Canadian Nuclear Safety Commission | Commission canadienne de sûreté nucléaire

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Oral Presentation

Submission from the Sagkeeng First Nation

Exposé oral

Mémoire de la Première Nation Sagkeeng

In the Matter of the

À l'égard de

Whiteshell Laboratories

Laboratoires de Whiteshell

Application to renew the Nuclear Research and Test Establishment Decommissioning Licence for the Whiteshell Laboratories site for a period of ten years

Demande pour le renouvellement, pour une période de dix ans, du permis de déclassement d'un établissement de recherche et d'essais nucléaires pour les Laboratoires de Whiteshell

Commission Public Hearing

Audience publique de la Commission

October 2-3, 2019

Les 2 et 3 octobre 2019

Canada

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Sagkeeng Anicinabe

September 3, 2019

SENT VIA E-MAIL

Canadian Nuclear Safety Commission
280 Slater Street, P.O. Box 1046, Station B
Ottawa, ON K1P 5S9
cnsc.interventions.ccsn@canada.ca

Attention: Marc Leblanc, Commission Secretary

Re: Canadian Nuclear Laboratories Application for Renewal of Decommissioning License - Sagkeeng First Nation Request to Intervene

REQUEST TO INTERVENE

By this letter, Sagkeeng First Nation ("Sagkeeng"), requests to intervene in the Canadian Nuclear Safety Commission's ("CNSC") upcoming hearing regarding Canadian Nuclear Laboratories' ("CNL") request for a ten year renewal of its decommissioning license for the Whiteshell Laboratories site ("WL").

Sagkeeng is an Anishinaabe Nation, signatory to Treaty 1 with the Crown, an Aboriginal group within the meaning of the *Constitution Act, 1982*, and an Indigenous people within the meaning of the *United Nations Declaration on the Rights of Indigenous Peoples*. Our ancestors lived at the mouth of the Winnipeg River, the site of our current reserve and community, since time immemorial. Before settlers ever came to Turtle Island, our ancestors were here, living on and caring for our lands and waters.

When our ancestors entered into Treaty 1 with the Crown, we agreed to share our lands and waters with the newcomers. As you know, that agreement has not been fairly honoured by the Crown, which took for itself that which was meant to be shared. This broken promise has specific relevance for this proceeding and the WL in general. The WL site is located in the heart of Sagkeeng's traditional and ancestral territory, and is also located within an area to which Sagkeeng has claimed Aboriginal Title.[1] Sagkeeng's residential community is immediately downstream of WL, where the Winnipeg River empties into Lake Winnipeg.

Sagkeeng's intends to participate as an intervenor in this proceeding through both oral and written submissions. Sagkeeng's written submissions include this letter, as well as a report

[1] A court proceeding to prove that we have Aboriginal title in the area in question is ongoing.

prepared for Sagkeeng by our expert consultants, The Firelight Group. Sagkeeng fully endorses and adopts that report as its own, and it should be taken by the Commission as our position.

We will be represented at the hearing by our legal counsel, Corey Shefman of Olthuis Kleer Townshend LLP, as well as by representatives from our Council, and elders from our community. We request permission to present orally for a total of one hour, in addition to the time required to answer any questions which the Commission may have. If the Commission would like to ask questions regarding the report prepared by the Firelight Group, please advise us in advance so that we can arrange for the report's author to be present.

WL AND SAGKEENG IN THE PAST

Sagkeeng's participation in this proceeding must be taken in the context of how Canada, its agencies, and the proponents, have failed to properly engage with Sagkeeng regarding past developments related to WL.

When WL was first built, Sagkeeng was ignored. We were not given the opportunity to explain why we did not want a nuclear facility in an area with extensive significance for our people and current uses for traditional purposes

When nuclear material from WL leaked into our river in the 1970s, Sagkeeng was kept in the dark.

And when the WL was originally decommissioned, Sagkeeng's input was not sought, nor meaningfully considered, and our rights were again ignored.

Sagkeeng appreciates that since those events took place, Canada and the CNSC have made progress with respect to your relationships with Indigenous peoples. However, there is still much more progress to be made. In considering whether to renew CNL's decommissioning license for WL, the CNSC must consider whether Sagkeeng's constitutionally protected Aboriginal and Treaty rights have been respected and whether the Duty to Consult and Accommodate has been discharged.

DUTY TO CONSULT

Sagkeeng objects strenuously to the position taken by CNSC staff in the Commission Member Documents submitted by staff on August 6, 2019 (CMD 19-H4), at page 63-64 (pdf page 70-). There, CNSC staff take the position that "CNL's WL decommissioning activities [do] not raise the duty to consult."

Sagkeeng has identified for CNSC staff the extensive uses that Sagkeeng members make of the area surrounding WL, and the cultural importance that the WL site has, and had in the past, for Sagkeeng. It is simply untrue that the renewal, if granted, would "not result in novel impacts" as asserted by CNSC staff. By granting the renewal, CNSC is permitting CNL to continue engaging in decommissioning activities. If CNSC were to refuse the renewal, CNL would, ostensibly, have to stop those activities and therefore, the resulting impacts would also stop.

To be clear, Sagkeeng supports CNL's request for the renewal its WL decommissioning license. However, it is our position that any renewal license issued to CNL should include additional conditions which reflect the fact that Sagkeeng is heavily impacted by CNL's activities, and until very recently, has been left out of all decision-making related to WL.

The impacts which will result from the renewal of CNL's decommissioning license will include, but are not limited to, the restriction of Sagkeeng members' ability to exercise their constitutionally guaranteed Aboriginal and Treaty rights to hunt, fish and trap within the WL site itself, as well as negatively impacting their ability to exercise those rights in sizable surrounding areas, due to increased fear and decreased preference caused by the psychosocial impacts of the WL and its nuclear reactor.

The license renewal being sought by CNL and considered by CNSC is different from the question the Supreme Court of Canada considered in *Rio Tinto Alcan Inc v Carrier Sekani Tribal Council*. In contrast to the Carrier Sekani case, in which the aboriginal party sought consultation in the present for the past development of a hydro dam project and its continuing effects – which created permanent irreversible harms, Sagkeeng has the right to consultation and accommodation about a (re)new(ed) licence and whether that license ought to have new conditions (which could create, or mitigate, impacts).

"Meaningful consultation is not intended simply to allow Indigenous peoples 'to blow off steam' before the Crown proceeds to do what it always intended to do. Consultation is meaningless when it excludes from the outset any form of accommodation."[2]

The Duty is substantive, not simply procedural. "Consultation is talking together for mutual understanding."[3] To that end; "The Supreme Court's jurisprudence repeatedly emphasizes that dialogue must take place and must be a two-way exchange. The Crown is required to do more than to receive and document concerns and complaints"[4] Indeed, "The Crown must be prepared to make changes to its proposed actions based on information and insight obtained through consultation."[5]

Over the course of the last two years, Sagkeeng has engaged with CNSC staff, as well as CNL, to begin ensuring that Sagkeeng's issues and concerns are taken seriously, and the decades of Sagkeeng being neglected on the WL site are addressed. Doing so will not happen overnight, but Sagkeeng has identified a number of specific steps which can be taken to start down that path.

Those steps are based on the fundamental belief that Sagkeeng and our people are stewards of this land, and are responsible for its well-being. It has not gone unnoticed in our community that the Nuclear Waste Management Organization, in its implementation of Adaptive

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[2] *Tsleil Waututh Nation v Canada*, para 499.
[3] *Tseil Waututh* at para 500
[4] *Tsleil Waututh* at para 559.
[5] *Tsileil Waututh* at para 564.

Phased Management and search for a deep geologic repository, is making great efforts to ensure that it has an "informed and willing host", "supported by a compelling demonstration of willingness."[6] Sagkeeng has never been an informed or willing host of the WL, and it was never given the opportunity to accept, or not accept, WL in its territory. Rectifying that serious omission is necessary in order to meet Canada's constitutional obligations to Sagkeeng, and move towards a more constructive and respectful relationship.

CONCLUSION

Sagkeeng's position continues to be that the only acceptable method of decommissioning the WL is to remove all nuclear material from the site, to a proper, purpose-built storage facility elsewhere.

As a result, we support CNL's request to renew its decommissioning license for WL, with the caveats and added conditions described in Annex 2 of our attached report. We look forward to the opportunity to present the highlights of our submissions, and discuss some of our traditional knowledge, at the oral hearing.

Miigwetch,

Chief Derrick Henderson

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[6] https://www.nwmo.ca/en/Site-selection/Steps-in-the-Process/Steps-4-to-9-Site-Confirmation-Construction-and-Operations

Sagkeeng Anicinabe

Sagkeeng Anicinabe Submission to CNSC Re: Whiteshell Laboratories Decommissioning Licence Renewal

September 3, 2019

INTRODUCTION

1. Sagkeeng Anicinabe (Sagkeeng) appreciates the opportunity to provide comments and recommendations related to the decommissioning Licence renewal (Licence Renewal) filed by Canadian Nuclear Laboratories Ltd. (CNL or the Proponent), with the Canadian Nuclear Safety Commission (CNSC or the Commission). The Licence Renewal would allow for the continuation of ongoing decommissioning activities at the Whiteshell Laboratories (WL) nuclear facility that started after the Comprehensive Study Report (CSR) of 2001-2, and the issuing of Licences thereafter that adhered to the requirements set by the Crown as a result of the CSR.

2. The Licence Renewal would see – if the Proponent's plans are implemented in a timely fashion – the "complete" decommissioning of the entire site to CNL's determined desired end land use by 2026 (although it would allow activities beyond that, from 2020 to 2029, as a ten year amendment). According to CNL, this would include the full removal of all (or almost all) of the radioactive materials from the Whiteshell facility.

3. It should be stated at the outset that Sagkeeng Anicinabe is not opposed to and has never been opposed to the proper and full decommissioning of the Whiteshell Laboratories nuclear facility and removal of all its harmful materials from our traditional territory. Overall, with some exceptions noted below, we are in favour of continuing the previously approved decommissioning plan that follows the "full removal" requirements of the CSR and previous Licences.

4. Sagkeeng supports CNL and Atomic Energy Canada Limited (AECL), under the watchful eyes of the Canadian Nuclear Safety Commission and Sagkeeng Anicinabe, removing all remaining unnatural (imported) radiation bearing materials from the site over the 10 year licensing period, which we understand to be the ultimate goal and primary purpose of this Licence application.

5. Canada committed to take these hazardous materials out in 2002; we knew it would take time, but the commitment was to take this material out. We cannot provide our consent for any deviations from the currently proposed Licence that would allow the harmful radioactive materials, brought in from outside our territory without our permission, to be left onsite in perpetuity.

6. Sagkeeng was never consulted when the facility and radiation-bearing materials were initially brought in. Sagkeeng did not consent to the construction of a nuclear research facility on its traditional lands, nor does it consent to the disposal of radioactive wastes from that facility on our lands.

7. Our members have suffered as a result of the facility's presence with no countervailing benefits for over a half-century. The facility has long-term implications including and beyond the decommissioning and closure phase of the Project for Sagkeeng's ability and willingness to use a portion of our traditional territory. Each of these considerations makes it critical that Sagkeeng be meaningfully involved in decommissioning, closure and post-closure (Institutional Control) planning for the site.

8. Sagkeeng members have suffered for over 50 years from alienation from this portion of our cultural landscape due to actions by the Crown and its Licencees. Only the full removal of all radiation-bearing materials, conducted (this time) with Sagkeeng playing a key monitoring and governance role, can start the necessary process of healing the land and waters and our relationship to it. All comments and recommendations provided herein flow from these fundamental requirements and principles.

9. **All Sagkeeng recommendations to the Commission for adoptable conditions/measures are provided in bold text.** They are also compiled in Annex 2 at the end of this submission under three categories:

    a. Revisions to the draft Decommissioning Licence;
    b. Revisions to the draft Decommissioning Licence Condition Handbook (LCH);
    c. Other Sagkeeng Recommendations to the CNSC;
    d. Procedural Recommendations.

10. Given our limited experience in CNSC licensing processes, we leave it at the discretion of the Commission to decide under what mechanisms (licence conditions, LCH criteria/directives, or other enforceable measures), our recommendations are implemented. However, we do feel it is critical that they be captured.

11. We note that CNSC staff have requested minimal if any revisions to the existing licence. Their inputs to the Commission through the Commission Member Document (CMD) focus almost entirely on their scientific analysis, neglecting the human dimension of impacts from the Whiteshell Laboratories facility. This is reflective of an inadequate consultation process prior to the Commission getting involved.

12. A more meaningful consultation process with Sagkeeng would have recognized that while overall management of the facility needs to continue down the path set out in the CSR of total removal of radiation-bearing and other hazardous materials, this needs to be done in much closer concert with affected Indigenous groups. The status quo of occasional and shallow consultation and engagement of rights-holding Indigenous nations, who have been on the outside looking in at this contaminated site for over a half-century, and who will be the people remaining after the end of the Institutional Control period, is no longer acceptable.

13. Sagkeeng's larger number of recommended revisions to the Licence does not embrace this status quo. We seek meaningful, yet entirely reasonable, revisions to the way the site and impacts it causes on people and the environment is assessed, monitored, managed, and planned for. If the Commission is committed as an Agent of the federal Crown to reconciliation with Indigenous peoples, our recommended measures must be implemented.

OVERVIEW OF SAGKEENG ISSUES/CONCERNS

14. Sagkeeng is concerned about the following seven issues related to the Whiteshell Licence Renewal, and will be asking the Commission to require additional work from CNL or build conditions into the Licence, the License Handbook, or other mechanisms at the Commission's disposal, that address them:

    a. Inadequate consideration of impacts of the facility to date and in the decommissioning and closure scenario on Sagkeeng values, current use of lands and resources for traditional purposes, culture, and Treaty rights. This includes no consideration of impacts on Sagkeeng rights or interests in the CNL Licence Renewal Application or CNSC staff materials, and lack of sharing by CNSC staff of Sagkeeng's perspective, faithfully compiled by Sagkeeng, with the Commission through the Environmental Protection Review Report. The information provided in this submission by Sagkeeng is designed in part to correct this shortfall, and we also recommend measures to improve consideration and management of impacts on the human environment moving forward. .

    b. Inappropriate focus in the CNL Licence Renewal Application document on CNL's proposed (but not yet approved) in-situ decommissioning (ISD) of the WR-1 reactor facility on site. As this is not approved, it should not be a focus of – or even referenced in - the Licence Renewal Application, and CNL should be required to faithfully explain, in more detail, what the currently approved full removal option for the WR-1 Reactor will entail during this 10 year licensing period. This includes methods and timing planned for the packaging and transport of radionuclide contaminated materials from the WR-1 Reactor site. Currently, Sagkeeng does not have enough information on this topic to properly engage in the planned October 2019 hearing on the Licence Renewal.

    c. Lack of any consultation whatsoever with Sagkeeng by CNL in relation to any aspect of the Licence Renewal prior to it being filed with the Commission. This

lack of consultation is problematic in its own right, but also emblematic of the overall lack of consultation or other forms of engagement of Sagkeeng in the management and monitoring of the site at any time during its history. Sagkeeng has a right and a responsibility to be fully involved in planning for the use of this portion of our territory, especially given that past Crown decisions have caused long-term, potentially permanent, damage to the utility of this area for the meaningful practice of Sagkeeng rights and interests.

d. The lack of engagement of Sagkeeng by CNL in the determination of appropriate desired end land use state(s) for the Whiteshell Laboratories facility needs to be corrected.

e. The lack of a current or envisioned role by CNL, and the lack of conditions required by the Commission, for Sagkeeng to have an active and ongoing role in the monitoring of effects from the site on our territory, also needs correction. It is recommended that Sagkeeng be provided with meaningful and advance opportunities to develop monitoring and mitigation measures with the Proponent and with CNSC.

f. The Proponent's desire – which was not the subject of consultation with Sagkeeng - to keep radiation-bearing materials on site in the post-closure phase (e.g., in low level waste (LLW) trenches), and in closed off/fenced in facilities. This topic is related to the overall lack of consideration in the CNL Application and the CNSC staff's filings, of long-term implications for Sagkeeng if our members cannot properly re-engage within the Project-affected area or do not believe the area is safe. Sagkeeng's position is that if the area must be fenced off long-term or permanently, it must still be contaminated in a way that is unacceptable to our members.

g. Finally, it is not clear from the Licence Renewal Application how the site will be managed post-closure (planned for 2026 but could start as late as 2029). We need more information and a role for Sagkeeng in planning, monitoring and management for the Institutional Control period after closure.

15. Each of these seven issues will be dealt with in turn below, after a brief introduction to how the Whiteshell Laboratories are situated in Sagkeeng territory.

SAGKEENG TERRITORY AND VALUES IN THE WHITESHELL LABORATORIES-AFFECTED AREA

16. Sagkeeng is a priority Treaty and Aboriginal rights-holding Nation in relation to the Whiteshell facility, which is in a critical location in Sagkeeng's Territory, upstream of Lac du Bonnet and straddling both banks of the Winnipeg River, the most critical waterway in Sagkeeng territory.

17. Sagkeeng has almost 8000 members, 40 per cent of which live on reserve, primarily our main residential reserve in Fort Alexander, 65 km downstream of the Whiteshell

Laboratories facility. The proximity of the facility to the Winnipeg River, which it literally borders, has always been a source of concern for our people. The waters that flow through our territory and community have always been our lifeline. Water is life.

18. Sagkeeng and other indigenous peoples have used the lands surrounding the Whiteshell Laboratories for thousands of years.

19. Treaty 1 was signed by Sagkeeng's Anicinabe ancestors and the Crown in Right of Canada on August 3rd 1871, at Lower Fort Garry.

