

Annual Report 2023

Adaptive Phased Management (APM) Project Environment Review Group (ERG)

2024-05-08



Photo 1: The ERG: Suzanne Livingstone, Tammy Tremblay and Bill Ross with a full-scale copper-coated steel container for emplacing used nuclear fuel in a deep geologic repository. Photo taken at the NWMO Discovery and Demonstration Centre, Oakville, March 2023.

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1 Message from the Chair

Aanii, boozhoo! It is my privilege to write to you once more. For the past 2 terms, I have been entrusted to serve as the chair for the Environmental Review Group. 2023 has proven to be a busy year. The ERG worked diligently to advise the work of the NWMO relating to the on-going biodiversity studies and impact assessment as they move towards site selection.

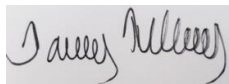
I am happy to share the ERG has been working to develop knowledge and an understanding around First Nations Treaties, Reconciliation, Indigenous Knowledge, and Métis awareness. The NWMO has been able to support the ERG on our Reconciliation Journey by providing informative training and workshops. This work has been enlightening and significant as we continue to advise on “western” studies and assessments that are designed to look after and monitor our beloved Mother Earth and all our relations. I am pleased that the NWMO continues to strive towards incorporating Indigenous Knowledge into their work and has released a Water Statement as means to acknowledge, respect, and protect the water impacted by APM.

During the ERG-NWMO’s August workshop, we had the opportunity to visit the traditional territory of the Saugeen Ojibway Nation (SON). This included a visit to learn about the Coastal Waters Monitoring Program. It was wonderful to see the passion from community members in protecting and monitoring resources in their territory. We were also fortunate to participate in a driving tour of Neyaashiingmiing First Nation, which is one of two nations in the SON. Our visit to the SON traditional territory proved to be a great opportunity to gain a better understanding of the beautiful area and its people.

In late 2023, the Supreme Court of Canada announced the need to review and amend the impact assessment act. This will likely complicate work for the NWMO and the ERG to commence impact assessment. Looking forward in 2024 we have a busy year ahead as we navigate the upcoming amendment of the impact assessment act and continue to advise the NWMO as they work towards site selection.

I would like to thank my fellow ERG members for their ongoing support and hard work as we work to assist the NWMO with moving towards site selection and impact assessment. We are fortunate for our excellent working relationship with the NWMO staff, who have proven to be knowledgeable delightful to work with. Miigwetch!

Tammy Tremblay (Chair of the ERG), MG KWE Consulting, Ontario, Canada



Bill Ross, Emeritus Professor of Environmental Design, University of Calgary, Calgary, Canada



Suzanne Livingstone, Senior Principal Consultant, The Biodiversity Consultancy, Cambridge, UK



2 About the ERG

The Environmental Review Group (ERG), established in late 2018, provides independent expert advice and guidance on environmental programs and impact assessment to the Nuclear Waste Management Organization (NWMO). The group contributes to the establishment of a transparent process to ensure environmental aspects of the Adaptive Phased Management Plan (the safe, long-term management of used nuclear fuel) are in line with both national and international best practice.

We understand impact assessment is not solely a scientific and technical process, and believe it is essential for NWMO to engage with both Indigenous and non-Indigenous communities who are affected by the proposed project (their livelihoods, their lifestyles, their rights and their desires for sustainability). For this reason, we not only provide technical input, but strategic advice on the importance of early, pro-active, and transparent engagement with communities, and on the development of effective and long-lasting relationships.

The NWMO can use a combination of western science and Indigenous knowledge to provide reliable information enabling them to continually improve the sustainability of the APM Project. NWMO can use strong community relationships effectively to create mutually beneficial outcomes for both the NWMO and stakeholders and rights-holders.

