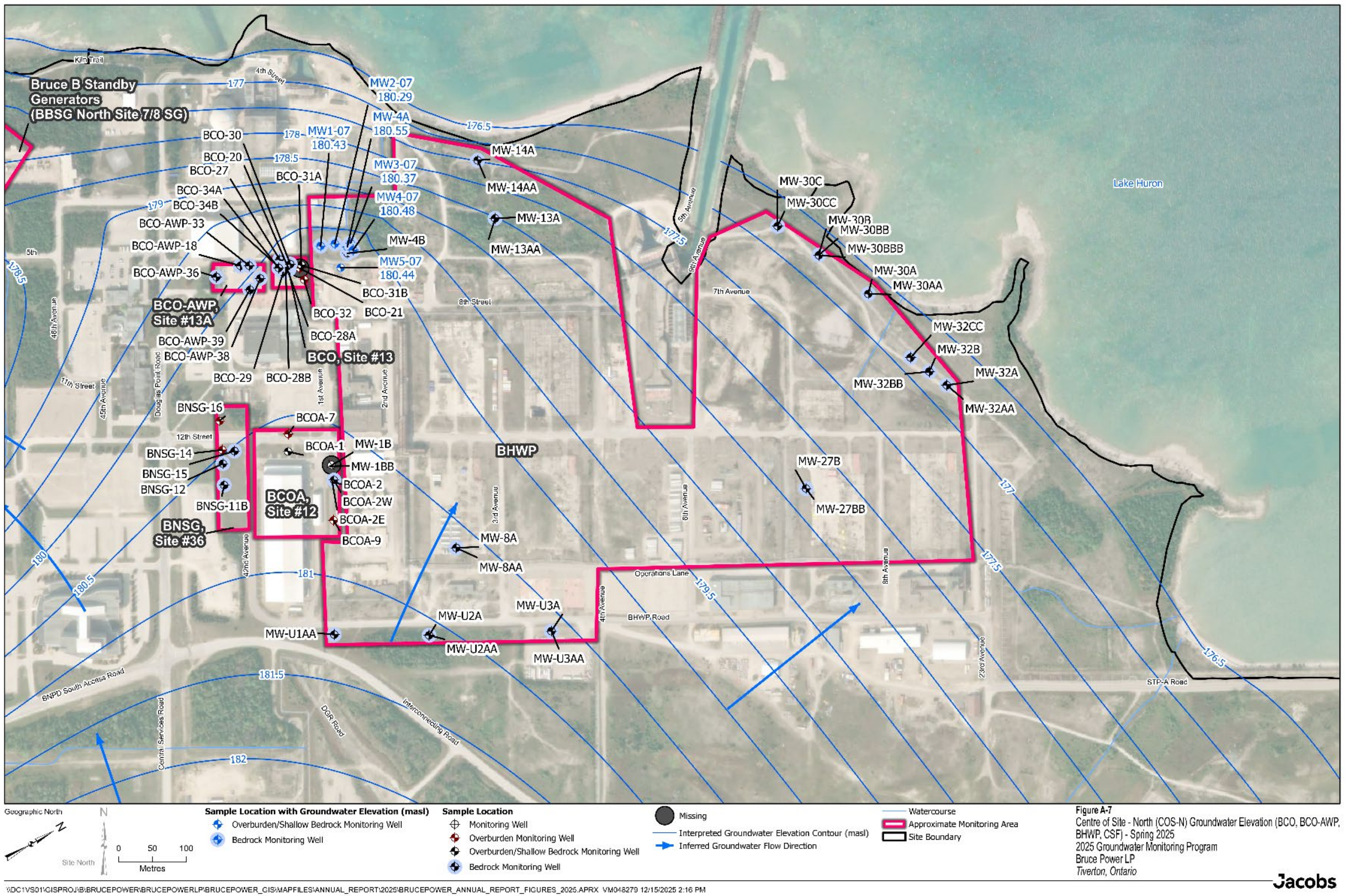

Figure 87 – Centre of Site North Groundwater Elevation – Spring 2025