20. As illustrated by Sagkeeng's "Land Use And Occupancy Study Specific To Canadian Nuclear Laboratories' Proposed In Situ Decommissioning Of The WR-1 Reactor At Whiteshell Laboratories" (Sagkeeng LUOS - 1)[1], the Whiteshell Laboratories are situated in an area that is highly valued by Sagkeeng for fishing, harvesting wild rice, medicines, berries and other food plants, hunting wild game, trapping fur-bearing animals, as well as for participating in important cultural activities such as ceremonies, as well as sharing knowledge with younger Sagkeeng generations. Interview data clearly reveal the Study Area as central to Sagkeeng livelihood, cultural identity and connection to the land, waterways and resources, as it is an area that has been used and relied on by Sagkeeng for generations.

21. Sagkeeng use of the Whiteshell area was extensive prior to the development of the Whiteshell Laboratories facility and, despite alienation from the direct facility area since it was developed in the 1960s, the Sagkeeng LUOS illustrates that it is still an area around which Sagkeeng has strong connections and desired future uses, <u>provided the area is properly healed.</u>

22. It was previously Sagkeeng's understanding, as verbally relayed to us by CNSC staff, that the Commission members would be provided a copy of our LUOS by CNSC staff as part of this process, and that the Commission members would review it in its entirety. Subsequent correspondence from CNSC, dated July 29, 2019, indicated that it would be up to Sagkeeng to file the LUOS of our own accord if we want the Commission to review it. We have done so as Annex 3 to this submission. While we provide some analysis below and in Annex 1 about the implications of the LUOS for the Licence Renewal consideration process, we strongly encourage the Commission to review the LUOS in its entirety; we are prepared to answer questions about it at the October 2-3, 2019 hearings in Pinawa.

Inadequate Consideration of Impacts of the Whiteshell Facility on Sagkeeng Rights and Interests

23. Neither the Proponent (CNL and its client organization AECL, a Crown Corporation which owns the site and the nuclear liabilities) nor the CNSC staff, have properly

[1] Numbered citations are included in endnotes.

characterized Sagkeeng rights, values, uses and impacts in their submissions to the Commission.

COMMENTS ON CNL'S WRITTEN SUBMISSION FOR THE COMMISSION PUBLIC HEARING FOR WHITESHELL LABORATORIES LICENCE RENEWAL (2)

24. CNL's characterization of Sagkeeng use and values is very weak at less than one page. There is no real discussion of Sagkeeng concerns related to site management and monitoring, nor evidence that this topic was the subject of engagement with Sagkeeng. Indeed, as stated above, it has not been the subject of any consultation by CNL of Sagkeeng. Overall, the CNL submission doesn't even come close to depicting how Sagkeeng feels about the site or what impacts there have been and will be or their magnitude, and what should be done to fix these problems. Sagkeeng concerns with this characterization are provided below.

25. The Sagkeeng LUOS study area is misinterpreted by CNL as including a 25 kilometer buffer around the Whiteshell Laboratories site (p. 108). The Study Area defined in the Sagkeeng LUOS includes the Project Footprint (within 250 m of the WR-1 Reactor facility, and where available, related physical works, access routes, and activities), Local Study Area (LSA; within 5 km of the WR-1 Reactor), and Regional Study Area (RSA; within 25 km of the WR-1 Reactor, including the Winnipeg River downstream of the Project)" (LUOS, p. 23). Critically, the Sagkeeng LUOS' Project Footprint does *not* encompass the entire Whiteshell Laboratory site. This is not accurately reflected in CNL's submission, and should be amended.

26. The CNL submission also mistakenly identifies the five activity classes of mapped site-specific values as Valued Components (VCs). The activity classes are habitation values, cultural and spiritual values, subsistence values, environmental feature values, and transportation values. VCs are defined as "an important aspect of the environment that a project has the potential to affect" (LUOS, p. 22). The correct VCs from the Sagkeeng LUOS are: Water Resources; Medicines, Berries, and Other Food Plants; Hunting and Trapping; and Anicinabe Pimatiziwin (LUOS, p. 22). Mapped site-specific values are classified by one of the five activity classes, and then each value is assigned to a VC.

27. These amendments should be made throughout Section 18.2.1.8.1.1 of CNL's submission. As it stands, the representation of site-specific values are inaccurately classified and misrepresented. It would be more accurate for CNL to state that values were categorized by VC, instead of stating that values were "generally labelled according to four categories" (p. 108). As stated in the Sagkeeng LUOS, VCs are "chosen to represent the critical conditions or elements that must be present for the continued practice of Sagkeeng culture and livelihoods, and that may be impacted by the Project" (LUOS, p. 22). Had CNL consulted with Sagkeeng about its interpretation of Sagkeeng's own traditional values and knowledge, it would have known this prior to preparing its submission.

28. CNL does not provide a whole or complete summary of the VCs from the Sagkeeng LUOS in its submission. Instead, CNL briefly describes the importance of fish, water, and Anicinabe Pimatiziwin (broadly defined as "Anicinabe Living", which encompasses

Sagkeeng culture, identity, and way of life). CNL does not provide an overview of the VCs Medicines, Berries, and Other Food Plants, or Hunting and Trapping. The reasons for omitting half of the VCs in this summary are unclear and not described. Sagkeeng's VCs are therefore not accurately reflected and summarized in the CNL submission.

29. Furthermore, CNL only provides a very brief and insubstantial summary of site-specific values, and does not detail or summarize findings for each VC as they relates to an Impacted Baseline or potential Project Interactions. These key findings from the Sagkeeng LUOS are critical to the Commission's considerations.

30. Overall the CNL summary is very high-level and is missing critical pieces of information (for example, a summary of all VCs, Study limitations, and the potential for Project Interactions). As it stands, the findings of the Sagkeeng LUOS are not accurately portrayed and do not properly represent Sagkeeng knowledge and use in the area of the Whiteshell Facility, or characterize the scope, findings, and relevance of the Sagkeeng LUOS.

31. **As a result of the foregoing, (Sagkeeng P1) Sagkeeng submits that the CNL summary of "traditional knowledge and land use studies" (TKLUS) in Section 18.2.1.8.11 should be given no weight by the Commission in its deliberations.**

COMMENTS ON CNSC STAFF'S COMMISSION MEMBER DOCUMENT (3) AND ENVIRONMENTAL PROTECTION REVIEW REPORT (4) FILINGS AS THEY RELATE TO SAGKEENG'S LUOS

32. Sagkeeng was concerned and disappointed by CNSC staff's unwillingness to provide a proper analysis of Sagkeeng's use and values and concerns in relation to the Whiteshell Laboratories facility to be included in the Environmental Protection Review Report submission to the Commission, which should have been drawn from correspondence between the parties in July 2019.

33. For reasons that Sagkeeng fundamentally disagrees with, CNSC staff eliminated the content which CNSC Staff and Sagkeeng had worked to collaboratively prepare, from its submission to the Commission. The CNSC staff mistakenly assumed that Sagkeeng saw no relevancy for the information from the Sagkeeng LUOS to the Whiteshell licence renewal process, despite Sagkeeng representatives providing detailed and specific changes and reasons for those changes that would have allowed the Commission to better understand the implications and limitations of the Sagkeeng LUOS in the context of the licence renewal. While it is true that Sagkeeng had concerns relating to the scope and limitations of the LUOS data, Sagkeeng's advisors attempted to collaborate with CNSC staff, and provided CNSC staff with specific, actionable recommendations which would have allowed the LUOS data to be incorporated into the EPRR. Sagkeeng recommended reasonable provisos indicating that the LUOS is not a complete characterization of values, uses or impacts for the full facility.

34. Despite Sagkeeng raising these concerns to correct CNSC staff's assumptions, the CNSC staff still chose not to file any information related to the Sagkeeng LUOS. In effect, CNSC staff's decision was to avoid any potential confusion by Commission members about Sagkeeng values, rights and impacts on same, by providing no information at all to the Commission, despite this information being available. This is neither fair nor reasonable, and certainly does not uphold the honour of the Crown.

35. CNSC staff take the position that since the Sagkeeng LUOS was specific to the proposed *in situ* decommissioning process for the WR-1 reactor, a summary of the LUOS and its findings are not warranted in the Environmental Protection Review Report (EPR Report - p. 60). This is a misapprehension of Sagkeeng's position.

36. Sagkeeng and its advisors provided CNSC with its reviews and revisions on an appropriate means of including the results from the Sagkeeng LUOS in the EPR Report, including the appropriate limitations under which it was collected. Ultimately, CNSC staff chose to exclude the summary altogether despite Sagkeeng's efforts to find a way to include this information.

37. Sagkeeng confirms here that its LUOS cannot be used as a replacement for full and proper assessment of potential impacts on Sagkeeng values and uses related to the larger Whiteshell facility as a whole. That being said, the Sagkeeng LUOS provides important context for the importance of the Study Area (which includes areas in and around the Whiteshell Laboratories). It would be an oversight to not capture the core findings of this Study in this licence renewal process, particularly since there have not been further opportunities provided to Sagkeeng to collect TKU data specific to the Whiteshell Licence Renewal application.

38. Sagkeeng was disappointed by the CNSC staff's unilateral decision not to file the information provided by Sagkeeng in its EPR Report not only because it reflects an inadequate consultation effort with Sagkeeng, but also because the LUOS information is so critical to the Commission having a complete understanding of the context within which the Licence renewal is proposed. The CNSC staff's failure to include this information in its filings also led to Sagkeeng's LUOS not even being mentioned by the CNSC staff as a critical input into the Licence Renewal process, which was a recognition provided by CNSC staff to the Manitoba Metis Federation (MMF) in Section 8.0 of the EPR Report (Recommendations and Conclusions). Indeed, the CMD and the EPR Report both have scant mention of Sagkeeng, despite the Whiteshell Laboratories being located in a central and important portion of our territory, and despite the CNSC staff's claims that (pg. 64 of the CMD) information on the Sagkeeng LUOS is provided in the EPR Report (it isn't).

39. In fact, the EPR Report refers only to the MMF study as contributing to "CNSC staff's assessment" (pg. i, and pg. 5 of 88). Indeed, the MMF study is singled out for identifying "a number of site-wide valued components (VCs) of significance to their rights culture and interests, in and around the WL site" (EPR Report, pg. 6 of 88). The Sagkeeng LUOS, which did the same thing, is ignored and not reported on to the Commission. At pg. 69 of 88 in the EPR Report, the CNSC staff admit they have no plans to consider the

Sagkeeng LUOS in the Licence Renewal Process, stating they will instead attempt to use this information in the EA and licensing processes for the WR-1 ISD proposal only, should that proposal be approved.

40. This devaluing of Sagkeeng's rights, interests and values is unconscionable, and is an insult to Sagkeeng's rights and its place as the holder of unextinguished Aboriginal title to the area in question.

41. Why is this omission important? CNSC staff perhaps state it best: "Indigenous perspectives and cultural context enhance the CNSC's understanding of potential impacts of projects, strengthening the rigour of project reviews and regulatory oversight" (EPR Report, pg. 6 of 88). Ignoring these perspectives must, therefore, weaken CNSC's understanding of impacts and weaken the rigour of review and oversight.

42. CNSC staff decisions have led to a CMD and EPR Report that demonstrably did not include Sagkeeng traditional knowledge and use related to the Whiteshell Laboratories. The CNSC staff filings have provided the Commission with effectively zero substantive information on Sagkeeng values, rights and impacts to date, and as a result, that submission puts forwards unsupportable contentions, discussed further below.

43. CNSC's CMD report states that "…CNL's continuation of decommissioning operations at the WL site will not result in novel impacts" and that "This Licence renewal application is not anticipated to result in adverse impacts on any potential or established Indigenous and/or treaty rights" (p. 63). It relies on these assumptions to ground its conclusion that the Duty to Consult and Accommodate does not apply. It does so without any consideration of the Sagkeeng LUOS, which found that activities at the site have "the potential to seriously affect Sagkeeng rights and culture in the event of a contamination failure" (LUOS, p. 88). This pertains to Sagkeeng LUOS participants' concern and uncertainty regarding the potential for decommissioning and containment to be unsuccessful, and applies to concerns about any contamination failure in relation to Whiteshell Laboratories.

44. The Sagkeeng LUOS also provides recommendations for further work to be completed in order to more fulsomely evaluate the Project's potential to affect Sagkeeng rights, use, and interests. Given this, it is both premature and inaccurate for CNSC to state that the Licence Renewal is not anticipated to result in adverse impacts on Indigenous rights. Results from the Sagkeeng LUOS indicate that new impacts to their rights are indeed anticipated by Sagkeeng members should the decommissioning process not remove all harmful contaminants from Sagkeeng territory, and that even if harmful contaminants are removed, that without proper engagement of Sagkeeng in that process, fear, stigma and alienation may all ensue.

45. The CNSC staff's finding is therefore inadequate at best, and potentially misleading to the Commission. A more accurate statement would be:

> "The full removal of all radioactive contaminants from the Whiteshell facility, with deep involvement of affected Indigenous groups in the planning, monitoring

> and management of the facility during the decommissioning and Institutional Control periods, are critical to avoid the exacerbation, and the eventual reduction of existing high degrees of adverse impacts on Indigenous rights and interests in relation to the facility and its surroundings."

Such a statement is much closer to reality, and reflects that Canada needs to reconcile impacts its decisions have had in the past on Indigenous rights, as well as charting a more collaborative engagement of Indigenous peoples in fixing the mess that has been made.

46. CNSC staff also states at pg. 63 of the CMD that, "measures proposed by licensees to avoid, mitigate or offset adverse impacts from the proposed licence renewal may be used by CNSC staff in meeting its constitutional obligations". While procedural aspects of the Duty to Consult and Accommodate (the aforementioned "constitutional obligations") can be delegated, such a delegation needs to be clearly communicated on a case-by-case basis. That was not done here. No mention is made of CNSC actively gathering "measures" from Indigenous groups. Sagkeeng can state unequivocally that CNSC staff did not consult Sagkeeng about any potential measures that would improve the Licence conditions, leaving a vacuum that Sagkeeng is attempting to fill with this submission.

47. CNSC staff states that, "All proposed decommissioning activities under this Licence will occur in the existing project footprint and there is a low probability of emissions or waste being produced that could adversely impact the surrounding environment" (p. 63). Sagkeeng agrees that the best option to minimize biophysical impacts from the Whiteshell facility decommissioning and to reduce the environmental liabilities that beset the site and its surroundings, is the current licence's plan to remove all radioactive materials from the site.

48. However, biophysical risk and impact reduction is just one part of the puzzle. Also emphasized in the Sagkeeng LUOS is the potential for impacts to extend beyond the physical risks of contamination. This includes existing and potential future impacts on important semi-tangible and intangible Sagkeeng values, such as sense of place, identity, transmission of knowledge to younger generations, and attachment to the land as a result of the Project (LUOS p. 86 – 87).

49. The psychological effects that have arisen from 50 plus years of housing a nuclear facility on the bank of the Winnipeg River in Sagkeeng territory, means that there are fears, stigma and alienation that create a critical portion of the context in which decommissioning must take place. Potential for Project interactions and effects during the decommissioning stage, including hopefully the reduction of existing and long-standing Whiteshell Laboratories caused impacts, must be considered in a broader context of impacts to cultural continuity and Treaty rights infringement.

50. These issues are never broached in any of the CNSC staff (or CNL) documents. For example, the sole emphasis in section 3.2.5 of the EPR Report, ostensibly on the "Human Environment", is on potential interactions between technically defined environmental pathways and human receptors. This makes sense for a technical human health risk

assessment, but practitioners of human environmental impact assessment know that there is more to impacts on people than a scientifically derived dose-response relationship.

51. CNSC staff documents notably lack any substantive discussion of significant human impact issues such as:

    a. Contaminant risk perception;

    b. Impacts on food and water security, as related to perceived risk;

    c. The degree to which the Whiteshell facility and its surroundings are subject to ongoing and likely future alienation effects keeping Sagkeeng members from enjoying this previously fruitful portion of our territory.

    In other words, nowhere does CNSC staff deal with impacts that are "human" in nature.

Sagkeeng Perspectives on Values, Rights and Interests from the LUOS

52. To counteract the above-noted gaps in the Proponent and CNSC staff filings, Sagkeeng here provides an overview of the findings of our LUOS as they relate to impacts of the facility on Sakgeeng values, rights and interests. This is expanded on in Annex 1, which is a verbatim copy of Sagkeeng's recommended wording for Section 7.2 to the CNSC EPR Report, which was later eliminated by the CNSC staff, and in Annex 3, which is a copy of the Sagkeeng LUOS.

53. It is important to reiterate that the Sagkeeng LUOS was conducted specific to the WR-1 Reactor *In Situ* Decommissioning process, as proposed by CNL but not approved to date. The study does *not* assess the importance, impacts baseline, or potential Project Interactions with the entirety of the 4375 hectare Whiteshell Laboratories site, or any other applications than for the WR-1 ISD proposal. Given this, the Study cannot be used as a substitute for assessing potential impacts from other physical works or activities at the WL site, or any other past, present, or reasonably foreseeable development. Further assessments or considerations would require additional site- and project-specific research and analysis, which have not been undertaken in relation to the activities proposed for the Licence renewal.

54. Impacts to date from Crown-approved activities at the Whiteshell facility have included long-term alienation from the immediate site area, long-standing concerns about water and fish contamination in the Winnipeg River, and psychosocial impacts (fear, stigma) that have been generated around the site by unwanted nuclear activities. These impacts have never been recognized, analysed or dealt with by the site owners, managers, or the regulator.