The ERG is composed of three members, each with a different, but complementary expertise: impact assessment professional practice, biodiversity assessment and management, and the integration and balancing of Indigenous knowledge and western science. As appointed individuals, we are expected to use our professional judgement and serve in an independent capacity. We conduct our input based on four core principles:

- **Independence:** We will retain our independence from NWMO to provide unbiased guidance. We act as individuals within our specialist fields but respond to NWMO as one voice to offer multidisciplinary oversight.
- **Transparency:** We ensure opinions and advice given to NWMO are transparent and justified, based on expert opinion, and backed by science/Indigenous knowledge.
- **Inclusivity:** We will ensure inclusion of Indigenous knowledge and the social aspects of the project when providing guidance on environmental issues.
- **Integrity:** We will approach all requests from the NWMO with an open mind and will carry out our work with diligence and integrity.

Our aim is to ensure that the information gathered through environmental programs and in preparation for the impact assessment will be of the highest quality. Only then, we believe, will the NWMO be able to use that information to improve the project and to prepare a truly effective and inclusive impact assessment. In short, our advice to the NWMO is intended to enable it to create a sound, sustainable and just APM project.

3 ERG activities

Important context for this report: there are two potential siting regions in the site selection process in 2023: WLON-Ignace (Northwest) and SON-South Bruce (Southeast). Our advice should be applied as is appropriate for the local conditions and priorities that exist for those areas.

3.1 Meetings and workshops

3.1.1 ERG Reconciliation training and NWMO meetings (March 2023)

Content: This ERG-NWMO visit included training to support the ERG’s reconciliation learning journey. Meetings were held to discuss a project update with the NWMO and Zoetica presented on the Northwest biodiversity baseline and change assessment studies reflecting available information at the end of 2022. The ERG was taken on a tour of the NWMO Discovery and Demonstration Centre in Oakville.

3.1.1.a Reconciliation training

This training included three modules: Reconciliation – the Identity and Land Module, We are all Treaty People Module, and Métis Awareness Training. This part of the meeting was intended to help us improve our understanding of Indigenous matters so that we could better carry out our ERG mandate.

As part of the Reconciliation training, much time was spent discussing the array of identities that Indigenous Peoples possess and reflecting on the concept of privilege. How does the acknowledgement of our identities speak to the concept of “spending privilege”? How can one make space for spending privilege to others that do not have the same privilege? Time was spent learning about indigenous people, history, and world views relating to land. We learned about the misconception of Canadian history, how the doctrine of discovery has impacted the past and present day. We looked at historical and modern treaties. How nation to nation treaty making was done with intention and spirit and how can these historical tenets be applied to a modern context. The final piece of the training was to share knowledge around the Métis people. How the Métis people came to be and provided an insight and understanding of Métis culture, practices, and traditions.

The reconciliation training proved to be informative and will help guide the work we do with the NWMO. In some instances, the training had hard concepts, topics and was difficult mentally and emotionally. However, it has moved us along our own personal Reconciliation Journeys.

As an interactive element of the ERG’s Reconciliation Journey, we visited the Special Exhibit entitled “*Indigenous Ingenuity: An Interactive Adventure*” at the Ontario Science Centre. The exhibit gave us the opportunity to experience the innovative processes that contribute to Indigenous Knowledge by observing nature, listening to knowledge bearers, experimenting with scientific principles, and sharing experiences with others. The exhibit highlighted unique technologies developed by First Nations, Inuit, and Métis peoples, many of which remain in use today.



Photo 2: The ERG with colleagues from the NWMO. **Photo 3:** Tammy and Bill enjoying the Indigenous Ingenuity exhibit at the Ontario Science Centre, March 2023.

ERG comments/advice:

The purpose of this part of the meeting was for members of the ERG to learn. We very much appreciated the opportunity to meet with good instructors and believe we are now better placed to understand some Indigenous matters and hope we will be better able to use this understanding to better perform our tasks in future. In this respect, we must note that, for two of us, one of the serious advantages of these face-to-face meetings is the opportunity to talk with and (especially) to learn from Tammy, who is herself Indigenous.