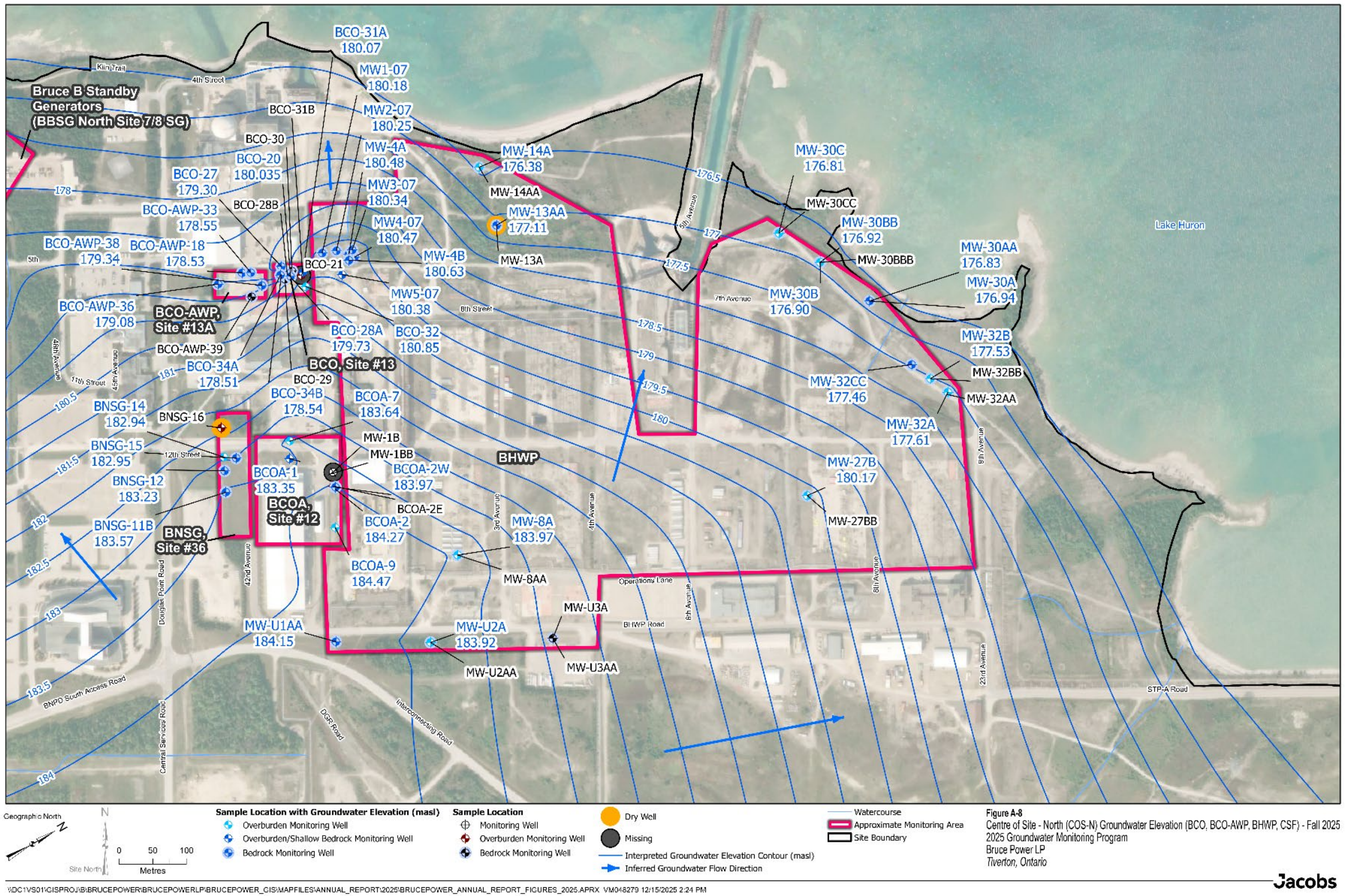

Figure 88 – Centre of Site North Groundwater Elevation – Fall 2025