55. Major interactions and impact pathways from the Whiteshell facility to date that emerged from the Sagkeeng LUOS, and which are relevant for consideration of impacts from the whole facility, are as follows:

    a. Reduced confidence in water quality as a result of potential Project-related leaks and contaminants, which is inextricably linked to the practice of Treaty rights including (but not limited to) fishing, harvesting wild rice, hunting, and collecting drinking water;
    b. Decreased confidence in the quality and edibility of fish species in the Study Area, particularly fish found downstream of the Project, as a result of both perceived and/or actual contamination from the Project;
    c. Decreased confidence in the quality and edibility of wild rice, resulting in reduced opportunities for wild rice harvesting in the Study Area as a result of perceived and/or actual contamination from the Project;
    d. Decreased confidence in the quality and edibility of medicines, berries, and food plants available for harvest in the Study Area resulting in avoidance as a result of perceived and/or actual contamination from the Project;
    e. Decreased confidence in the quality and edibility of wildlife resulting in avoidance as a result of perceived and/or actual contamination from the Project;
    f. Reduced opportunities for harvesting wildlife in the Project area due to reduced access to the Project area Project activities;
    g. Disturbance to Sagkeeng members' sense of place, identity, connection to the land, and psychological well-being as a result of a heightened sense of uncertainty and insecurity due to the presence of hazardous nuclear materials in the Study Area; and
    h. Disturbance to ceremonial practices and decreased opportunities to transmit and share knowledge across generations as a result of avoidance of the Study Area and reduced confidence in the resources within. When the activities required by the Project are considered alongside data collected in this Study, evidence indicates that Project interactions have the potential to constrain Sagkeeng Treaty rights practiced in the Footprint LSA, and RSA over multiple generations.

56. These alienation and loss of use effects have translated into a multi-generational loss for Sagkeeng, and have led to "spin-off" effects on our ability to practice and share our place-based cultural activities and traditional knowledge, reduced faith in country foods, and infringements of our Treaty rights to hunt, fish, trap and gather materials from the land throughout our Territory.

57. These impacts and infringements have never been admitted by the Crown, consulted on in a meaningful way, or accommodated, over the past half century of loss, and they certainly are not raised in any of the documents provided to the Commission by CNL or CNSC in the context of this proceeding. The impacts also need to be understood in the context of extensive past infringement of Sagkeeng Treaty rights by multiple cumulative effects causing agents, including hydro-electric development, non-Indigenous hunting and fishing, extensive land privatization, and other industrial, commercial and residential development activities on our territory. As less and less of our land has been available for

us to meaningfully practice our Treaty rights on, our culture, way of life, food security and connection to land have all suffered. Any future Crown decisions must be made with this heavily damaged existing context in mind.

58. Risks associated with proposed decommissioning work extend beyond the physical risks of contamination. This includes potential for impacting important and intangible Sagkeeng values, such as sense of place, identity, transmission of knowledge to younger generations, and attachment to the land as a result of the Project (Sagkeeng LUOS p. 86 – 87).

59. There are multiple examples in Canada where the mere presence of hazardous waste has exerted an adverse psychological impact on indigenous peoples (e.g., the abandoned Port Radium, Colomac and Giant Mines). This includes affecting traditional practices, collection of traditional foods, general land use, etc. Depending on the approach to waste management that is taken, such impacts can persist even after remediation. The risk of long to permanent term psycho-social adverse effects and territorial alienation are highest in instances where hazardous materials are maintained in situ, rather than moved to a purpose built facility. This is one of the reasons that one of Sagkeeng's two primary principles related to the Whiteshell facility is that all radioactive materials are removed from it during decommissioning.

60. Fears, concerns, and stigma associated with the facility by Sagkeeng members will remain an unreduced reality until such time as the Crown, site owner and site manager all commit to working with Sagkeeng to reduce these factors. Some of the following measures will contribute to empowering Sagkeeng and reducing fears and uncertainty associated with the site:

    a. **Licence an increased role for Sagkeeng in planning and implementation of plans for rest of decommissioning and into the Institutional Control era;**
    b. **Licence requirements for increased Sagkeeng involvement in on-site and vicinity environmental monitoring and reporting, and provision of funding to increase Sagkeeng capacity to engage in these activities;**
    c. **Provisions that allow for Sagkeeng to conduct ceremonies to reconnect with the spiritual realm in relation to the site (not just one ceremony, a continual relationship); and**
    d. **Provision of funding for a proper risk communication program related to radiation, impact pathway identification, monitoring results, and plain language reporting about the safety of country food and water sources.**

    Further discussion of these measures is provided below.

61. So what do we know about the Whiteshell facility and its impacts on Sagkeeng members and Nation? We know that our people want to use the area and have preferred for its use in the past. We also know that they are constrained from using the area due to fear (e.g,. of radiation safety and contamination of country foods), uncertainty about the degree of contamination already in place and how it has been and will be managed, lack of information about how the facility is being managed and lack of a role for Sagkeeng in its

management, which contributes to fear, uncertainty and stigma, and a fundamental lack of access to this fenced-off, industrialized and secured area. We also know that Sagkeeng members and leadership want the materials taken out of the ground and removed from Sagkeeng territory.

62. None of these fundament realities are exposed or examined in the filings by CNL or CNSC. Yet, they are the backdrop against which site management must be considered in this Licence Renewal process.

63. We believe the Commission should be proactive and call for the following through licence conditions, specific requirements in the Licence Conditions Handbook (LCH), or other directions:

    RECOMMENDATION LCH1: Implement a LCH directive/criteria, requiring CNL consult with <u>interested Indigenous groups toward the implementation of a risk communication program, designed to improve Indigenous understanding of site and vicinity risk to the health and edibility of country food and water sources.</u>

    a. **RECOMMENDATION A1: <u>The CNSC to consult towards the development of a consultation framework with Sagkeeng, including but not limited to for joint consideration of impacts on Sagkeeng Treaty and Aboriginal rights, to be implemented for all future decisions related to the Whiteshell Laboratories facility.</u>**

    b. **RECOMMENDATION LCH2: <u>Require as an LCH directive/criteria, CNL to engage with affected Indigenous groups toward establishing relationship protocols, including elements related to the role of Indigenous groups in site planning, assessment, management and monitoring.</u>**

Inadequate information on final full removal of WR-1 Reactor in licence application

64. Sagkeeng fully recognizes and agrees that, as CNSC staff has stated multiple times in their materials provided to the Commission, CNL's proposed, but not approved, ISD of the WR-1 reactor is beyond the scope of this Licence Renewal.

65. For the record, Sagkeeng does not support ISD on the WR-1 Reactor as an acceptable strategy for use at the Whiteshell Laboratories facility.

66. Sagkeeng has consistently stated that we want as much – preferably all – of the radiation-bearing materials from the facility, brought in from outside without our permission, to be taken out of our territory. This is the safest long-term solution for our territory, and will

reduce our people's fears and stigmas and allow the site to heal. It is the right solution for now and more importantly, for future generations.

67. We cannot consent to a method of decommissioning (ISD) that leaves substantial hazardous radioactive wastes on our lands in perpetuity, with the expectation that the containment will ultimately fail, thereby knowingly dispersing radioactivity throughout the local environment. In addition to being fundamentally flawed, ISD nullifies Canada's prior commitment to dispose WR-1 wastes at a purpose-built off-site facility. The CSR's finding of no significant adverse effects of the decommissioning plan was predicated on removing all radiation-bearing materials from the site over time; we do not believe that finding would hold if some of those materials are left on site.

68. Our concern in relation to the Licence Renewal is that CNL's filing (2) makes extensive and inappropriate reference to the speculative and unapproved WR-1 reactor ISD proposal, at the expense of providing a proper level of detail on the approved full removal approach that is actually licensed.

69. Currently, the Licence requires full removal over time of the WR-1 Reactor. This was part of the 2002 approved project from the CSR. Sagkeeng supports the findings of the original CSR that called for full removal of all radioactive materials over time. Nothing has changed that would allow for in-situ decommissioning to occur in the interim.

70. CNL initially indicates that the Licence Renewal does not include the ISD of WR-1 Reactor, stating that it will be discussed only in "brief terms". CNL (pg. ii) indicates that its strategic plan under the Licence is to "relocate most (if not all) of WL's radioactive wastes, except for certain trench wastes, to CRL [Chalk River Labs] within the next licence period". With the exception of "certain trench wastes" being left in place (see our Concern (f) below), Sagkeeng agrees with this strategic plan, which would not include ISD of the WR-1 Reactor. Section 3.3.2 of CNL's submission (pg. 40) states:

> "The present decommissioning approach for the Phase 2 decommissioning of the WR-1 Reactor Building, as approved by CNSC staff in 2015, involves the complete removal of the reactor core, other reactor components and contaminated equipment, the demolition of the above grade structures and building, and remediation of the site".

71. Nonetheless, and despite claims by both CNSC and CNL that ISD is outside the scope of the Licence Renewal, the Proponent has drafted the Licence Renewal application as if the ISD of the WR-1 Reactor is a *fait accompli*. Section 3.3 of CNL's submission includes as much or more information about what ISD would entail as it does for the full removal option actually up for consideration. CNL claims that it needs to "place this project [WR-1 ISD] in the context of existing and planned decommissioning activities at WL" (pg. 41). Sagkeeng submits there is absolutely no reason to do so, since the Commission is considering only the full removal option for the reactor facility at this time.

72. CNL also suggests in Section 3.4 that its working assumption is that ISD will be the eventually licensed method for decommissioning WR-1. As such, it indicates that wastes from WR-1 will not be retrieved, characterized, and packaged for shipment. This is inconsistent with the requirements of the Licence Renewal application currently before the Commission. In Sections 3.7 and 14.2, it is again assumed that ISD will be the proposed option for the WR-1 Reactor decommissioning.

73. CNL has 'put the cart before the horse'. These references and assumptions related to WR-1 ISD are improper, and (Procedural Recommendation P2) **Sagkeeng requests the CNSC strike from the record any references to WR-1 ISD from the Proponent's filings, including but not limited to Section 3.3.2.1.** They are not up for consideration and only serve to confuse and obfuscate the matter before the Commission.

74. Moreover, the focus on ISD for WR-1 also leaves a gap in the Licence Renewal documentation that needs to be filled with a full analysis of all the steps required for the approved full removal of the WR-1 Reactor facility from the site to occur. By focusing on ISD, CNL has purported to ignore the actual decommissioning process which they are asking be renewed.

75. **Sagkeeng requests** (Procedural Recommendation P3) **the Proponent be required to provide the following information in a supplemental filing, prior to the October 2-3, 2019 hearing:**
    a. **Calculation of what volume and type of LLW, ILW and HLW is likely to come out of the full decommissioning and removal of the WR-1 Reactor facility;**[2]
    b. **Provision of more information on the timing and methods for all three phases of decommissioning of the WR-1 Building (B100):**
        i. **Complete remediation and removal of the building**
        ii. **All activated and contaminated components removed, packaged and dispositioned at off-site facilities**
        iii. **Facility structure decontaminated and demolished;**
    c. **Identification of monitoring activities required during and after the completion of the three stages identified above (which are from Table 1.2 in the EPR Report, pg. 15 of 88); and**
    d. **Identification of the proposed end-state for the WR-1 Reactor facility under implementation of the full removal plan.**

76. Sagkeeng also notes that ironically, several elements of the Proponent's Licence submission indicate that the existing plan to remove all radioactive materials from WR-1 Reactor location is still a very good, very safe plan. For example, Sagkeeng recognizes and supports the following assertions by CNSC staff and CNL made in the Licence Renewal documents:

[2] For example it is not clear at pg. 44 of CNL's submission whether the volume of wasted identified includes from full decommissioning and removal of WR-1 or the ISD option. Clarification required.

a. Transportation safety has been exemplary to date for all nuclear wastes being taken from the facility – CNL's submission (pg. 101) confirms that shipments of LLW and ILW to Chalk River Labs (CRL) have covered 335,000 km of roads with no incidents or conformity issues.
b. Worker safety has seen no significant incidents in the removal of intermediate and high level wastes.
c. Packaging must meet stringent performance criteria for shielding, containment, ability to withstand impacts, and ability to withstand heat (CMD, pg. 60), and CNSC has "no concerns with CNL's implementation of its packaging and transport program" (CMD, pg. 61), with "transportation of nuclear substances… a frequent and routine activity" (CMD, pg. 62).
d. The amount of radiation-bearing waste in the WR-1 facility is manageable in size for removal compared to past larger amounts removed.
e. CNL indicates that it still assumes that CRL has enough room for all remaining ILW and HLW from Whiteshell Laboratories (pg. 42).
f. Both CNSC and CNL support the principle of reducing radioactive wastes to "as low as reasonably achievable" (ALARA), which cannot be accomplished on this site using the ISD approach. ALARA is a central principle of Canada's plan for nuclear wastes.

77. The evidence provided by CNL and CNSC indicates that full removal of virtually all radiation-bearing materials from the site, including from the WR-1 Reactor, transport and packaging to a purpose-built facility, is entirely feasible, safe, and would likely be without incident. Sagkeeng agrees.

Lack Of Consultation And Engagement Of Sagkeeng by CNL

78. Sagkeeng's second guiding principle in relation to the Whiteshell facility, after "full removal", is that Sagkeeng must be meaningfully involved in the planning, monitoring and management of the facility. That has not been the case to date. Decisions are being made behind the scenes or at least without our meaningful involvement, so Sagkeeng in many cases really has no idea whether the Project as managed is wholly beneficial or even being run in ways that are technically sound, respectful and in line with Sagkeeng laws and norms.

79. Justice to the land must not only be done, it must be seen by the rights holder to be done. And Sagkeeng's traditional knowledge and perspectives can add critical insight to project planning, implementation, assessment and management, but not when they are "siloed" into CNL and CNSC reinterpretations of our LUOS and other traditional knowledge, and not without a strong and open channel of continuous communication.

80. Sagkeeng has a governance right and responsibility to be involved in the proper healing of the Whiteshell facility, as the original and ongoing stewards of our territory. This right has not been recognized by the Crown to date and therefore Sagkeeng has been unable to act on its stewardship responsibilities in relation to the facility in a meaningful way.

81. Sagkeeng was not consulted when the facility was developed on the banks of the Winnipeg River in our territory. While the amount and meaningfulness of consultation about the management of the facility has improved in the last 24 months, it remains inadequate today. Sagkeeng members have been impacted for more than 50 years by this facility, and for virtually all of that time have also been excluded from planning, assessment, implementation and monitoring of the facility, during construction, operations and decommissioning phases.

82. CNSC staff's submission makes reference to regulatory oversight reports and other methods of tracking Licensee performance. Sagkeeng's position is that there are not enough requirements for consultation and engagement of our members and leadership provided under the existing system for: a. Sagkeeng to have a meaningful voice in Project planning and oversight; or b. Sagkeeng to have enough information for or against the adequacy of the Licensee's performance. We are on the outside looking in, yet again. This gap must be filled through proactive conditioning and commitments by the Crown and CNL.

83. Examples of gaps in consultation and engagement of Sagkeeng in relation to the facility include:

    a. Lack of consultation of Sagkeeng in the development of the original or this proposed Licence Renewal;
    b. Sagkeeng has never been engaged in management of facility;
    c. Sagkeeng has never been engaged in planning for current or future uses of the restricted or unrestricted parts of the facility, despite being the primary future users of the site (see also our issue (d) below);
    d. Sagkeneg has never been meaningfully engaged in monitoring of the facility, by either CNL or CNSC;
    e. Sagkeeng has never been engaged in auditing of the performance of the facility managers;
    f. Sagkeeng has not had materials like the annual report of the Environmental Assessment Follow-up Program (EAFP) socialized with the community by CNL or CNSC;

84. These gaps can be filled by reasonable commitments and conditions, but this will require a fundamental shift in the way Indigenous groups are treated by the regulator and the site owner and manager. We are a partner, not a stakeholder. We have rights and interests in these lands and waters that make us a priority group for project planning, implementation and monitoring. Until and unless this recognition is made, we fear that lip service of our role in governance, monitoring and management will continue. If it does, Sagkeeng risk perceptions will likely continue to be high. It is human nature to fill uncertainty and information voids with heightened estimations of the likelihood and magnitude of perceived risks.

85. Examples where additional consultation and engagement are necessary and could be relatively easily accomplished, include the following "points of entry":

e. With so many activities occurring on-site, there is a need for a meaningful engagement/consultation framework with CNL so that Sagkeeng can keep properly abreast of progress and planned activities. Sagkeeng members have many questions about where, what type, and how much, waste is left on site, and how they are being managed. This requires a greater commitment to communication with Sagkeeng. This greater engagement would have benefits not limited to current and future activities, either. Understanding where experiments occurred in the past, what materials were used, and how they were disposed of, may assist Sagkeeng in identifying where and what type of ceremonies may be necessary to support healing the land. To accomplish this goal, a dedicated liaison must be retained, at the proponent's expense, to ensure continuing two-way communication between Sagkeeng, CNL and CNSC.

Sagkeeng L1: That a condition be added to the decommissioning license requiring CNL to fund a half-time equivalent liaison, to be employed by, and who will report to, Sagkeeng, and whose primary responsibility will be to facilitate, develop and improve communication and understanding between Sagkeeng and CNL and CNSC.

f. Reporting of results of monitoring activities like the EAFP and CNSC's Independent Environmental Monitoring Program to Sagkeeng would be a good step. An even better step, discussed below, would be to have Sagkeeng empowered to actually be involved in the monitoring underlying the reporting.
g. The development of an Indigenous-specific Liaison Committee; the existing Public Liaison Committee is not a forum that would be comfortable for Sagkeeng to engage in as our priorities, information needs, and capacities often differ from non-Indigenous parties, and our voices can be lost in such forums.
h. At pg. 44 of the CMD, CNSC staff note that "an updated ERA [environmental risk assessment] for the lagoon and landfill areas of the WL site is currently underway." CNSC staff also recommended the inclusion in the LCH (Environmental Protection section) of a requirement for CNL to conduct an updated site-wide ERA (CMD, pg. 46). The engagement of interested Indigenous groups in review of such documents and revisions to decommissioning plans would be another "point of entry" to more meaningful consultation / engagement.
i. Inclusion of interested Indigenous groups in the development and review of volumes for the Detailed Decommissioning Plan.