3.1.1.b Biodiversity Impact Studies Update

Staff from Zoetica (Zoetica has been retained by the NWMO to undertake Biodiversity Impact Studies for the APM Project at both potential siting areas that remain under consideration) provided a high-level summary of the baseline data collected and interpreted, as of 2022, for the WLON-Ignace (Northwest) siting area specifically for the biodiversity impact studies program. The ERG discussed the need to understand dewatering plans during construction because these details could seriously affect water flows and hence also affect properly identifying the aquatic biodiversity effects of the APM project. Linked to this, we discussed the importance of the NWMO establishing clear internal processes for sharing information across study disciplines; if the consultants working on impact assessments do not know what NWMO staff are planning to do, they cannot meaningfully predict the project effects.

ERG comments/advice:

The ERG commented on the importance of using precise language involving the term “critical habitat” (a technical term in the Species at Risk Act) to avoid confusion for readers and regulators. We also raised concerns about the possible need for plans for dewatering aquifers during construction of the APM project and how related changes in water flows could have effects on biodiversity in downstream waterbodies. This led to a discussion of understanding engineering plans for shaft construction, what dewatering measures would be deployed, and the need for collaboration with the hydrology (surface and sub-surface) studies to determine if impacts to wetlands and other priority biodiversity areas should be anticipated. More generally, the ERG shared its concerns that information appears not to be effectively shared amongst the various NWMO teams and supporting consultants working on the impact assessment studies. Most effective impact assessment gets done when there is very good communication between the impact assessors and the project designers. The effects can be well described by impact assessors to project designers so that modifications in project design can be made to avoid adverse effects and changes in project design need to be understood by impact assessors to

enable them to make better predictions of effects.

3.1.1.c. Discovery and Demonstration Centre Tour

A member of the NWMO safety assessment team, led a tour of the NWMO's Discovery and Demonstration Centre in Oakville, ON. Colleagues from Zoetica and The Toronto Zoo's Native Bats Conservation Program (NBCP) were invited to join the ERG on tour (NWMO has been in partnership with the NBCP several years as part of their biodiversity program). The tour highlights recent progress on proof testing, particularly copper and bentonite, of the engineered barrier system for the APM Project. Learnings from the full-scale emplacement trial of the engineered-barrier system carried out by the NWMO in spring 2022 were discussed.



Photo 4: Suzanne holding a demonstration CANDU (Canadian Deuterium Uranium) fuel bundle at the Discovery and Demonstration Centre, Oakville. March 2023.

ERG comments/advice:

We discussed the volumes of copper and bentonite that will be needed to operationalize the APM Project and confirmed that international best practice would be used to assess supply chain impacts to biodiversity. We also discussed how climate change would need to be addressed in relation to safety assessment and uncertainty (effects of climate change on the project is required under the Impact Assessment Act). The NWMO must effectively demonstrate current (stress) testing adequately reflects ranges of scenarios that could occur over the very long life of the APM Project. The NWMO should be prepared to explain the safety case in terms of *when* materials failures occur, *how* those failures occur, and *why* there is confidence in the post-closure safety case.

3.1.2. Biodiversity and the change assessment workshop (virtual meeting) (May 2023)

Video Conference with the NWMO and Zoetica (30th May 2023)

Content: A brief presentation from NWMO was made about progress on the change assessment process being undertaken by NWMO. Discussion was held about NWMO's selection of valued components for inclusion in the change assessment process and the Initial Project Description and, presumably, in the impact assessment for the APM project. Zoetica described the work it is doing on Biodiversity Impact Assessment, focussing on the status and plans for coming years. The risk of impacts to biodiversity was identified and discussions of how to handle these risks described.