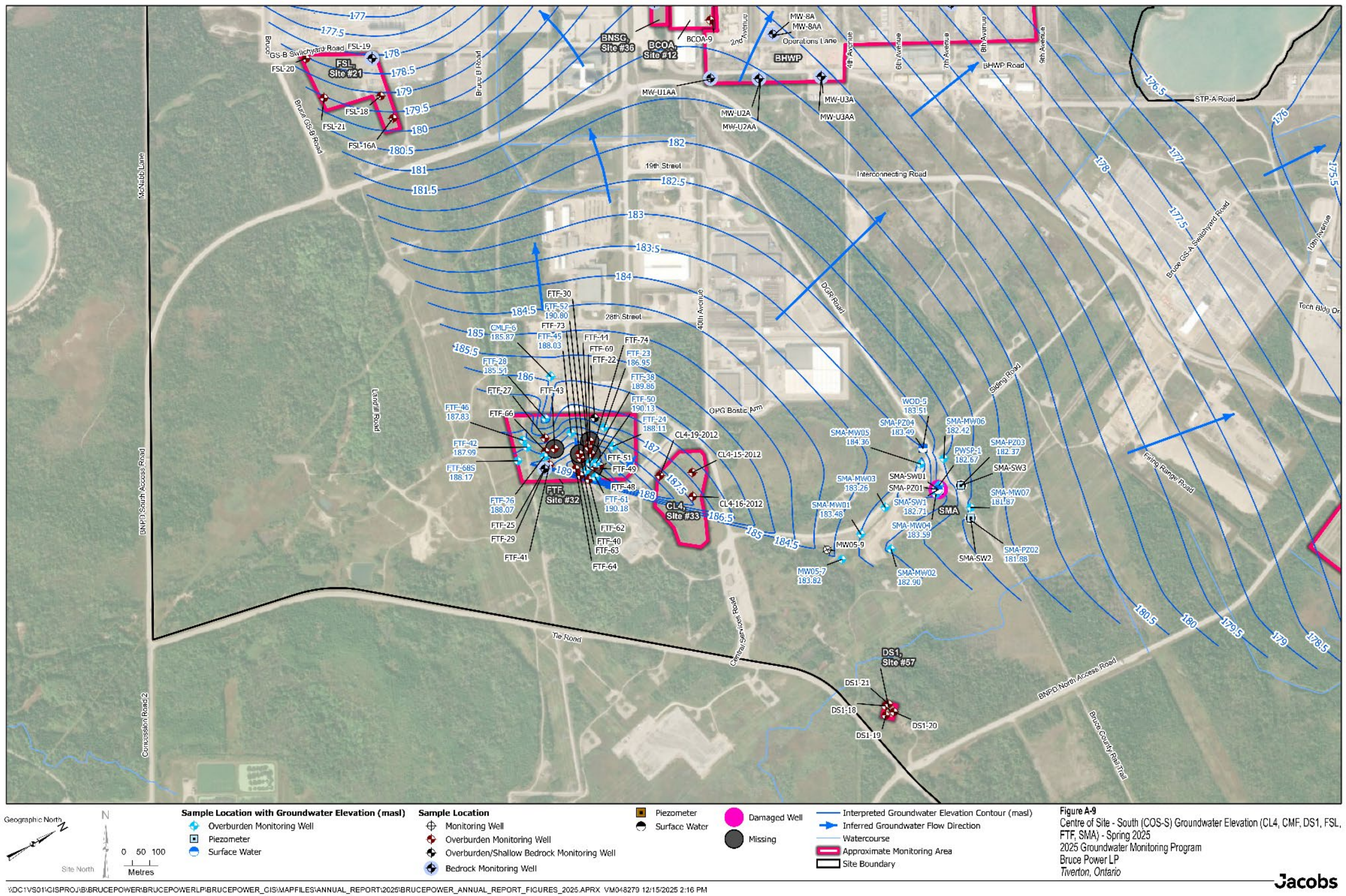

Figure 89 – Centre of Site South Groundwater Elevation – Spring 2025