86. One example where Sagkeeng's perspective can pay critical dividends in site planning and management is through incorporation of our values, principles, criteria, and voice, into project planning. Sagkeeng has identified a variety of criteria that can be used in the examination of what decommissioning and Institutional Control period physical works and activities and site management and monitoring plans, policies and procedures make the most sense. They include:

a. **Protect and heal the water:** Water is life; without it we cannot survive. There is widespread concern among Sagkeeng that the Whiteshell Lab has, or will in the future, create impacts on the Winnipeg River through contamination, given its proximity to the river. Sagkeeng prefers for alternative site management and monitoring that can demonstrate that in the near to long-term, waters, especially in the nearby Winnipeg River, will be protected and will be perceived to be safe by Sagkeeng members.
b. **Protect and promote Sagkeeng culture/spiritual connection to land:** Sagkeeng have strong cultural connection to the lands and waters in vicinity of Whiteshell Labs. The area has seen alienation of cultural activities for over 50 years due to the Whiteshell Lab; Sagkeeng members have expressed a desire to use the area again for ceremonial activities. Sagkeeng prefers for alternative site management and monitoring practices which are respectful of spiritual balance of people with the earth, and allow at least the potential for greater access to territory for cultural purposes in the future.
c. **Territorial integrity:** Sagkeeng has a strong connection to the land in our territory. The immediate facility area has largely been alienated for over 50 years due to the Whiteshell Lab; Sagkeeng members have expressed a desire to use the area again for harvesting food and medicines, fishing, and travel. Sagkeeng prefers for site management and monitoring alternatives that will allow at least the potential for greater access to territory through reintegration of this site into the area Sagkeeng can use in the future.
d. **Food security and faith in traditional foods:** Sagkeeng members are heavily reliant on traditional foods – terrestrial animals, fish, berries, for a healthy diet and a healthy culture. Sagkeeng has been heavily alienated from the site for over 50 years, but members use areas around the site on land and in the water for harvesting and would especially like to do so again in the future. Sagkeeng prefers for alternative site management and monitoring that have the potential to see real and perceived risk of contamination in traditional foods reduced over time, increased faith in traditional foods, and a larger land and water base member feel comfortable harvesting from.
e. **Reduced mental stress, fear and stigma:** Another way of saying this is feelings of safety and security on territory. Sagkeeng members have raised concerns about prevailing fear and uncertainty about the Whiteshell facility, especially concerned with radioactivity. Sagkeeng prefers for alternative site management and monitoring systems that will reduce fear, uncertainty and stigma, now and into the future, at and around the Whiteshell facility and at the wider Sagkeeng territorial level.
f. **Reduced long-term risks in Sagkeeng territory:** This is primarily focused on radioactive contamination risks, now and into the future. Sagkeeng recognizes that Canada has left a radioactive liability at Whiteshell Labs in Sagkeeng territory, that has potential to have radioactive risks into the long distant future. Sagkeeng prefers for site management and monitoring systems that most greatly reduce long-term human population health risks, see reduced comparative risks on the Winnipeg River waters and fish, have the lowest risk load for future

generations to have to manage, and see a permanently safe solution for Sagkeeng territory.

g. **Reduced future management requirements:** The confidence that can be held in our ability to manage risk goes down over time. Sagkeeng is concerned that money and people committed to managing both predictable and unpredictable conditions at the Whiteshell site may not be available in the future. Sagkeeng prefers for alternative site management and monitoring systems that occur quicker AND which leave less residual risk on Sagkeeng lands to be managed into the future. The sooner no management is required at all - that the site returns to relatively natural conditions - the better.

h. **Flexibility to adapt to contingencies**: Risks that may not seem possible now may emerge in the future; things we can't predict may occur. Being ready to manage contingencies is critical. If we don't have flexibility, we paint ourselves into a corner. Earthquakes, higher than expected Winnipeg River erosion, changing precipitation and groundwater flow rates, are especially of concern with the unpredictability of climate change. Sagkeeng prefers for alternative site management and monitoring systems that either include the flexibility to alter management plans at the site in the future, such as being able to remove remaining radioactive materials from the site most easily, or which eliminate the need for this flexibility entirely by taking the risk factors out of the site completely.

i. **Impact equity:** This principle holds two things: (1) Not all the weight of impacts should be placed on one party, especially a sensitive and vulnerable receptor like Sagkeeng and Sagkeeng territory; and (2) that the parties that are the most adversely impacted need to see reciprocal benefits. Sagkeeng has seen little if any benefit over 50 years from the nuclear facility being put in our territory. Sagkeeng prefers for alternative site management and monitoring systems that do not put an unfair burden of impacts on Sagkeeng, on top of existing impacts from Whiteshell Labs and other government approved initiatives, and which engage Sagkeeng in capacity building to support our monitoring, management and stewardship, both of the Whiteshell facility and its surroundings, and in general at the territorial level.

87. We have never been engaged by either the CNSC or CNL about how these criteria can be integrated into site planning, management, monitoring or reporting. CNSC requiring closer engagement of affected Indigenous groups in site management and monitoring, and an overall higher degree of engagement and consultation by CNL, AECL and CNSC with those Indigenous groups, will allow for a better balancing of values in the decommissioning and Institutional Control periods.

88. We note that the CNSC staff's CMD rates the performance of CNL at Whiteshell against a series of "Safety and Control Areas". If "Consultation with Indigenous Peoples", including criteria for Indigenous involvement in planning, communication with Indigenous peoples, and efforts to reduce Indigenous concerns about the facility, was a Safety and Control Area (it is not, but should be), we would have to rank this as BE for

"below expectations). Improvements can be made quickly and within reasonable costs, to this essential element of Project management.

89. To support increased consultation and engagement of Sagkeeng in relation to the Whiteshell Laboratories decommissioning, Sagkeeng recommends:

    a. **Sagkeeng L2:** A Proposed Revision to CNSC staff proposed Condition G2.
    The Licensee shall give written notification of changes to the facility or its operation, including deviation from design, operating conditions, policies, programs and methods referred to in the licensing basis. **This information will be provided to impacted Indigenous groups at the same time it is provided to CNSC.**
    b. **Sagkeeng L3:** A Proposed Revision to CNSC staff proposed Condition G.4.
    The Licensee shall implement and maintain a public information and disclosure program. **This program will include a separate and detailed program for the engagement of interested Indigenous groups, developed in consultation with those groups.**
    c. **Sagkeeng L4:** A Proposed Addition to CNSC staff proposed Condition 9.
    9.2 The Licensee will make efforts and provide evidence to CNSC on an annual basis of efforts to engage impacted Indigenous groups in the planning, implementation and reporting of the environmental protection program.
    d. Sagkeeng LCH3: A Proposed Revision to the Environmental Protection section of the LCH that requires CNL to fund and meaningfully engage interested Indigenous groups in the updated site-wide environmental risk assessment.
    e. Sagkeeng A2: A condition requiring communication by CNL, including capacity funding to support review and meetings with CNL if desired, with interested Indigenous groups, of the Annual Compliance Monitoring Reports and Progress Reports on the Environmental Assessment Follow-up Program for Whiteshell Laboratories.
    f. Sagkeeng A3: A condition requiring CNL provide advance opportunities, no later than 60 days prior to starting work on the specified physical work or activity, for Indigenous groups to review and comment on each module developed for inclusion in its Detailed Decommissioning Plan.

NEED FOR A GREATER ROLE FOR SAGKEENG IN SITE PLANNING, MONITORING, AND IMPLEMENTATION

90. Most highly problematic to Sagkeeng, is the lack of prior engagement and consultation, lack of monitoring role and overall lack of voice or "standing" in site management. Our people cannot feel safe when we are not informed and educated about risks, and are not active in the governance, planning and monitoring of a contaminated site such as this.

91. Sagkeeng identifies specific issues and recommended solutions related to these gaps in our stewardship role, below.

Sagkeeng Involvement in the Identification of Appropriate Land End-State[s] for the Whiteshell Laboratories Facility

92. CNL (pg. 19) identifies that its plan "is that all of WL will have been decommissioned to its final end-state" by the end of the proposed ten-year licensing period.

93. The Proponent's current plan is to certify certain portions of the facility as industrial, agricultural, residential/parkland, casual access, and restricted access (WR-1 Reactor and LLW trenches) areas (CNL, pg. 47).

94. Given that the level of site clean-up will be dictated in large part by release criteria related to the defined end-state (CNL, pg. 33), and site access may be restricted in perpetuity for areas that have higher remaining *in situ* contamination, the definition of agreeable end-state is an important issue for Sagkeeng. Different parties may have very different expectations about acceptable levels of residual radioactivity and health risks. <u>This is particularly the case when one party is a corporation which will eventually leave the area, while the other party is the original inhabitants of the land in question, whose descendants will remain in the affected area in perpetuity</u>.

95. Sagkeeng has not been engaged by the Proponent on the topic of desired and appropriate end-state[s] for this extremely large facility in our territory. Nor is any mention of engagement of interested Indigenous groups made by CNL in reference to developing these plans (section 3.7 – Plans Following Site Closure.

96. Sagkeeng's right and responsibility is to be involved in defining end-states for the property and associated criteria and site management plans. Our people want the materials cleaned up to a degree, and restrictions on access removed, so we can eventually reestablish our relationship with this area. Right now we generally cannot harvest, pick berries, or conduct ceremonies there.

97. Increased engagement of Sagkeeng in site planning and management is also another critical "point of entry" to reduce the fears and stigma identified previously in this submission.

98. **As a result, Sagkeeng recommends (Sagkeeng A4) that CNSC require that any and all site clean-up and release criteria and definition of desired end-state[s] for the Whiteshell facility be developed collaboratively with impacted Indigenous groups.**

Increased Role for Sagkeeng in Environmental and other Site Monitoring

99. Sagkeeng has never been properly engaged by either CNL or CNSC in fulsome monitoring of the area potentially affected by Whiteshell Laboratories.

100. It is recommended that Sagkeeng be provided with meaningful and advance opportunities to develop and implement monitoring and mitigation measures with the

Proponent and CNSC. This will by necessity include a capacity building element to get our members trained up to be a part of the site monitoring and management team.

101. Such an effort will increase transparency and accountability, assist in the reduction of Sagkeeng concerns about the facility, and facilitate the communication of risk from a place of trust. In addition, having traditional knowledge holders involved in monitoring will increase the inclusion of traditional observations of change into the currently highly scientific monitoring framework.

102. CNL states that they "have added some of the harvester items e.g., wild berries, mushrooms and wild rice, identified in these TKLUS reports (Sagkeeng's and the MMF) into its Environmental Monitoring plan" (p. 109).

103. In the future, in order to meaningfully incorporate Sagkeeng knowledge and use into the process, Sagkeeng should be involved in all aspects of the environmental monitoring plan, from conceptual development to implementation. This includes identifying monitoring values (e.g., berries, wildlife) within the plan, but goes well beyond pre-monitoring engagement. There are a variety of CNL and CNSC-led monitoring activities that could and should be opened up to include Sagkeeng representatives. Example "points of entry" include:

a. Involvement in monitoring of water quality for all on-site waters reporting to the Winnipeg River;
b. All CNL-required monitoring of water quality, fish tissue and sediment quality (the latter two for radionuclide concentrations) in the Winnipeg River;
c. Any CNSC-led IEMP, including direct release monitoring, contaminant pathways monitoring, and biological effects monitoring;
d. CNSC-led licence compliance monitoring, with Sagkeeng having at least a funded observer status; and
e. All monitoring of aquatic and terrestrial wildlife.

104. **<u>Sagkeeng L5:</u> Sagkeeng recommends that the Commission require as a Licence Condition that the Proponent expand its environmental monitoring programs to include affected Indigenous groups, and provide a report back to the Commission on an annual basis on how it has impacted Indigenous groups in its monitoring programs.**

105. **<u>Sagkeeng A5:</u> Sagkeeng recommends CNSC require CNL to report on capacity training initiatives adopted by CNL to support interested Indigenous groups engaging in monitoring in and around the Whiteshell Laboratories facility.**

106. **<u>Sagkeeng A6:</u> Sagkeeng recommends CNSC develop and fund a capacity training program for interested Indigenous groups to more deeply engage in community-led, CNSC-led and CNL environmental monitoring programs in relation to the Whiteshell Laboratories facility.**

CONDITION REQUIREMENTS TO MAXIMIZE REMOVAL OF RADIATION-BEARING MATERIALS FROM THE SITE

107. It should be noted that Sagkeeng considers the whole 4375 hectare Whiteshell Laboratories Site of interest, but that special emphasis, concern and duty of care lies within the ~1375 hectare Affected Area, where radioactive materials were – and in some cases remain – located. This includes special emphasis on the Waste Management Area (WMA) and the WR-1 Reactor location.

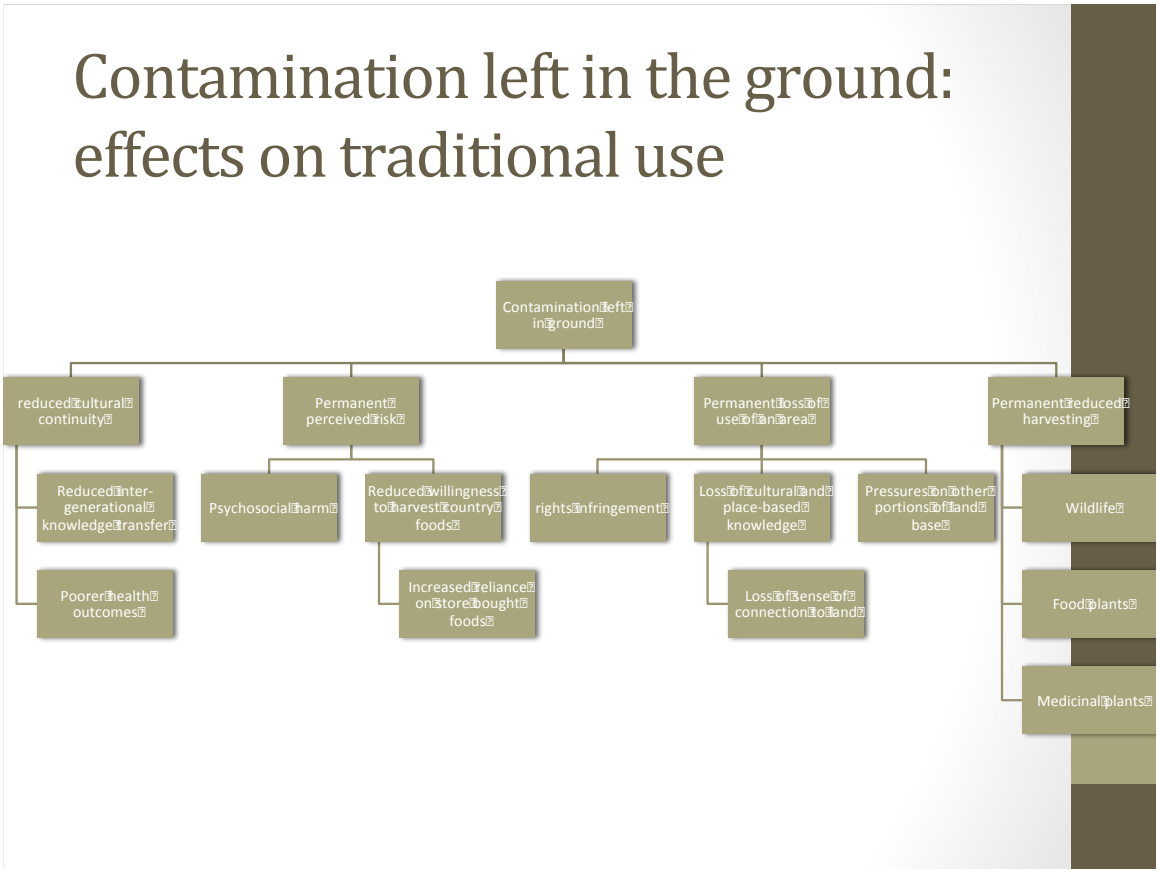
108. The Proponent's desire to leave radiation bearing materials of any type on site in the post-closure phase is unacceptable to Sagkeeng. We have focused elsewhere on the WR-1 Reactor facility; we focus here on 21 or 22 low level waste (LLW) trenches CNL would like to see decommissioned *in situ*.

109. LLW includes waste that has been contaminated with radioactive material or radioactive through exposure to neutron radiation. A large volume of LLW may contribute to aggregated concentrations of radioactivity that can leach into the environment.

110. The waste management approach of leaving these wastes on site is inconsistent with international standards of waste management practices. Other, more effective strategies are available to isolate radioactive LLW than shallow in situ disposal

111. In addition, the knowledge that contaminated materials are being left in the ground may contribute to continued alienation, fear, and stigma associated with the Whiteshell facility by Sagkeeng members. *Figure 1* on the next page identifies some of the impact pathways that need to be considered when contemplating leaving contaminants on site. <u>There is no evidence that either CNL or CNSC staff have contemplated these impact pathways in developing (or reviewing) site management plans; certainly those parties have not engaged Sagkeeng in any such consideration</u>.

Figure 1: Impact Pathways (Outcomes) Identified by Sagkeeng Related to Continued Contamination Being Left on Site at Whiteshell Laboratories



112. **<u>Sagkeeng A7:</u> Sagkeeng requests the CNSC require the involvement of Sagkeeng in the development and review of the final safety assessment "for the final in situ disposal of 21 or 22 of the underground LLW trenches", currently planned for sharing with CNSC staff for approval** (CNL, pg. 33).