ERG comments/advice: The ERG commended and encouraged NWMO's engagement with the Impact Assessment Agency of Canada. The ERG and Zoetica agreed that strong evidence for effectiveness of any mitigation (or enhancement) measures to reduce adverse effects on biodiversity (or enhance positive effects) must be carefully documented. Both the ERG and Zoetica also agreed the impact assessment must document the predicted impacts if the mitigation fails and what actions could

realistically be taken to adapt. The ERG continued to note that more collaboration amongst study teams is needed. There appears to be a weakness in the two-way flow of information that supports a big picture view: the biodiversity team needs input from the social assessment team to improve understanding of how the landscape is used now, and what pressures might occur, and the social assessment team needs to understand predicted changes to the biophysical environment. A well thought out and collaborative ecosystem services assessment could provide a helpful framework for that information exchange.

3.1.3. Indigenous Knowledge and Western Science Workshop – “Breaking New Ground” (May 2023).

Content: This workshop was attended in person by Tammy (May 16th, 2023). The workshop took place at the Wampum Learning Lodge at Western University in London Ontario. This workshop provided opportunity for Indigenous Knowledge Holders and Scientists to collaborate and share ideas. The focus was on identifying means and overlaps for future leaders as related to projects that impact Mother Earth and all beings in Creation. The workshop held space for presentations and interactive group discussions. At the end of the session, the NWMO shared a video that showcased an upcoming project, Metauptmumk, a traditional canoe build. The canoe build is a 13-moon journey and includes the harvesting traditional materials needed for birch bark canoe construction. This project will help align ways of thinking and support reconciliation.

ERG comments/advice:

The workshop proved to be enlightening and informative. It was great to see many youths in attendance and hear their challenges from their own experiences in reconciliation and the need to incorporate indigenous knowledge into western learning systems and industry related projects. The workshop provided opportunity to reflect on our own professional experiences and how we can apply simple practices that can contribute to reconciliation.

3.1.4. ERG annual visit, SON-South Bruce potential siting region (August 2023)

Content: This annual ERG visit with the NWMO was focused around the SON-South Bruce potential siting region including meetings at the Teeswater NWMO office, Owen Sound (ERG only meeting), a visit with SON Coastal Waters Monitoring Program (Wiar-ton), driving tour of Neyaashiinigi-ming First Nation and an eDNA workshop at University of Guelph.

3.1.4a. NWMO office in Teeswater (15th August 2023)

The part of this meeting in Teeswater (NWMO office) involved a report on a community visit sponsored by the NWMO to Finland’s national nuclear waste repository site. The Acting Community Engagement Manager at the Municipality of South Bruce attended and described his experiences. This provided the ERG with helpful insight into the Finnish version of the APM project.

The ERG indicated that this visit to Finland would be beneficial for those who attended regarding site selection and, should the SON-South Bruce area be selected, for the impact assessment. The ERG offered advice that participants could reflect on the visit and pose two questions: (1) What lessons from the trip should the community consider; and (2) What are the pressures and key issues the Impact Assessment Agency of Canada should consider?

In addition, the NWMO provided an update on its progress in developing an evidence-based process for proposing valued components (VCs) that are reflective of stakeholder and rights-holder priorities. The discussion dealt with positive as well as adverse effects and, especially how to deal with such a long project lifetime. It was also pointed out that the NWMO has been meeting with federal agencies including the Impact Assessment Agency of Canada. The ERG encouraged this. The ERG suggested scenarios may be a better tool to predict “future baselines” (i.e., how the system is working and evolving over the project life) and reminded NWMO that it must consider not only adverse effects but also enhancements when applying this VC identification process and throughout the impact assessment process.

ERG comments/advice:

We suggested that establishing the principles and processes the NWMO would follow to deal with environmental surprises is a very sound way to proceed. This approach would identify the state of the environment in the distant future (some decades from now – what the NWMO called “future baselines”); it would also be a helpful way of describing to affected communities how the NWMO would behave in the future. This could productively be combined with the use of scenario analysis to identify a range of possibilities, and hence result in a credible range of likely predictions.