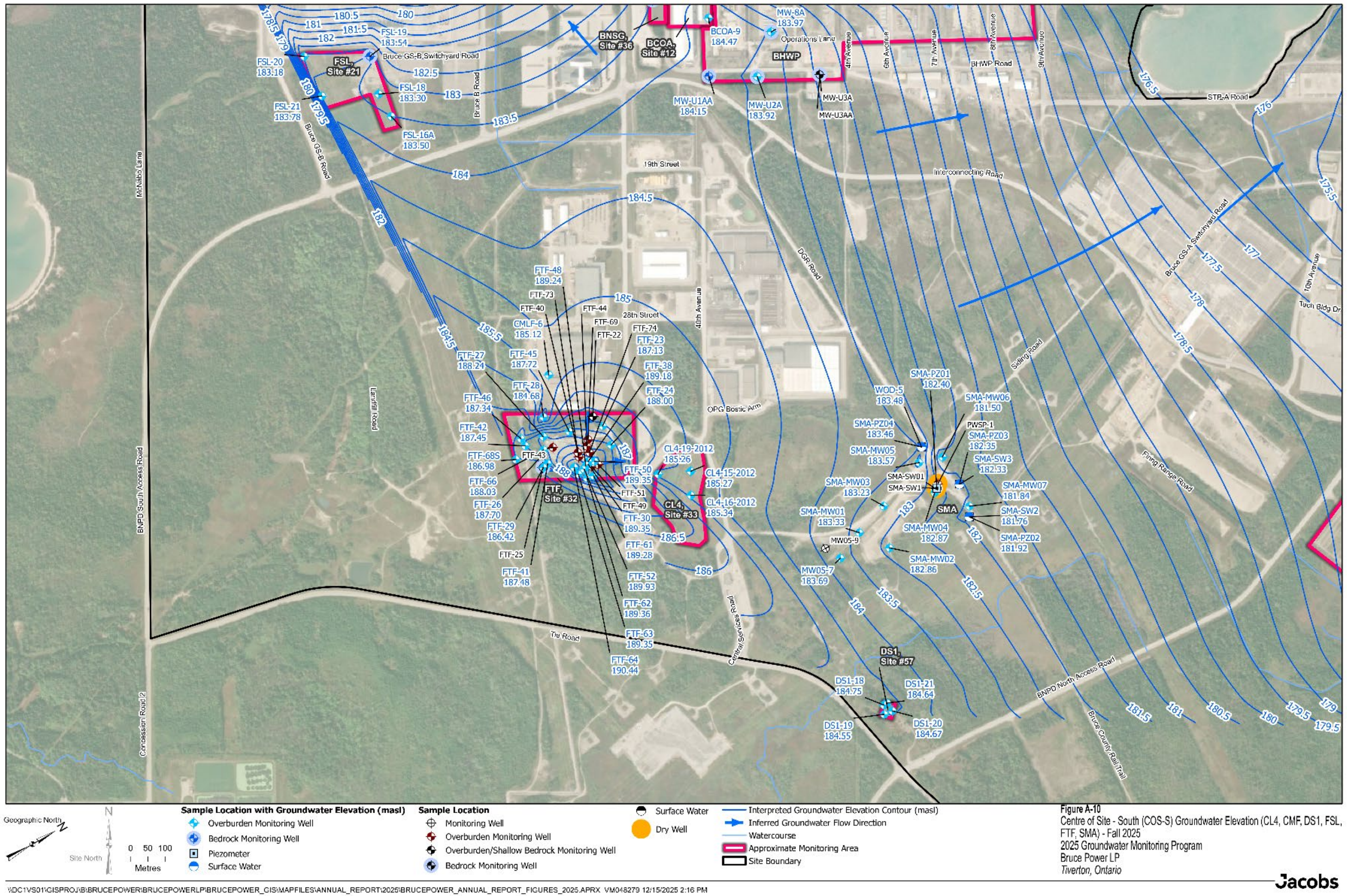

Figure 90 – Centre of Site South Groundwater Elevation – Fall 2025