Site Management and Monitoring in the Post-Closure Phase

113. It is not clear from the Licence Renewal Application how the site will be managed post-closure.

114. We do know that some form of monitoring will be developed for an Institutional Control period. In its EPR Report (pg. 12 of 88), CNSC staff has suggested this could be an approximately 200-year period. No detail on the timeline for Institutional Control is provided in CNL's filings, and no further detail and what, who, when, and with what funds, the site will be managed in the Institutional Control period, is provided in the Licence Renewal materials Sagkeeng has been provided access to.

115. Sagkeeng needs more information and a role for our Nation in monitoring and management post-closure. Our strong preference is to receive more information about potential and planned Institutional Control plans, policies and programs sooner rather than later.

116. Sagkeeng has always been in this area and will remain in this area, feeling any adverse effect from the Whiteshell Laboratories, long after the Proponent has planned to stop actively managing risks at the site. We are the only party that can guarantee, based on history, that we will still be in this area in the future to protect the health of the land. Therefore, it is critical for us to be engaged in not only the planning but the implementation of the Institutional Control period. We have always been and will remain in the future, the stewards of this land.

117. If it is beyond the scope of the Licence Renewal to consider the Institutional Control period, **we ask (Sagkeeng A8) that the Commission include a requirement, through a Licence condition or an order to CNL and AECL, that given their expedited plans to move from the decommissioning phase to an Institutional Control (post closure) phase, consultation be initiated with affected Indigenous peoples on an appropriate Institutional Control framework, no less than two years prior to the end of the decommissioning phase of the Project.**

118. **If this is within the scope of the Licence Renewal, we would ask that this condition be included therein.**

CLOSING REMARKS

119. Sagkeeng is not saying its values are the only values that need to be considered by the Commission. They are, however, very important, highly impacted and Constitutionally-protected values. We have provided evidence throughout our submission that they haven't been considered in the materials provided by either CNL or the CNSC staff.

120. Sagkeeng has and will continue to work on the basis that the Government of Canada is responsible for cleaning up the hazardous wastes at the Whiteshell site, regardless of any contractual relationships it may have entered into with CNL or other parties. In this regard, Canada cannot waive its fiduciary duties to: a) honour its prior commitment to remove the radioactive wastes from Sagkeeng lands; and b) ensure Indigenous interests and aboriginal and Treaty rights are fully considered and protected.

121. To accomplish this, Sagkeeng needs to be more involved in the ongoing monitoring and management of the Whiteshell Laboratories facility than we have previously. Our recommendations for revisions to the Decommissioning Licence, provided above, are also provided again in Annex B for the Commission's reference. Without these requirements in place to create a more open, transparent and accountable

planning, management and monitoring system for the facility – meaning open, transparent and accountable to Sagkeeng as well as to CNSC – the facility will remain a fountain of fear and stigma for our people, a source of mystery and uncertainty perched in the heart of our traditional territory. The very reasonable steps and actions we have requested the Commission take will start us on a path to healing the land and healing Sagkeeng Anicinabe's relationship to it.

122. Canada has said it is committed to implementation of the UNDRIP, and that required Free, Prior and Informed Consent. This is not a two or even a three year process. So we need to be prepared to go slow, and make good decisions. When you go fast, you go by yourself. When you go slower, people travel with you.

Respectfully Submitted,

Chief and Council of Sagkeeng Anicinabe

Prepared by Alistair MacDonald, Regulatory Lead, The Firelight Group, and adopted by Sagkeeng Anicinabe.

Endnotes

(1) Olson, R. and Firelight Research Inc, with The Sagkeeng Anicinabe (2018). Sagkeeng Anicinabe Land Use And Occupancy Study Specific To Canadian Nuclear Laboratories' Proposed In Situ Decommissioning Of The Wr-1 Reactor At Whiteshell Laboratories. *Note: Annex 3 to this submission.*

(2) Canadian Nuclear Laboratories Ltd. (2019). Written Submission from Canadian Nuclear Laboratories Ltd. In the Matter of the Whitesehell Laboratories Application to renew the Nuclear Research and Test Establishment Decommissioning Licence for the Whiteshell Laboratories site for a period of ten years.

(3) Canadian Nuclear Safety Commission [staff] (2019). Commission Members Document for a Licence Renewal for Canadian Nuclear Laboratories Ltd. Whiteshell Laboratories. E-doc 5961001 (pdf).

(4) Canadian Nuclear Safety Commission [staff] (2019). Environmental Protection Review Report: Canadian Nuclear Laboratories Whiteshell Laboratories – NRTEDL-W5-8.05/2019 Licence Renewal. E-doc 5933012 (pdf).

(5) Canadian Nuclear Safety Commission [staff] (2019). Draft Nuclear Research And Test Establishment Decommissioning Licence Whiteshell Laboratories. PDF Ref: e-Doc 5962032.

(6) Canadian Nuclear Safety Commission [staff] (2019). Draft Licence Conditions Handbook Nrtedl-Lch-08.06/2029 Revision 0 Whiteshell Laboratories Nuclear Research And Test Establishment Decommissioning Licence NRTEDL-W5-8.06/2029PDF Ref: e-Doc 5961981.

ANNEX 1: SAGKEENG ANICINABE COMMENTS ON AND REQUESTED CHANGES TO CNSC STAFF'S ENVIRONMENTAL PROTECTION REVIEW REPORT

(Dated July 2019 – e-doc5933012)

Text in gray boxes was included in Sagkeeng's submission to CNSC staff.

7.2 Sagkeeng Anicinabe

In 2018, Sagkeeng retained Firelight Research Inc. in order to produce a Land Use and Occupancy Study (LUOS, or the Study), specific to the proposed WR-1 *in situ* decommissioning project. The scope of the Study is as follows:

> "This Report provides non-confidential baseline information and existing and anticipated Project interactions based on current and available Sagkeeng land use and occupancy data collected about the traditional lands of Sagkeeng, with a specific focus on the vicinity of the Project (decommissioning of the WR-1 reactor)."[3]

The Study includes both qualitative and site-specific mapped information based on 35 individual mapping interviews with Sagkeeng members, conducted between October 26 and November 21, 2018. The discussion and analysis of site-specific data was based on the WR-1 *in situ* decommissioning project Footprint (within 250 m of the Project), a Local Study Area (LSA; within 5 km of the Project), and a Regional Study Area (RSA; within 25 km of the Project, including the Winnipeg River downstream of the Project). The Project Footprint, LSA, and RSA are collectively referred to as the Study Area.

It is important to note that this Study was conducted specific to the newly proposed *in situ* decommissioning activities for the WR-1 Reactor, as per CNL's application. This Study is included within this EPR Report for the Whiteshell decommissioning licence renewal because activities under this new licence would take place within the outlined Study Area. CNSC staff are committed to continue working with Sagkeeng to ensure that their IK and perspectives are meaningfully reflected in the ongoing regulatory oversight and monitoring of the WL site and related decommissioning activities

Sagkeeng fundamentally disagrees with this statement and phrasing as it reads as if the Commission Staff are trying to pass off the Sagkeeng LUOS for the purpose of a difference licensing process. Despite there being a similarity or overlap in geographical locations, the LUOS was conducted for different purposes, and as such, using community data for purposes other than what was consented to is a breach of ethics.

We strongly suggest including our previously proposed revisions:

[3] Sagkeeng LUOS, Executive Summary, pg. 3

"The Study cannot be used as a substitute for assessing potential impacts from other facilities or activities at the WL site, or any other past, present, or reasonably foreseeable development. Further assessments or considerations would require additional site- and project-specific research and analysis."

7.2.1 LIMITATIONS AND SITE-SPECIFIC VALUES

Limitations

The extent of information provided in the Study is limited to the information that was available and possible to share by the interview participants. The Study, "has a number of limitations and should only be considered a first step in identifying Sagkeeng uses and values that may be impacted by the [WR-1 *in situ* decommissioning Project]"[4] and other WL decommissioning activities.

This [the phrase "and other WL decommissioning activities" is inaccurate, and was not part of our revisions. Please remove as this was in fact beyond the scope of the study. It contradicts the limitations outlined in the LUOS, as quoted below

The limitations of the LUOS include[5]:

- Not all knowledge holders were able to participate in this Study. Efforts were made to include key knowledge holders active within the LSA and RSA, but many Sagkeeng members with important knowledge of the Study Area (which includes the Project Footprint, LSA and RSA combined) may have been unable to participate due to time and budget restrictions.
- Data collected for each participant is limited by what the participant is able and willing to report.
- The area demarcated by mapped site-specific use values should be understood to be a small portion of the actual area required for the meaningful practice of a Sagkeeng way of life, as well as Treaty and Aboriginal rights. Site-specific mapped values (e.g., cabins and kill-sites) reflect particular instances of use that anchor wider practices of culture, livelihood, and other Treaty and Aboriginal rights within a particular landscape. For example, a single moose kill-site may be mapped with a precise point, but that point does not capture the entire spectrum of related practices and values.
- The Study Area in this Report was limited to the main physical works and activities identified by the Proponent. The Project is specific to the work associated with decommissioning the WR-1 Reactor and its building alone, and does not include other

[4] Sagkeeng LUOS, Section 1.3 Limitations, pg. 13

[5] List of Limitations from Sagkeeng LUOS, Section 1.3 Limitations, pg 13-14

activities required to decommission other facilities or components of the Whiteshell Laboratories site. The lack of detail on work required for decommissioning the entirety of the Whiteshell Laboratories site, such as other buildings and facilities, require that the analysis for the Study herein be considered conservative, with actual effects likely to be greater than predicted.

- This Report does not include extensive recommendations on mitigation and monitoring measures. The process for collaboration between Sagkeeng and the Proponent regarding monitoring and mitigation should be decided upon in dialogue with Sagkeeng and for that reason specific recommendations are not presented or proposed in this Report.

The following limitations have been left out of this CNSC revision. Please include the following limitations:

"This Study is being conducted after a substantial amount of decommissioning work has already taken place at the Whiteshell Laboratories site, including defueling the Reactor, draining the organic coolant, removing heavy water and transferring it to storage, transferring irradiated fuel to a storage facility, decommissioning the Demonstration Reactor, and maintaining building services in operating mode. As a result, Sagkeeng members have not had the opportunity to provide suggestions on appropriate mitigations or measures for accommodation. Without a meaningful opportunity to disclose relevant values in the Study Area prior to the decommissioning work that has already occurred, it is likely that preventable Project interactions have already transpired."

- This Study is based on the understandings and analyses of the authors and is not intended as a complete depiction of the dynamic way of life and living system of use and knowledge maintained by Sagkeeng members.

These limitations highlight that although this Study can be "used as a representational spatial account of some Sagkeeng use in the Study area"[6] it does not fully reflect all Sagkeeng use or knowledge in the Study Area. Furthermore, "an absence of data does not signify an absence of use or value."[7]

Text removed by CNSC that should be re-inserted:

"The Study should not be used as a replacement for other studies that may be required to understand the full implications of all Whiteshell facility physical works and activities on Sagkeeng traditional use and occupancy and Treaty and Aboriginal rights."

[6] Sagkeeng LUOS, Section 1.3 Limitations, pg. 14

[7] Ibid

Site-Specific Values

Table 7.4: Sagkeeng Anicinabe Study areas and site-specific values[8]

Study Area	Description	Number of site-specific values*
Project Footprint	Within 250 meters of the proposed Project (including the WR-1 Reactor and building, WMA and Landfill).	34
Local Study Area (LSA)	Within 5 Km of the proposed Project.	56 (including Footprint)
Regional Study Area (RSA)	Within 25 Km of the proposed Project, including the downstream portion of the Winnipeg River	519 (including LSA and Footprint)

*Identified as having occurred from the 1940's and on.

Sagkeeng interview participants mapped a total of 519 site-specific values in the Study Area from 1940s to the present (2018). The data reveals how Sagkeeng members have and continue to use the Study Area across multiple generations. The Study Area contains numerous important sites that support hunting, trapping, fishing, harvesting wild game and plants for medicinal and subsistence purposes, and include important water sources, wildlife habitats, and sites for maintaining Sagkeeng culture and identity such as ceremonial sites, gathering places, burial sites, and travel routes."[9]

The Study and mapped values are structured around four high level Value Components (VCs), based on what are considered "critical conditions or elements that must be present for the continued practice of Sagkeeng culture and livelihoods, and that may be impacted by the Project [proposed decommissioning of the WR-1 Reactor]"[10].

These VCs are categorized as follows:

- Water Resources
- Medicines, Berries and other Food Plants
- Hunting and Trapping
- Anicinabe Pimatizwin (broadly defined as 'Anicinabe Living' which encompasses Sagkeeng culture, identity, and way of life)

[8] Sagkeeng LUOS, Section 4.1.1 Overview, pg. 26

[10] Sagkeeng LUOS, Section 4.1.1 Overview, pg. 26

[10] Sagkeeng LUOS, Section 3 Methods, pg. 22

7.2.2 IMPORTANCE, REPORTED IMPACTED BASELINE, AND PROJECT INTERACTIONS WITH SAGKEENG VALUED COMPONENTS

Importance

The Study Area continues to be used by Sagkeeng members and is central to the continued practice of Sagkeeng Anicinabe Aboriginal and Treaty rights as well as Anicinabe Pimatiziwin.

Key qualitative data highlighting the importance of the Study Area to Sagkeeng members includes, but is not limited to:

- Important fish species and fish spawning locations throughout the Study Area;
- Safe drinking water collecting sites, and the importance of having access to clean water;
- Important wild rice harvesting locations, which have been used for generations;
- Valued areas for harvesting medicinal plants, including their teachings, use, and application for a variety of ailments;
- Important areas for harvesting berries and other food plants, which were often prepared and canned as a year-round food supply;
- Important sites for hunting and trapping wild game species harvested for subsistence and cultural purposes, such as moose, deer, muskrat, beaver, and prairie chickens;
- Areas relied on for supporting Anicinabe Pimatiziwin, including Sagkeeng sense of place, knowledge transmission between generations, important ceremonies, gathering with neighbouring Nations, making offerings to the land, burial sites, dwelling, and traveling across the land and through the Study Area; and
- Sacred sites, such as the Petroglyphs which are located at Bannock Point.

The qualitative data, together with the site-specific data, demonstrate the interconnectedness of the VCs, revealing the importance of the Study Area to Sagkeeng members' way of life and exercise of their Aboriginal and Treaty rights. The data in the report reveals that the Study Area has and continues to be used by Sagkeeng members across multiple generations.

Impacted Baseline and potential project interactions

As per our previous comments, these sections have been narrowed down a great deal to the point they are missing critical pieces of information. We suggest reinserting our previous edits for context and a fuller understanding of the previously experienced, and potential future impacts identified by Sagkeeng members from the WR-1 decommission process.

While the Study reveals the critical importance of the Study Area to Sagkeeng community members, the Study also discusses the reported impacted baseline on Sagkeeng VCs from past development and other external factors. Interview participants reported that existing nuclear research and development activities in the Study Area have been observed to negatively impact the quality of resources in the Study Area, such as fish, wild game, wild rice, and plants harvested for food and medicine. Furthermore, Sagkeeng members reported having limited

access to certain locations in the Study Area due to the presence of infrastructure and private land access restrictions.

Other factors that contribute to the impacted baseline in the Study Area, as reported by interview participants, include hunting and fishing restrictions, an increase in the presence of game wardens, airboats damaging wild rice beds, a general decline in water quality, and an overall decline in quantity of desired species (such as plants, wild game, and fish). The accumulation of multiple development activities in Sagkeeng territory has led to a decline in harvesting opportunities for fish, wild game, wild rice, and medicinal and food plants.[11]

Sagkeeng members also detailed numerous impacts to Anicinabe Pimatiziwin in the Study Area, including "residential schools disconnecting young Sagkeeng members from their family and culture, past restrictions on practicing ceremonies, the disruption of knowledge transmission, and the impacted sense of place due to land access restrictions, negative interactions with law enforcement, cultural prejudice and reduced environmental integrity." [12]

In discussing potential Project interactions, it is crucial that they are considered within the context of past, present, and reasonably foreseeable future developments in Sagkeeng territory. While a fulsome cumulative effects assessment was outside of the scope of this Study, Sagkeeng members who participated in the Study emphasized that the VCs are already subject to impacts from a variety of stressors from past and present nuclear activity. The Study goes on to state that continued nuclear activity may further affect Sagkeeng members ability to use the Study Area freely:

> "Decommissioning work has the potential to further affect the ability of Sagkeeng members to freely exercise their Treaty rights within the Study Area, while increasing the vulnerability of the VCs to additional disturbance." [13]

In sum, the data reported by interview participants for the Study indicates that Project interactions (WR-1 in-situ project) have the potential to constrain Sagkeeng Treaty rights in the Study Area across multiple generations.

CNSC take the concerns raised by Sagkeeng in the Study very seriously and are actively collaborating with Sagkeeng to address them through the on-going EA and consultation process for the WR-1 in-situ decommissioning project, as well as through continued engagement in relation to the ongoing regulatory oversight and monitoring of the WL site and related decommissioning activities.

7.2.3 CONCLUSION

The results of the Study reveal that the Study Area is of critical importance to Sagkeeng members' activities, such as "fishing, harvesting wild rice, medicines, berries and other food

[11] Sagkeeng LUOS, Section 4.4.2 Impacted Baseline, pg. 60

[12] Sagkeeng LUOS, Section 4.5.2 Impacted Baseline, pg. 75

[13] Sagkeeng LUOS, Section 5.1 Summary and Recommendations, pg. 89

plants, hunting wild game, trapping fur-bearing animals, as well as for participating in important cultural activities such as ceremonies, as well as sharing knowledge with younger Sagkeeng generations."[14] These activities, as detailed in the Study, are described as being essential to the ongoing practice of Sagkeeng way of life and exercising their Aboriginal and Treaty rights.