3.1.4b. Visit with SON Coastal Waters Monitoring Program (16th August 2023)

The ERG met with an NWMO staff person and with the manager of the Saugeen Ojibway Nation (SON) Coastal Waters Monitoring Program; the program was very helpfully described (water and aquatic life studies undertaken to help inform decision-making within the Territory in relation to existing and proposed projects and land uses. The current emphasis is on establishing a baseline for nearshore environments in Lake Huron and Georgian Bay within the Territory.) Discussions took place about whether the NWMO would benefit from findings from this program if the SON would be willing to share the results. It was suggested that the SON may wish to consider sharing its data and interpretation with the NWMO to better inform site selection and possibility impact assessment studies. Representatives from the NWMO and the SON Coastal Waters Monitoring Program both appeared to support seeking such opportunities.



Photo 5 and 6: Bill and Tammy looking at freshwater species specimens at the headquarters of the SON Coastal Waters Monitoring Program. August 2023.

ERG comments/advice:

If SON is willing to work with the NWMO and share the results of the SON Coastal Waters Program, that would likely benefit both parties.

3.1.4c. ERG Meeting in Owen Sound (16th August 2023) (chair position and workplan discussion)

The ERG selects its Chair each year during the Workshop. It meets alone, without members of the NWMO staff for this and for other ERG deliberations. Tammy Tremblay was elected to continue as the ERG Chair.

Tammy described her work at the Wampum Learning Lodge of the University of Western Ontario, a workshop on Indigenous Knowledge that was part of the NWMO Reconciliation efforts. We also agreed to emphasize our conclusions from discussions with the NWMO on Day 1 of this workshop: how best to deal with the very long time for operation of the APM project (planned to be 150 years for operations, extended monitoring and closure - actively receiving and emplacing used fuel is expected to take about 40 years considering the existing and anticipated inventory from known reactors). We agreed to emphasise the advice we gave that trying to predict how things would unfold over that time is not feasible, but that establishing the principles and processes the NWMO would follow to deal with environmental surprises is a very sound way to proceed. We also reinforced our concern that environmental studies being carried out are not getting to the findings (conclusions and recommendations) stage quickly enough and, accordingly, there may need to be some delays in the process planned by the NWMO¹. The reasons for this are: (1) results are needed to better design the APM project (best done with substantial interaction between the Impact Assessment specialists and the project designers); (2) the results will be needed as part of the Initial Project Description; and (3) to engage properly with affected communities with a view to site selection (we believe the communities will want an understanding of the consequences of the project).

ERG comments/advice: None offered.

3.1.4d. Driving tour of Neyaashiinigiing (led by a local NWMO staff person) (16th August 2023)

With the local NWMO staff person, the ERG toured Neyaashiinigiing, which is one of two First Nations within the SON territory. We talked about prevailing community concerns with her (she lives there) and learned about community concerns regarding the APM Project and the many challenges the community is facing in terms of well-being. We were told that the need to reaffirm identity and connection to land is paramount to promote healing there.

Subsequently, we visited Cape Croker Park, a park offering cultural experiences run by the community. We had helpful impromptu discussions with Park staff about the APM project and observed a good exchange of questions and views, including, especially, a great opportunity to talk to a community member about the project and more importantly, about the community.

¹ Two examples of such concerns are the lack of certainty whether the excavated rock (from either site) is likely to be acid generating and the uncertainty regarding whether aquifers are likely to be encountered in creating an underground facility (such as the APM project requires) and hence would have to be dewatered (this would lead to a change in water flows and potentially have adverse effects on downstream aquatic biodiversity).



Photo 7: The ERG and NWMO colleague along the shores of Georgian Bay.

ERG comments/advice:

We were able to see parts of the local community and to talk to people from the community about the community. This should serve to provide us with a greater understanding should the SON-South Bruce site be selected.

3.1.4e. eDNA workshop with Academic Staff from the University of Windsor (17th August 2023)

A half day was spent with researchers at the University of Guelph. Academic staff from the University of Guelph and a staff person from the NWMO (people who were responsible for conducting the environmental DNA (eDNA) studies at the WLON-Ignace site) provided the ERG with an overview of the eDNA studies they have been conducting in the WLON-Ignace potential siting area. The program was explained and discussed quite fully and helped us to better understand the biodiversity work being carried out. We were impressed by the work.