The Study reveals that Sagkeeng members view that many of their VCs have already been subject to effects from development and previous activities at and near the proposed Project, including the WL site and ongoing decommissioning activities. In addition, the Study reported that these impacts have the potential to be exacerbated by the proposed WR-1 decommissioning activities, as Sagkeeng is concerned that there is the possibility for the WR-1 project activities and potential impacts to interact with Sagkeeng VCs, thus potentially increasing their vulnerability to additional disturbances. Sagkeeng has expressed concern that the potential Project interactions listed above may constrain Sagkeeng Treaty rights in the Study Area.

In order to understand the full extent of the importance, impacted baseline, and potential Project interactions with Sagkeeng values, refer to the full Sagkeeng LUOS Report.

Although the focus and scope of the Study is in relation to the WR-1 in-situ decommissioning project, CNSC staff are of the view that the Study includes relevant information to the entire Study area, which includes the WL site and adjacent lands and waters.

Sagkeeng does not support this view ["…that the Study includes relevant information to the entire Study area…"] *as worded – there is too much danger in using the project-specific LUOS as a general understanding of the WL site as a whole.*

The term "relevant but partial" would be an acceptable revision.

The Study identified a wide range of Sagkeeng VCs, including land use activities, travel routes, gathering sites, and cultural sites that are important for CNSC staff and CNL to be aware of. The information in the Study can help inform the ongoing regulatory oversight and monitoring of the WL site and related decommissioning activities.

However, the concerns raised in the study are primarily focused on the proposed WR-1 in situ decommissioning project and not specific to the renewal of the WL site. CNSC Staff are committed to working with Sagkeeng leadership and community members to help address the concerns raised in the study, with relation to the proposed WR-1 *in situ* decommissioning project. CNSC will continue to work to meaningfully incorporate the values and information provided in Sagkeeng's LUOS into CNSC's regulatory processes and activities, including the EA and licensing process for the proposed WR-1 *in situ* decommissioning project and to fulfill its obligations related to the Duty to Consult and Accommodate, where appropriate, and uphold the Honour of the Cown in relation to the proposed activities.

[14] Sagkeeng LUOS, Executive Summary, pg. 3

ANNEX 2: SAGKEENG ANICINABE RECOMMENDED LICENCE REVISIONS AND OTHER RECOMMENDATIONS

MAIN LICENCE CONDITIONS

Sagkeeng L1: That a condition be added to the decommissioning license requiring CNL to fund a half-time equivalent liaison, to be employed by, and who will report to, Sagkeeng, and whose primary responsibility will be to facilitate, develop and improve communication and understanding between Sagkeeng and CNL and CNSC.

Sagkeeng L2: Proposed Revision to CNSC staff proposed Condition G2.

> The Licensee shall give written notification of changes to the facility or its operation, including deviation from design, operating conditions, policies, programs and methods referred to in the licensing basis. **This information will be provided to impacted Indigenous groups at the same time it is provided to CNSC.**

Sagkeeng L3: Proposed Revision to CNSC staff proposed Condition G.4.

> The Licensee shall implement and maintain a public information and disclosure program. **This program will include a separate and detailed program for the engagement of interested Indigenous groups, developed in consultation with those groups.**

Sagkeeng L4. Proposed Addition to CNSC staff proposed Condition 9.

> **9.2 The Licensee will make efforts and provide evidence to CNSC on an annual basis of efforts to engage impacted Indigenous groups in the planning, implementation and reporting of the environmental protection program.**

Sagkeeng L5: Sagkeeng recommends that the Commission require as a Licence Condition that the Proponent expand its environmental monitoring programs to include impacted Aboriginal groups, and provide a report back to the Commission on an annual basis on how it has included each impacted Aboriginal group in its monitoring programs.

LICENCE CONDITIONS HANDBOOK

Sagkeeng LCH1: CNSC require the Proponent to consult with interested Indigenous groups toward the implementation of a risk communication program, designed to improve Indigenous understanding of site and vicinity risk to the health and edibility of country food and water sources.

Sagkeeng LCH2: CNSC require, as an LCH directive/criteria, CNL to engage with affected Indigenous groups toward establishing relationship protocols in the form of one or more liaison committees separate from the existing Public Liaison Committee, including elements related to the role of Indigenous groups in site planning, assessment, management and monitoring.

Sagkeeng LCH3: A Proposed Revision to the Environmental Protection section of the LCH that requires CNL to fund and meaningfully engage interested Indigenous groups in the updated site-wide environmental risk assessment.

ADDITIONAL SAGKEENG RECOMMENDATIONS

Sagkeeng A1: The CNSC to develop with Sagkeeng a consultation framework, including but not limited to for joint consideration of impacts on Sagkeeng Treaty and Aboriginal rights, to be implemented for all future decisions related to the Whiteshell Laboratories facility.

Sagkeeng A2: Communication by CNL, including capacity funding to support review and meetings with CNL if desired, with interested Indigenous groups, of the Annual Compliance Monitoring Reports and Progress Reports on the Environmental Assessment Follow-up Program for Whiteshell Laboratories.

Sagkeeng A3: A condition requiring CNL provide advance opportunities, no later than 60 days prior to starting work on the specified physical work or activity, for Indigenous groups to review and comment on each volume developed for inclusion in its Detailed Decommissioning Plan.

Sagkeeng A4. That CNSC require that any and all site clean-up and release criteria and definition of desired end-state[s] for the Whiteshell facility be developed collaboratively with impacted Indigenous groups.

Sagkeeng A5: CNSC to require CNL to report on capacity training initiatives adopted by CNL to support interested Indigenous groups engaging in monitoring in and around the Whiteshell Laboratory.

Sagkeeng A6: CNSC to develop and fund a capacity training program for impacted Aboriginal groups to more deeply engage in community-led, CNSC-led and CNL environmental monitoring programs in relation to the Whiteshell Laboratories facility.

Sagkeeng A7: Sagkeeng requests the CNSC require the involvement of Sagkeeng in the development and review of the final safety assessment "for the final in situ disposal of 21 or 22 of the underground LLW trenches", currently planned for sharing with CNSC staff for approval.

Sagkeeng A8: CNSC to require CNL to engage impacted Aboriginal groups in the development of plans, policies and programs related to the Institutional Control period, starting at least two years prior to the end of the decommissioning period.

Sagkeeng A9: That CNSC involve Sagkeeng Anicinabe in the conduct of any future implementation of its Independent Environmental Monitoring Program for the Whiteshell Laboratories facility.

Sagkeeng A10: CNSC to require CNL to file additional information about the methods and timing proposed for full removal of the WR-1 facility, in an addendum to the Licence Renewal Application, prior to the October 2-3, 2019 hearing.

PROCEDURAL RECOMMENDATIONS

Sagkeeng P1: The CNL summary of "traditional knowledge and land use studies" (TKLUS) in Section 18.2.1.8.11 should be given no weight by the Commission in its deliberations.

Sagkeeng P2: The Commission ought to strike all references to CNL's proposed ISD from CNL's filings, including but not limited to CNL's Section 3.3.2.1.

Sagkeeng P3: That the Commission require the Proponent to provide the following information in a supplemental filing, prior to the October 2-3, 2019 hearing:

a. Calculation of what volume and type of LLW, ILW and HLW is likely to come out of the full decommissioning and removal of the WR-1 Reactor facility; [15]
b. More information on the timing and methods for all three phases of decommissioning of the WR-1 Building (B100):
    i. Complete remediation and removal of the building
    ii. All activated and contaminated components removed, packaged and dispositioned at off-site facilities
    iii. Facility structure decontaminated and demolished;
c. Identification of monitoring activities required during and after the completion of the three stages identified above (which are from Table 1.2 in the EPR Report, pg. 15 of 88); and
d. Identification of the proposed end-state for the WR-1 Reactor facility under implementation of the full removal plan.

[15] For example it is not clear at pg. 44 of CNL's submission whether the volume of wasted identified includes from full decommissioning and removal of WR-1 or the ISD option. Clarification required.

Annex 3. Copy of the Sagkeeng LUOS

Filed separately with the submission.

SAGKEENG ANICINABE LAND USE AND OCCUPANCY STUDY SPECIFIC TO CANADIAN NUCLEAR LABORATORIES' PROPOSED IN SITU DECOMMISSIONING OF THE WR-1 REACTOR AT WHITESHELL LABORATORIES

Rachel Olson PhD and Firelight Research Inc., with the Sagkeeng Anicinabe

February 21, 2019

Sagkeeng Anicinabe

the firelight group

Sagkeeng Anicinabe Land Use and Occupancy Study specific to Canadian Nuclear Laboratories' proposed In Situ Decommissioning of the WR-1 Reactor at Whiteshell Laboratories

FINAL REPORT / February 21, 2019

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Thanks and acknowledgements go to Sagkeeng Anicinabe members, elders, knowledge holders, land users, staff, and leadership who contributed. This Report could not have been completed without their support and expert knowledge.

Disclaimer:

The information contained in this Report is based on research conducted by Firelight Research Inc., as well as published works and archival research. It reflects the understandings of the lead authors and is not intended to be a complete depiction of the dynamic and living system of use and knowledge maintained by Sagkeeng Anicinabe members. It may be updated, refined, or changed as new information becomes available. All mapped information is based on interviews with Sagkeeng Anicinabe knowledge holders conducted within constraints of time, budget, and scope. Base map data originate from the National Topographic System and Natural Resources Canada. The information contained herein should not be construed as to define, limit, or otherwise constrain the Treaty or Aboriginal rights of the Sagkeeng Anicinabe or any other First Nations or Aboriginal peoples.

EXECUTIVE SUMMARY

Sagkeeng Anicinabe (Sagkeeng) retained Firelight Research Inc. to conduct a land use and occupancy study (the Study) in relation to the Whiteshell Nuclear Decommissioning Project (the Project) proposed by Canadian Nuclear Laboratories' (The Proponent).

The Project involves the decommissioning of the WR-1 Reactor at Canadian Nuclear Laboratories' (CNL) Whiteshell Laboratories facility. The facility is located approximately 65 kilometres south of Sagkeeng Anicinabe. CNL is proposing an *in situ* approach to decommission the WR-1 Reactor, which is considered to be a permanent and passive form of decommissioning. Decommissioning activities would involve permanently encasing the components and structures of the WR-1 Reactor with grout and leaving them covered for an indefinite period of time. The above-ground structures would be dismantled and managed at an off-site facility. The objective of decommissioning activities is to isolate and contain contaminants and limit the release or radioactive and hazardous substances from the facility, and to minimize potential human and environmental impacts.

This Report provides non-confidential baseline information and existing and anticipated Project interactions based on current and available Sagkeeng land use and occupancy data collected about the traditional lands of Sagkeeng, with a specific focus on the vicinity of the Project. This Report includes analysis of mapping interviews (of knowledge and use) conducted with 35 Sagkeeng members during the period from October 24, 2018 to November 21, 2018.

Analysis of site-specific data was based on the proposed Project's Footprint (within 250 m of the Project), a Local Study Area (LSA; within 5 km of the Project), and a Regional Study Area (RSA; within 25 km of the Project, including the Winnipeg River downstream of the Project). Within the Project Footprint, Sagkeeng members reported 18 site-specific use values, while 24 were reported within the LSA (including the Footprint), and 185 within the RSA (including the LSA and Footprint). While not every site-specific value recorded included time information, reported personal use values dated from the 1940s to present (2018).

The site-specific data show that the Project is situated in an area that is highly-valued for fishing, harvesting wild rice, medicines, berries and other food plants, hunting wild game, trapping fur-bearing animals, as well as for participating in important cultural activities such as ceremonies, as well as sharing knowledge with younger Sagkeeng generations. Qualitative interview data clearly reveal the Study Area as central to Sagkeeng livelihood, cultural identity and connection to the land, waterways and resources, as it is an area that has been used and relied on by Sagkeeng for generations.

Through discussions and interviews, Sagkeeng members identified a set of Valued Components (VCs) relating to Sagkeeng knowledge and use that may be impacted by the Project. These are:

- Water Resources;
- Medicines, Berries, and Other Food Plants;
- Hunting and Trapping; and
- Anicinabe Pimatiziwin.

Major interactions and impact pathways that emerged from the Study are as follows:

- Reduced confidence in water quality as a result of potential Project-related leaks and contaminants, which is inextricably linked to the practice of Treaty rights including (but not limited to) fishing, harvesting wild rice, hunting, and collecting drinking water;
- Decreased confidence in the quality and edibility of fish species in the Study Area, particularly fish found downstream of the Project, as a result of both perceived and/or actual contamination from the Project;
- Decreased confidence in the quality and edibility of wild rice, resulting in reduced opportunities for wild rice harvesting in the Study Area as a result of perceived and/or actual contamination from the Project;
- Decreased confidence in the quality and edibility of medicines, berries, and food plants available for harvest in the Study Area resulting in avoidance as a result of perceived and/or actual contamination from the Project;
- Decreased confidence in the quality and edibility of wildlife resulting in avoidance as a result of perceived and/or actual contamination from the Project;
- Reduced opportunities for harvesting wildlife in the Project area due to reduced access to the Project area Project activities;
- Disturbance to Sagkeeng members' sense of place, identity, connection to the land, and psychological well-being as a result of a heightened sense of uncertainty and insecurity due to the presence of hazardous nuclear materials in the Study Area; and
- Disturbance to ceremonial practices and decreased opportunities to transmit and share knowledge across generations as a result of avoidance of the Study Area and reduced confidence in the resources within.

When the activities required by the Project are considered alongside data collected in this Study, evidence indicates that Project interactions have the potential to constrain Sagkeeng Treaty rights practiced in the Footprint LSA, and RSA over multiple generations.

This Report may contribute to, but is not a replacement for, other studies that may be required to support consultation. The findings of this Study suggest that the following research and/or assessments are required for a more complete characterization of risks posed by the Project to Sagkeeng cultural interests, and Treaty and Aboriginal rights:

- Participants emphasized discomfort and uncertainty around the safety and likelihood of success with the Proponent's proposed *in situ* decommissioning approach. It is recommended that an alternatives assessment be completed and provided to Sagkeeng for evaluation, including options for decommissioning alternatives that do not require leaving the WR-1 Reactor in the ground;

- A cumulative effects assessment is recommended in order to more comprehensively understand and evaluate potential Project effects on Sagkeeng rights, knowledge, and use;

- During the Project-specific verification meetings held on December 18 and 19, 2018, participants emphasized that further studies are needed to holistically understand the potential for the Project to affect Sagkeeng values and way of life. Such studies identified by participants include, but are not limited to, an economic impact assessment, a socio-economic and health impact assessment, and a water quality study; and

- The Study does not include suggestions for monitoring and mitigation. It is recommended that Sagkeeng be provided with meaningful and advanced opportunities to develop monitoring and mitigation measures with the Proponent.

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ACRONYMS AND ABBREVIATIONS

AECL	Atomic Energy Canada Ltd.
CNL	Canadian Nuclear Laboratories
CNSC	Canadian Nuclear Safety Commission
EIS	Environmental Impact Statement
Firelight	Firelight Research Inc. / The Firelight Group
km	Kilometre
LSA	Local Study Area
m	Metre
Project	In Situ Decommissioning of the WR-1 Reactor at Whiteshell Laboratories
Proponent	Canadian Nuclear Laboratories
Report	Sagkeeng Anicinabe Land Use and Occupancy Study specific to Canadian Nuclear Laboratories' proposed In Situ Decommissioning of the WR-1 Reactor at Whiteshell Laboratories
RSA	Regional Study Area
Sagkeeng	Sagkeeng Anicinabe
Study	Land use and occupancy study
Study Area	The combined Project Footprint, LSA and RSA
VC	Valued Component
WMA	Waste Management Area
ZOI	Zone of Influence

1. INTRODUCTION

1.1 OVERVIEW

Firelight Research Inc. (Firelight) is pleased to provide this report (the Report) to Sagkeeng Anicinabe (Sagkeeng). The Report documents the background, methods, and findings of a land use and occupancy study specific to Canadian Nuclear Laboratories' (CNL, or the Proponent) proposed In Situ Decommissioning of the WR-1 Reactor at Whiteshell Laboratories (the Project).

This Report provides baseline information and consideration of anticipated Project interactions based on current and available data on Sagkeeng land use and occupancy within the traditional lands of the Sagkeeng and in the vicinity of the Project. This Report includes non-confidential site-specific (i.e., mapped) and qualitative information related to the Project.

This Report is organized into five sections:

- Section 1 presents an overview of the scope of work and Report and Study limitations;
- Section 2 presents background information regarding Sagkeeng and the proposed Project;
- Section 3 presents information on the methods used for the Study;
- Section 4 presents the findings of the Study, including the site-specific and qualitative data, as well as anticipated Project interactions; and
- Section 5 summarizes the findings, recommendations, and conclusions of the Study.

1.2 SCOPE OF WORK

Sagkeeng has retained Firelight to support a knowledge and use study specific to the Project. As detailed in the September 4, 2018 work plan, this includes:

- Detailed budgeting, scoping, work planning, preliminary meetings with Sagkeeng leadership and lands staff, and project management;
- Data and document review of existing data relating to the Project area, and review of the Proponent's related Project documents;
- Community scoping meeting with Sagkeeng to discuss the purpose of the Study and identify key valued components and interests related to the Project;
- Development and tailoring of interview and mapping methodologies for the Study;

- Completion of up to 35 individual mapping interviews with Sagkeeng knowledge holders at a scale of 1:50,000 or finer;

- Analysis of interview results, including transcription, GIS data post-processing, preparing maps, and writing a draft non-confidential Report;

- One-day community verification meeting to review the draft Report and maps, including Report revisions; and

- Final reporting, including supporting Sagkeeng staff on communications to Sagkeeng leadership and membership.