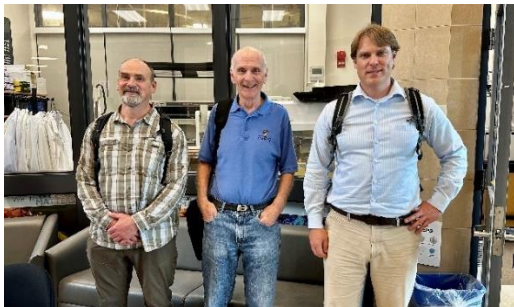


Photo 8: Bill Ross with eDNA experts Robert Hanner and Rob Young from the Department of Integrative Biology at Guelph University.

ERG comments/advice:

The ERG advised the group to document the important work on eDNA fully and carefully (both scientific and plain English versions) with a clear rationale, findings (and what they mean) as well as the limitations. This is with a view to enhancing credibility with all rights holders and stakeholders for the impact assessment review.

3.1.5. NWMO - ERG Meeting: review of 2023 and planning for 2024-2026 (virtual meeting) (November 2023)

Content: This meeting included a review of NWMO activities and achievements in 2023 and the corporate focus for 2024. We also discussed planning for 2024-2026 for NWMO and ERG activities.

NWMO indicated that it had made progress in 2023. Highlights shared with us included progress on using Indigenous Knowledge, progress on Reconciliation, and the completion of an NWMO water statement. It was also pointed out that there was considerable challenge ahead for 2024, the year in which the NWMO is committed to selecting the site for the APM project. It was also noted that the NWMO has additionally been charged with managing not just spent nuclear fuel, but also intermediate nuclear waste and non-fuel high level waste (not now a part of the APM project). The clear suggestion made was that site selection, and specifically the collaborative effort between communities and the NWMO to define “willingness” to allow the APM project were most important.

We were informed the NWMO has engaged staff to work collaboratively with Grand Council Treaty #3 and WLON regarding a process for Indigenous-led assessment of the APM Project. (A similar offer has been made to SON.) Discussion took place regarding the Supreme Court of Canada determination that the Impact Assessment Act of Canada was unconstitutional took place. This item is noted further below under “challenges”. Plans and expectations for ERG and NWMO in 2024 were discussed briefly. These are presented below under “Potential Activities for 2024”.

ERG comments/advice:

The ERG noted the importance of monitoring very carefully the proposed amendments to the Impact Assessment Act of Canada, as the details are essential for NWMO’s good planning.

3.1.6. ERG only meetings (virtual)

The ERG holds virtual meetings throughout the year (of approximately 1 hour duration) to check in with each other, to discuss issues and new information provide by the NWMO, to prepare reviews and reports and plan visits. The details of these meetings are not shared, but a record of when these meetings took place with high level description of content are presented below:

- ERG Meeting – 12th Jan 2023 (check in, preparation of 2022 annual report)
- ERG Meeting – 1st Feb 2023 (check in, planning for document review, finalising annual report 2022, planning for March visit and training)
- ERG Meeting – 12th July 2023 (check in, discussion of recent correspondence with NWMO, preparation for August field visit)
- ERG Meeting – 1st Nov 2023 (check in, 2023 annual report planning)
- ERG Meeting – 14th December 2023 (check in, discussion of November 2023 NWMO-ERG meeting, preparations of 2023 annual report)

3.2 Review of documents

3.2.1. Review of Northwest Biodiversity Change Assessment 2022 (April 2023)

Content:

The ERG reviewed the document: *Biodiversity Impact Studies – Northwestern Ontario Region: 2022 Change Assessment Memorandum*. The ERG review indicated that overall, the report prepared by Zoetica was technically sound and comprehensive, but areas for improvement and where additional study and collaboration are needed were also noted. Key findings were that there was no mention of the concern that draining (dewatering) aquifers during the construction of the deep geologic repository could alter water flows and hence affect biodiversity in downstream waterbodies; there was inadequate attention to positive effects of the APM project, a requirement of the Impact Assessment Act; and there

appeared to be inadequate information flow from Zoetica to other impact assessment consultants (and vice versa).

The *Biodiversity Impact Studies – Northwestern Ontario Region: 2022 Baseline Report* (along with the figures) was provided for supplementary information to support the review of the change assessment, but a formal review of the baseline was not requested. However it was also found to be a comprehensive and high quality document.

ERG comments/advice:

The ERG identified the concerns mentioned above (and several other less important matters) and reviewed the proposed dispositions dealing with them.

3.3 Challenges Encountered

We are grateful that the COVID-19 pandemic no longer had an impact on our face-to-face meetings in 2023.

In October 2023, the Supreme Court of Canada held that portions of the Impact Assessment Act of Canada (the Act that would require an impact assessment for the APM project) are unconstitutional. The Court did not strike down the Act. The Government of Canada has indicated: “Respecting guidance from the Supreme Court of Canada, the Government will move quickly to introduce important amendments, including incorporating the Court’s call for greater collaboration between the federal and provincial governments.” It has also stated: “Proponents are invited to continue information sharing to advance their assessments ... The Government of Canada and the Impact Assessment Agency of Canada will continue to work collaboratively with the provinces, Indigenous partners, stakeholders and the public as the amendments to the Impact Assessment Act proceed.” Because the APM project is clearly under the jurisdiction of the Government of Canada (it is federally regulated), the impact assessment will very likely need to be carried out under federal legislation. The uncertainty affecting the APM project will be that some details of the Act will not be known until the amendments are passed and the Act becomes law. Because the above quotes from the Impact assessment Agency of Canada indicate that proponents should continue engaging with affected peoples and with the Agency, the ERG recommends the NWMO to do exactly that and to talk with the Impact Assessment Agency regarding what will happen regarding amendments to the Act.

The ERG was rescheduled to meet with WLON after the in-person meeting during the August 2022 field visit was cancelled. Attempts for a meeting were rescheduled for November 2023; however, due to unforeseen circumstances, the meetings were postponed. The ERG is hopeful that a meeting with WLON can take place in 2024, but only if it is in the best interest of WLON and if WLON requests such a meeting.

4 Consolidated Advice from the ERG

This section of the report states the consolidated advice from the ERG to the NWMO, considering the work carried out over 2023:

1. The APM project would last a long time (about 150 years and it is designed to persist much, much longer). Predicting what would happen over such a long time is pretty much impossible. Rather than trying to predict the effects on some valued components, it would be wise to establish the principles and processes the NWMO would follow to deal with environmental

surprises for these components. These same principles and processes could be useful in communicating with affected communities. The use of scenarios to identify a range of possible effects is an alternative that could be used in combination with spelling out principles and policies to follow.

2. Due to the longevity of the project, it is recommended that a commitment be made by the NWMO to set a timeline to revisit community priorities as they relate to community agreements and valued components, as these may change overtime.
3. Environmental studies being carried out are not getting to the findings (conclusions and recommendations) stage quickly enough which may lead to some delays and a change to the schedule planned by the NWMO. The reasons for this are: (1) results are needed to better design the APM project (best done with substantial interaction between the Impact Assessment specialists and the project designers); (2) The results will be needed as part of the Initial Project Description; and (3) The results will be needed to engage properly with affected communities with a view to site selection (we believe the communities will want an evidence-based understanding of the consequences of the project).

5 Potential activities for 2024

This section makes suggestions of potential ERG activities for 2024. These may be subject to change but are based on current knowledge and input from NWMO.