The primary goal of the Study is to provide a non-confidential Report for consideration by Sagkeeng.

1.3 LIMITATIONS

This Report has a number of limitations and should only be considered a first step in identifying Sagkeeng uses and values that may be impacted by the Project. Limitations of this Report include the following:

- Not all knowledge holders were able to participate in this Study. Efforts were made to include key knowledge holders active within the LSA and RSA, but many Sagkeeng members with important knowledge of the Study Area (which includes the Project Footprint, LSA and RSA combined) may have been unable to participate due to time and budget restrictions.

- Data collected for each participant is limited by what the participant is able and willing to report.

- The area demarcated by mapped site-specific use values should be understood to be a small portion of the actual area required for the meaningful practice of a Sagkeeng way of life, as well as Treaty and Aboriginal rights. Site-specific mapped values (e.g., cabins and kill-sites) reflect particular instances of use that anchor wider practices of culture, livelihood, and other Treaty and Aboriginal rights within a particular landscape. For example, a single moose kill-site may be mapped with a precise point, but that point does not capture the entire spectrum of related practices and values.

- The Study Area in this Report was limited to the main physical works and activities identified by the Proponent. The Project is specific to the work associated with decommissioning the WR-1 Reactor and its building alone, and does not include other activities required to decommission other facilities or components of the Whiteshell Laboratories site. The lack of detail on work required for decommissioning the entirety of the Whiteshell Laboratories site, such as other buildings and facilities, require that the analysis for the Study herein be considered conservative, with actual effects likely to be greater than predicted.

- This Study is being conducted after a substantial amount of decommissioning work has already taken place at the Whiteshell Laboratories site, including defueling the Reactor, draining the organic coolant, removing heavy water and transferring it to storage, transferring irradiated fuel to a storage facility, decommissioning the Demonstration Reactor, and maintaining building services in operating mode. As a result, Sagkeeng members have not had the opportunity to provide suggestions on appropriate mitigations or measures for accommodation. Without a meaningful opportunity to disclose relevant values in the Study Area prior to the decommissioning work that has already occurred, it is likely that preventable Project interactions have already transpired.

- This Report does not include extensive recommendations on mitigation and monitoring measures. The process for collaboration between Sagkeeng and the Proponent regarding monitoring and mitigation should be decided upon in dialogue with Sagkeeng and for that reason specific recommendations are not presented or proposed in this Report.

- This Report is based on the understandings and analyses of the authors and is not intended as a complete depiction of the dynamic way of life and living system of use and knowledge maintained by Sagkeeng members.

Given the above limitations, this Report can be used as a representational spatial account of some Sagkeeng use in the Study Area. It is important to note that the Study does not reflect all Sagkeeng current use in those areas, and **an absence of data does not signify an absence of use or value.**

This Report should not therefore be taken as a replacement for other studies that may be required, such as studies or assessments based on alternative approaches to decommissioning, cumulative effects, socio-economics, health impacts, economic affects, cultural impacts, diet, health and wellbeing, Indigenous rights, governance, planning and policy.

This Report is non-confidential and intended for consideration by the Crown and the Proponent within the Project regulatory process. However, all community data collected for this Study included in this Report is the property of the Sagkeeng, and may not be used or reproduced outside the Project regulatory process without the written consent of the Sagkeeng.

Nothing in this Report should be construed as to waive, reduce, or otherwise constrain Sagkeeng rights within, or outside of, regulatory processes. Nor should this Report be construed as to define, limit, or otherwise constrain the Aboriginal or Treaty rights of other First Nations or Aboriginal peoples. It should not be relied upon to inform other projects or initiatives without the written consent of the Sagkeeng.

2. BACKGROUND

2.1 SAGKEENG ANICINABE PROFILE

Sagkeeng is an Anicinabe community located along the Winnipeg River and Traverse Bay in Manitoba, where they have resided since time immemorial. The community is situated on the Fort Alexander Indian Reserve #3, approximately 140 kilometres northeast of Winnipeg. The current registered population is 7,962, with approximately 3,546 members living on reserve (Indian and Northern Affairs Canada 2018).

2.1.1 Sagkeeng Anicinabe and Treaty 1

Treaty 1 was signed by Sagkeeng's Anicinabe ancestors on August 3rd 1871, at Lower Fort Garry. As a result of the Treaty, the Fort Alexander Band and reserve were established, which later was renamed as Sagkeeng Anicinabe.

According to the Indian Commissioner of Treaty 1, the Treaty was intended to secure land for the signatory Nations. However, the journals of Commissioner Adams G. Archibald indicate that there was not an agreed-upon understanding of the meaning and intent of the reserve allocations set forth in the Treaty:

> *In defining the limits of their reserves, so far as we could see, they [Indians] wished to have about two-thirds of the Province. We heard them out, and then told them it was quite clear that they had entirely misunderstood the meaning and intention of reserves. We explained the object of these in something like the language of the memorandum enclosed, and then told them it was of no use for them to entertain any such ideas, which were entirely out of the question. We told them that whether they wished it or not, immigrants would come in and fill up the country, that every year from this one twice as many in number as their whole people there assembled would pour into the Province, and in a little while would spread all over it, and that now was the time for them to come to an arrangement that would secure homes and annuities for themselves and their children.* (Archibald 1880, p. 34).

Figure 1: Map of Fort Alexander Indian Reserve, 1884 (Sagkeeng, n.d.).

A number of oral promises made by the Treaty Commissioners to the Indigenous signatories were not included in the written text of Treaty 1 (Sagkeeng First Nation 2000). These excluded promises later became known as the "Outside Promises" of Treaty 1 (Sagkeeng Anicinabe 2015). One of the "Outside Promises" omitted from Treaty 1 were lands that were privately held by Indians (also known as pre-treaty improvements), which would be excluded from the calculation of Sagkeeng's entitlement to reserve lands.

The final agreement allotted the Fort Alexander Band with 13,791 acres of reserve land. Included in this reserve allotment were 8,208 acres of pre-Treaty improvements which, according to the *Treaty Land Entitlement Policy,* were supposed to be excluded from reserve allotment allocations. This means that the Fort Alexander Reserve boundary was 8,208 acres smaller than what was agreed to – and promised – upon the signing of Treaty 1 (Maurice Law Barristers & Solicitors 2010; Sagkeeng Anicinabe 2015).

In June 2007, the Sagkeeng Anicinabe filed a Statement of Claim seeking recognition of their unextinguished Aboriginal Title, including lands outside of the Treaty 1 boundary. In 2010, a revised Treaty Land Entitlement claim was submitted by Sagkeeng to the Specific Claims Tribunal. In 2014, a Declaration of Claim was filed at the Specific Claims Tribunal, alleging that "The Crown has failed to fulfill its obligation to provide a sufficient quantum of land to Sagkeeng in accordance with its obligations under Treaty and seeking compensation for losses suffered as a result" (Sagkeeng Anicinabe 2015, p. 3).

2.2 THE PROJECT

Canadian Nuclear Laboratories is proposing to decommission WR-1 Reactor at its Whiteshell Laboratories facility. Whiteshell Laboratories, and the WR-1 Reactor, is located approximately 10 km west of Pinawa and 100 km northeast of Winnipeg, on the east bank of the Winnipeg River. Sagkeeng is located approximately 65 kilometres downstream from the WR-1 Reactor.

In the early 1960s, the Whiteshell Laboratories complex for nuclear research was established by AECL. The primary focus of the complex was the WR-1 nuclear reactor, which operated as organic-cooler reactor until 1985. It has been in safe storage since that time.

In 1978, the WR-1 Reactor experienced a coolant leak, resulting in upwards of 2,000 litres of coolant being discharged into the Winnipeg River (Taylor 2011). Temperatures of the leaked coolant reportedly did not reach meltdown level; however, some fission products were allegedly released.

Licensing for decommissioning the WR-1 Reactor was first issued to AECL in 2003, and again in 2008, however its license expired in December 2018. In 2016, Canadian Nuclear Laboratories Ltd. (CNL) applied to reacquire a license for decommissioning the WR-1 Reactor, with a goal of completing the decommissioning process by 2024.

The Canadian Nuclear Safety Commission (CNSC) oversees all nuclear development in Canada and the environmental assessment process for each project, from pre-construction to decommissioning activities. This Project is subject to a federal environmental assessment, governed by the CNSC.

Decommissioning Work Completed to Date

Decommissioning work completed to date includes the removal of easily mobilized radioactive materials (i.e. fuel and fluids) from the WR-1 Reactor building. The last irradiated fuel was removed from the storage bays and transferred to dry storage at the Concrete Canister Storage Facility adjacent to the WL Waste Management Area (WMA) on the Whiteshell Lab site (see Figure 3). Bulk organic coolant was also removed from the reactor cooling circuits and incinerated at the WMA. According to the environmental impact statement (EIS):

> *Many of the remaining systems for the WR-1 are permanently shut down, and in some cases, the systems remain largely intact … All of the required service systems remain operational to maintain the WR-1 in a storage with surveillance state.* (Golder Associates Ltd. 2017)

The radioactivity of the WR-1 Reactor has been reduced through previous decommissioning activities. The majority of remaining decommissioning activities on site are associated with activated metals, contaminated systems, and components. The reactor core contains the majority of the remaining radioactive materials (Golder Associates Ltd. 2017). The reactor components are primarily located in the reactor building, which extends five storeys below ground.

Proposed Project

CNL is proposing an *in situ* approach to decommission the WR-1 Reactor, which is considered to be a permanent and passive form of decommissioning. This means that below-grade reactor systems, components, and structures will be permanently encased with grout and covered for an indefinite period of time.

The objective of decommissioning activities is to isolate and contain contaminants and limit the release or radioactive and hazardous substances form the facility, and to minimize potential human and environmental impacts.

It is important to note that CNL's application is specific to the WR-1 Reactor only, and does not include other buildings, activities, or components of the existing Whiteshell Laboratories site. Additional decommissioning activities would require separate licenses and application processes.

Table 1: Proposed timeline of decommissioning activities for the WR-1 Reactor.

WR-1 Decommissioning Project Schedule		
Phase	**Activity**	**Duration**
Closure	Preparation for In Situ Decommissioning	2019 - 2021
	Grouting of Below-Grade Systems and Structure	2021
	Removal of Above-Grade Structures	2021 - 2022
	Installation of Engineered Cover	2022 - 2023
	Final Site Restoration	2023
Post-closure	Institutional Control (Active)	2024 - 2124
	Institutional Control (Passive)	2024 - 2324
	Post-Institutional Control	Beyond 2324

Nuclear Development on Sagkeeng Lands

Nuclear development continues to be proposed in Sagkeeng territory, in addition to the proposed Project. On June 11, 2018, StarCore Nuclear Ltd. expressed interest in developing a small modular reactor (SMR) demonstration site on the existing Atomic Energy Canada Ltd. (AECL) grounds near Pinawa, MB (Redekop 2018). This location has been selected as a potential SMR demonstration site due in part to the existing infrastructure and facilities at the Whiteshell Laboratories site, which include the six hot cells facilities and its ability to remotely handle radioactive material (Redekop 2017). This project has yet to be approved by the CNSC. To date, CNSC has not received an application for the SMR.

Figure 2: Canadian Nuclear Laboratories' proposed In Situ Decommissioning Project of the WR-1 Reactor at Whiteshell Laboratories with the Project Footprint, LSA and RSA.

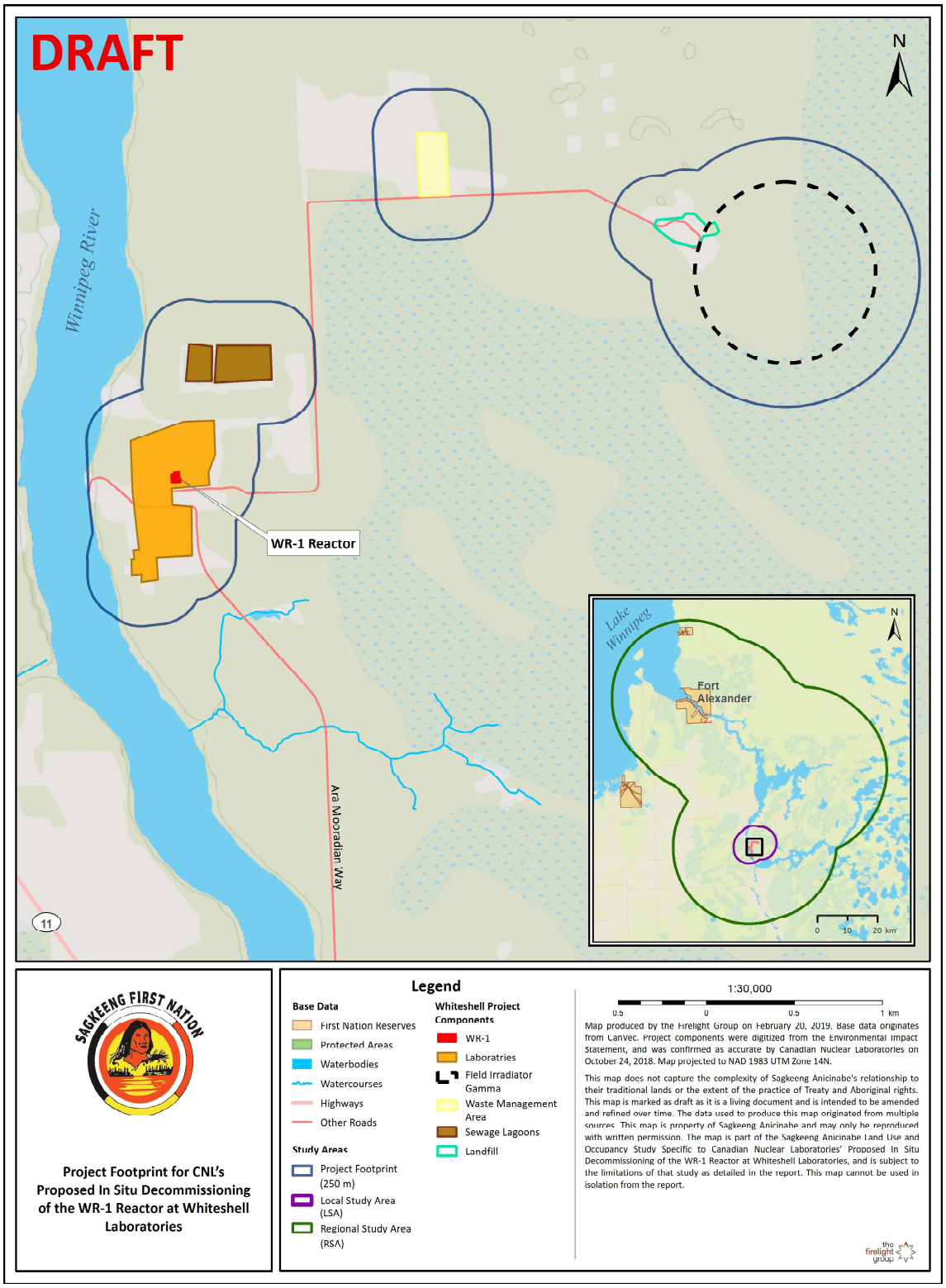

Figure 3: Canadian Nuclear Laboratories' proposed In Situ Decommissioning Project of the WR-1 Reactor at Whiteshell Laboratories with the Project Footprint.

3. METHODS

3.1 VALUED COMPONENTS

Data collection and analysis for this Study is organized around four Valued Components (VCs). A VC is defined as an important aspect of the environment that a project has the potential to affect (Hegmann et al. 1999). VCs may include tangible or biophysical resources (e.g., particular places or species), and may also encompass less tangible social, economic, cultural, health, and knowledge-based values (e.g., place names, Indigenous language, or traditional knowledge regarding a particular area).

For the purpose of this Study, the VCs were chosen to represent the critical conditions or elements that must be present for the continued practice of Sagkeeng culture and livelihoods, and that may be impacted by the Project. As such, VCs can range from the direct presence of traditionally hunted animals and gathered plants, to continued habitation, travel, and cultural activities on the land. VCs are also designated to include intangible cultural resources, such as the transmission of knowledge across generations. The VCs for this Study are:

- Water Resources;
- Medicines, Berries, and Other Food Plants;
- Hunting and Trapping; and
- Anicinabe Pimatiziwin[1].

3.2 MAPPING INTERVIEWS

Thirty-Five Sagkeeng members were interviewed in 35 separate mapping interviews for the Study from October 26, 2018 to November 21, 2018. Interviews were conducted at Sagkeeng Anicinabe and in Winnipeg, and ranged from approximately one to three hours in length. Interview teams prioritized the documentation of values within the LSA and those in close proximity to the Project. Values within and beyond the RSA were documented where time and opportunity permitted.

Interview participants were identified and contacted by Sagkeeng staff. Participants were chronologically assigned identifier codes in the form of S[##]. Informed consent was obtained for all interviews (see Consent Form in Appendix 1).

All data included in this Study were collected using the same methodology as described in Section 3.2.1. In total, the site-specific values of 519 unique individuals

[1] Anicinabe Pimatiziwin is broadly defined as "Anicinabe Living", which encompasses Sagkeeng culture, identity, and way of life.

were found within the Project Study Area (i.e., Footprint, LSA and RSA), and included in this Report.

Interviews followed a semi-structured format (see Interview Guide in Appendix 2). Interview and mapping protocols used were based on standard techniques (Tobias 2009; DeRoy 2012). All interviews were conducted in English; all audio was recorded digitally.