- Continue to build and strengthen our relationship with the Council of Elders and Youth (COEY) after meeting them in August 2022. There was not an opportunity to meet with the Council in 2023, but perhaps there will be in 2024.
- Continue to provide sound recommendations on the impact assessment process, including support on any updates to the Impact Assessment Act of Canada.
- Offer support on NWMO's process to establish spatial and temporal boundaries for Cumulative Effects Assessment (CEA).
- Support to the NWMO on translating the newly released Sustainability Statement into action and developing a credible "net zero" action plan that aligns with Canada's climate change, biodiversity, and sustainable development commitments. These are factors that must be (or are likely to be) considered under the Impact Assessment Act in the determination of whether the proposed APM project would be in the public interest.
- Provide review and recommendations on the NWMO initial Project Description document.
- Review of the results from recent biophysical baseline and change assessment studies.
- Reviewing and making recommendations on NWMO's approach to assessing and documenting ecosystem services.
- A visit with WLON (due to being unable to meet with them in August 2022, or in 2023) but only if it is in the best interest of WLON and if WLON invites us.
- Seeing evidence of information exchange amongst the biodiversity/environment and social teams preparing the IA documentation.

6 Appendix 1: Bios of current members of the ERG

Tammy Tremblay BSc (ERG Chair)

Tammy Tremblay (Monedo Giizhigo Kwe) is a member of Sagamok Anishnawbek First Nation and part of the Marten (waabzeshi) Clan (doodem). Ms. Tremblay is the Founder and operator of MG Kwe Consulting, an independent consultant that provides expertise on building healthy relationships with Indigenous people and the land. Tammy brings over 10 years of experience within First Nations Environmental and Natural Resource Management in the Robinson Huron Treaty and Treaty 9 territories. Tammy has limitless experience with boots on the ground and strives towards balancing traditional knowledge and western science. Tammy is a strong believer in collaboration through all forms of communication that is needed to build healthy relationships amongst First Nations, supporting organizations, government, and industry. Tammy values the 3R Principle (Respect, Reciprocity, Responsibility) and believes this principle should be applied to all projects and initiatives.

Dr. Bill Ross

Dr. Bill Ross is an emeritus professor of Environmental Design at the University of Calgary. His scholarly expertise is the professional practice of impact assessment. He has been teaching impact assessment since 1973 and has served on eight Canadian environmental assessment panels from 1978 to 2015. Dr. Ross taught impact assessment training courses around the world, has many papers and professional publications, and has received awards including the Lifetime Achievement Award from the International Association for Impact Assessment. From 1997 to 2015, he served on the Independent Environmental Monitoring Agency, an independent watchdog for good environmental management at the Ekati Diamond Mine in Northern Canada. In 2019, Bill was appointed to the Technical Advisory Committee of the Impact Assessment Agency of Canada. In 2020, he was appointed to the Technical Advisory Committee of the Indigenous Centre for Cumulative Effects, serving in that capacity until 2023 and in 2022, he was appointed to the External Advisory Committee for the T̓silhqot'ín National Government to help with the development of an Indigenous led Impact Assessment Process; this advisory committee completed its work in 2023.

Dr Suzanne Livingstone

Suzanne has 25 years' experience in global biodiversity conservation and has been working in the field of biodiversity and business since 2011. She has extensive experience working internationally with large development projects (particularly mining and renewables) in both terrestrial and marine environments. Suzanne specialises in ecological and environmental impact assessment, specifically to understand and manage biodiversity risk. Her expertise includes navigating IFC PS6 and other international best practice standards. She has considerable practical experience in biodiversity risk profiling, critical habitat assessment, strategic baseline survey design and management, biodiversity action plans, offset design, strategy, feasibility assessment and implementation planning, as well as monitoring plans. She also has experience of working directly with lenders on E&S due diligence. Suzanne is skilled at technical delivery and project management of the biodiversity-related risks and opportunities of large infrastructure projects, providing strategic advice and guidance to clients. Prior to TBC, Suzanne worked for the IUCN Red List Unit and several international NGOs, including Conservation International and WWF. In these roles, she developed conservation programmes on the ground in the Caribbean and Africa, resolving conflicting demands of diverse stakeholder groups.