3.2.1 Site-Specific Data Collection and Analysis

For the purpose of this Report, *site-specific data* are values reported by Sagkeeng members that are specific, spatially distinct, and that may be mapped (however, exact locations may be treated as confidential).

Site-specific data were mapped and managed using a 'direct-to-digital' process, in which Google Earth imagery was projected onto a wall or screen. Points, lines, or polygons, geo-referenced at a scale of 1:50,000 or finer, were used to mark areas of reported use and value. Data collection focused on the proposed Project's Footprint (within 250 m of the Project, and where available, related physical works, access routes, and activities)[2], Local Study Area (LSA; within 5 km of the proposed Project)[3], and Regional Study Area (RSA; within 25 km of the proposed Project, including the Winnipeg River downstream of the Project)[4]. See Figures 1 and 2 for a map of the Project and the Study Area.

Maps of site-specific values presented in this Report are generated from data mapped during the interviews. Points are randomized within a 250 m radius and then buffered by one kilometre. A one-kilometre buffer is also generated around each line and polygon. Buffering is done to account for a margin of error and to protect information confidentiality. The maps presented in this Report are intentionally marked as drafts as they are living documents and are intended to be amended and refined over time.

Site-specific data were mapped according to five categories that were designed to capture multiple aspects of the Study VCs:

- Habitation values (including temporary, occasional, seasonal, and permanent camps and cabins);

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[2] To designate the Project's Footprint, a 250 m zone of influence (ZOI) around the Project's physical Footprint is used to document the Project's potential effects, based on evidence that this distance is a reasonable approximation of a zone within which the abundance of wildlife and land use by humans may be altered (MSES 2010). (MSES 2010).

[3] Five kilometres is an approximation of the distance easily travelled in a day from a point of origin (e.g., a cabin, camp, or other location), by foot, through bush, and back again, as when hunting (Candler et al. 2010). It is used as a reasonable spatial approximation of use surrounding a given transportation or habitation value. Direct and indirect Project effects may interact with Sagkeeng values in this area.

[4] The RSA is a broad area within which indirect effects of the Project, such as noise, dust, odours, access management activities, traffic, effects on water, and other forms of disturbance, may be anticipated to interact, along with cumulative effects, causing additive or synergistic effects with impacts to community values. Given the close proximity of the Project to the Winnipeg River and with Sagkeeng located downstream, it is reasonable to anticipate that indirect effects from the Project will occur downstream.

- Cultural and spiritual values (including burial sites, ceremonial areas, and community gathering areas);
- Subsistence values (including harvest and kill sites, plant collection areas, and trapping areas);
- Environmental feature values (including specific, highly-valued habitat for moose, elk, and deer); and
- Transportation values (including trails, water routes, and navigation sites).

The temporal boundaries set for the baseline data collection include past, current, and planned future knowledge and use. For the purpose of this Study:

- A past value refers to an account of knowledge and use prior to living memory, passed down through history;
- A current value refers to an account of knowledge and use within living memory; and
- A planned future value refers to anticipated or intended knowledge or use.

3.2.2 Qualitative Data Collection and Analysis

Qualitative data were also collected during the semi-structured interviews. The knowledge and use values of Sagkeeng members that may be impacted by the Project (baseline) and the potential Project effects on these values (Project interactions) were explored.

Audio from the interviews was transcribed. Transcripts were then reviewed, coded thematically, and analysed for issues and concerns identified by Sagkeeng respondents. These data are summarized in Section 4.

4. RESULTS

4.1 SITE-SPECIFIC DATA

4.1.1 Overview

The site-specific data clearly demonstrate that Sagkeeng members use or have used the Study Area across multiple generations. Additionally, the Study Area contains numerous important sites that support harvesting wild game, fishing, hunting, trapping, and maintaining Sagkeeng Anicinabe Pimatiziwin. These include, but are not limited to:

- High-value fish habitat;
- High-value wild rice harvesting areas;
- Important water sources, such as rivers and lakes;
- High-value areas for harvesting plants for medicinal and subsistence purposes;
- Important wildlife habitat for supporting hunting and trapping activities; and
- Areas relied on for the continuity of Sagkeeng culture, identity, and sense of place, such as ceremonial sites, gathering places, burial sites, and travel routes.

Table 2: Sagkeeng site-specific use values reported within the Project Footprint, LSA, and RSA of Canadian Nuclear Laboratories' proposed In Situ Decommissioning of the WR-1 Reactor at Whiteshell Laboratories. Numbers are cumulative with increasing spatial scales (i.e., RSA includes LSA and Footprint).

Valued Components	Within 250 m of the proposed Project (Footprint)		Within 5 km of the proposed Project (LSA)		Within 25 km of the proposed Project, including the Winnipeg River downstream of the Project (RSA)	
	# of reported values	% of reported values	# of reported values	% of reported values	# of reported values	% of reported values
Water Resources	4	12%	5	9%	172	33%
Medicines, Berries and Other Food Plants	7	21%	13	23%	101	19%
Hunting and Trapping	5	15%	14	25%	61	12%
Anicinabe Pimatiziwin	18	53%	24	43%	185	36%
TOTAL[5]	**34**	**100%**	**56**	**100%**	**519**	**100%**

4.1.2 Total Reported Site-Specific Values

A total of 519 site-specific values were reported in the Study Area (the Project Footprint, LSA, and RSA combined; see Figure 3 and Table 2).

As noted in Section 1.3 of this Report, **an absence of data does not signify an absence of use or value**. In addition, sampling was limited; not all Sagkeeng knowledge holders were able to participate. The above limitation is a necessary consideration when interpreting the geographic distribution and quantity of mapped values. It is possible that new information regarding Sagkeeng knowledge and use will become available in the future.

4.1.3 Site-Specific Values Reported in the Project Footprint

Within the proposed Project's Footprint, Sagkeeng members reported 34 site-specific values. While not every site-specific value recorded includes time information,

[5] The percentage of total values within the Project Footprint, LSA, or RSA may total more than 100% due to rounding.

Sagkeeng use was reported from the 1950s up to 2014. Site-specific values reported in the Project Footprint include:

- **Water Resources** values including: multiple catch sites for a variety of fish species, including sturgeon, suckers, and catfish, and a sturgeon spawning area;
- **Medicines, Berries, and Other Food Plants** values including: areas used by community members for picking blueberries and plums, and several harvesting areas for medicinal plants;
- **Hunting and Trapping** values including: multiple kill sites for white-tailed deer, and several game processing sites; and
- **Anicinabe Pimatiziwin** values including: numerous sacred places and gathering sites used by Sagkeeng members and their ancestors for ceremonial purposes and the transmission of traditional knowledge; several camping sites, including those used as a base for fishing and hunting activities; trails and water routes, some of which have been used for multiple generations; and findings of archaeological materials.

4.1.4 Site-Specific Values Reported in the Project LSA

Within the proposed Project LSA, Sagkeeng members reported 56 site-specific values. While not every site-specific value recorded includes time information, Sagkeeng use was reported from the 1940s up to 2017.

In addition to the site-specific values described for the Project Footprint, Sagkeeng participants also reported the following site-specific values in the Project LSA:

- **Water Resources** values including: multiple catch sites for sturgeon, suckers, and catfish, and a sturgeon spawning area;
- **Medicines, Berries, and Other Food Plants** values including: areas used by community members for picking blueberries and plums, and several harvesting areas for medicinal plants;
- **Hunting and Trapping** values including: multiple kill sites for moose and white-tailed deer, and several game processing sites; and
- **Anicinabe Pimatiziwin** values including: numerous sacred places and gathering sites used by Sagkeeng members and their ancestors for ceremonial purposes and the transmission of traditional knowledge; a burial site dating back several thousand years; a place where a Sagkeeng member once lived; several camping sites, including those used as a base for fishing, hunting, and harvesting activities; several teaching areas, where Sagkeeng members learned to harvest plants and wildlife; trails and water routes, some of which have been used for multiple generations; and findings of archaeological materials.

4.1.5 Site-Specific Values Reported in the Project RSA

Within the Project RSA, Sagkeeng members reported 519 site-specific values. While not every site-specific value recorded includes time information, Sagkeeng use was reported from the 1940s up to the present (2018).

In addition to the site-specific values described for the Project Footprint and LSA, Sagkeeng participants also reported the following site-specific values in the Project RSA:

- **Water Resources** values including: multiple catch sites for sturgeon, suckers, pickerel, goldeye, sunfish, whitefish, perch, carp, pike, bass and catfish; several sturgeon spawning areas; fish processing sites; multiple high-value wild rice harvesting areas; and several water collection/drinking sites, including for natural spring water;

- **Medicines, Berries, and Other Food Plants** values including: areas used by community members for picking blueberries, raspberries, strawberries, pin cherries, saskatoon berries, low-bush cranberries, gooseberries, chokecherries, and plums; and multiple harvesting areas for medicinal plants;

- **Hunting and Trapping** values including: trapping areas for multiple species, including for beaver, muskrat, otter, rabbit, squirrel, and weasel; multiple kill sites for moose and white-tailed deer, and one fox kill-site; a mineral lick; and several game processing sites; and

- **Anicinabe Pimatiziwin** values including: numerous sacred places and gathering sites used by Sagkeeng members and their ancestors for ceremonial purposes and the transmission of traditional knowledge; a very old burial site dating back several thousand years; a place where a Sagkeeng member once lived; an old Sagkeeng village site; several camping sites, including those used as a base for fishing, hunting, and harvesting activities; several teaching areas where Sagkeeng members learned to harvest plants and wildlife; trails and water routes, some of which have been used for multiple generations; and findings of archaeological materials.

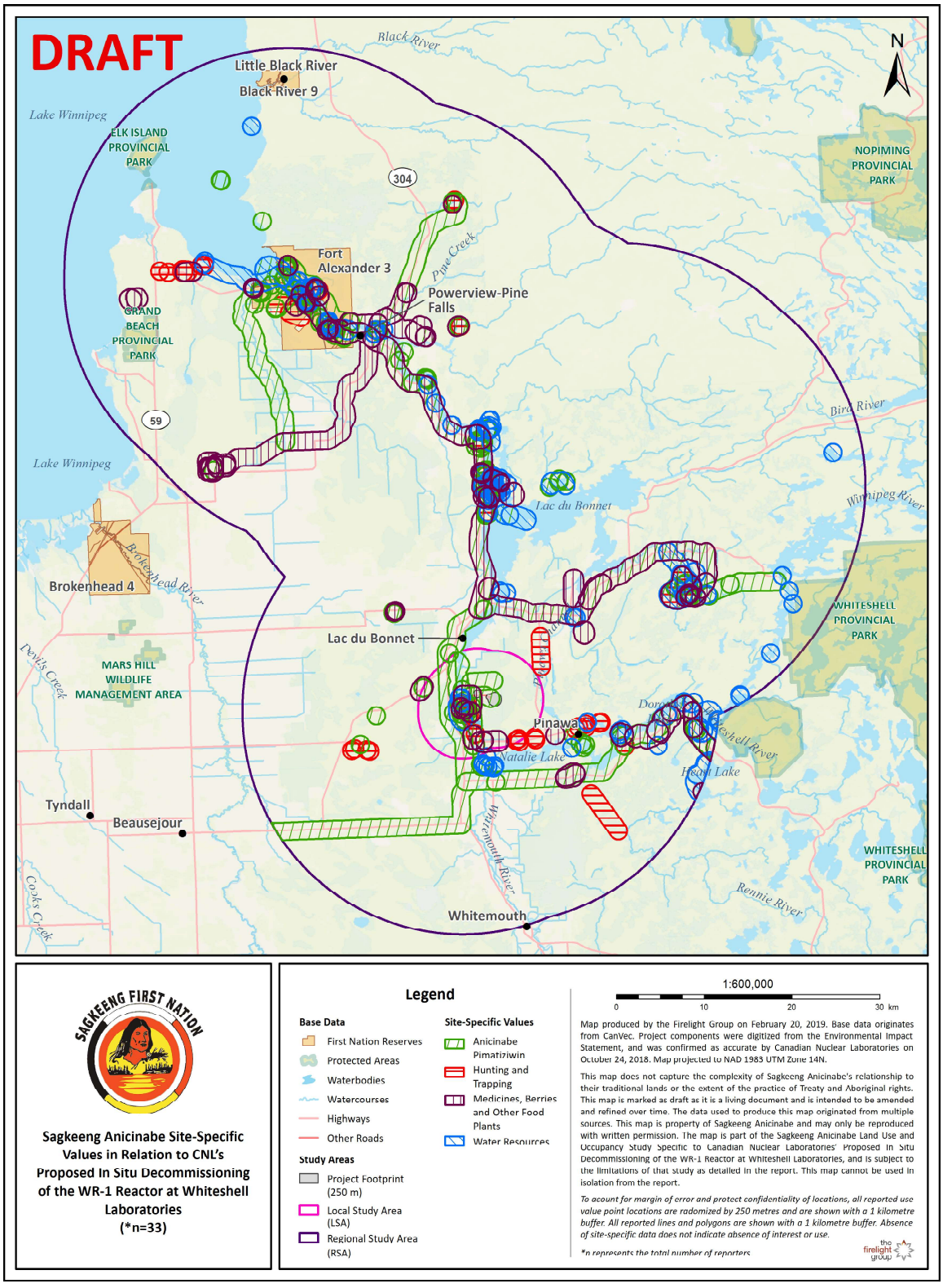

Figure 4: Sagkeeng reported site-specific values within the Footprint, LSA, and RSA of Canadian Nuclear Laboratories' proposed In Situ Decommissioning Project of the WR-1 Reactor at Whiteshell Laboratories.

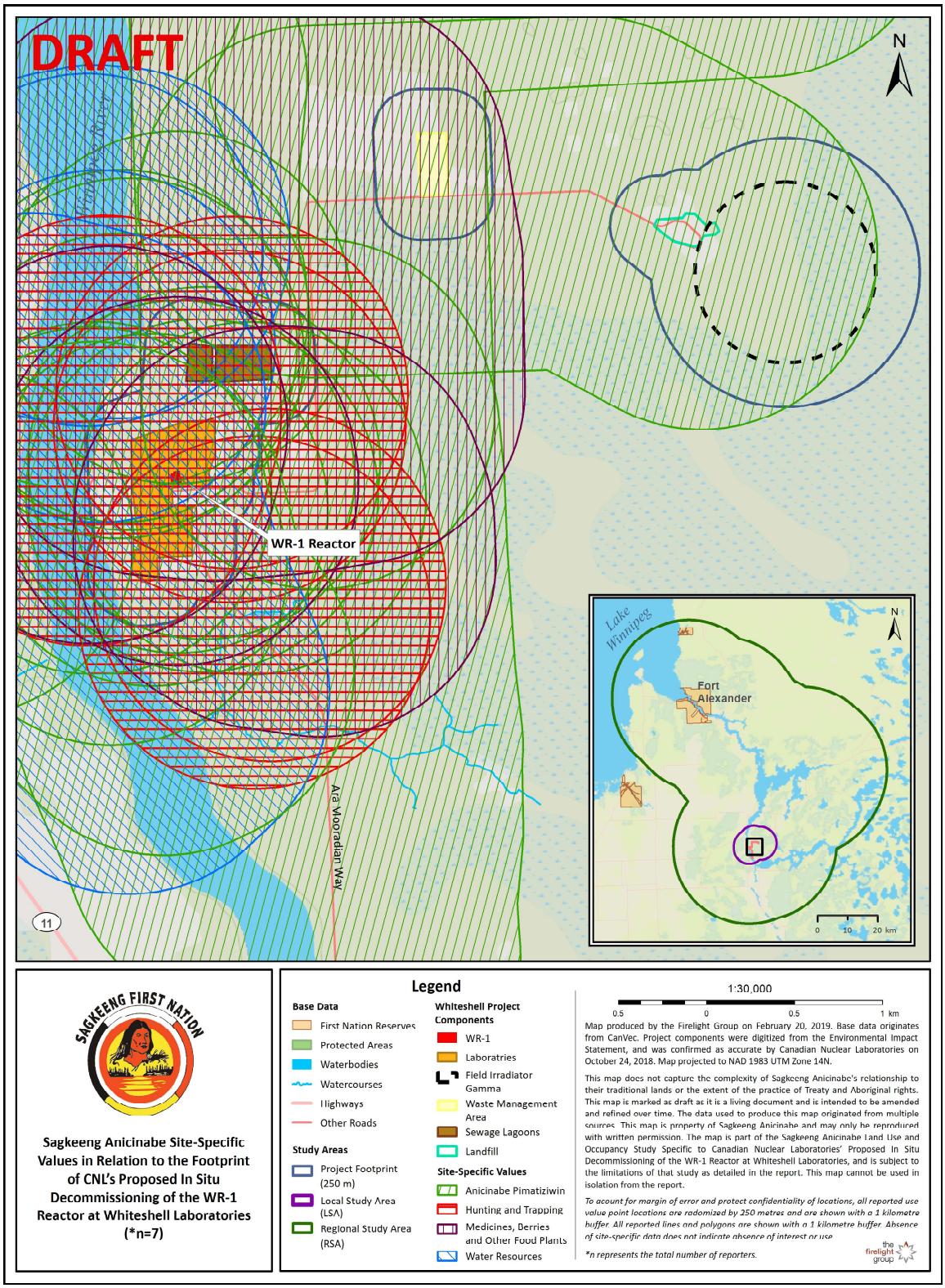

Figure 5: Sagkeeng reported site-specific values within the Footprint of Canadian Nuclear Laboratories' proposed In Situ Decommissioning Project of the WR-1 Reactor at Whiteshell Laboratories.

Figure 6: Sagkeeng reported site-specific Water Resources values within the Footprint, LSA and RSA of Canadian Nuclear Laboratories' proposed In Situ Decommissioning Project of the WR-1 Reactor at Whiteshell Laboratories.

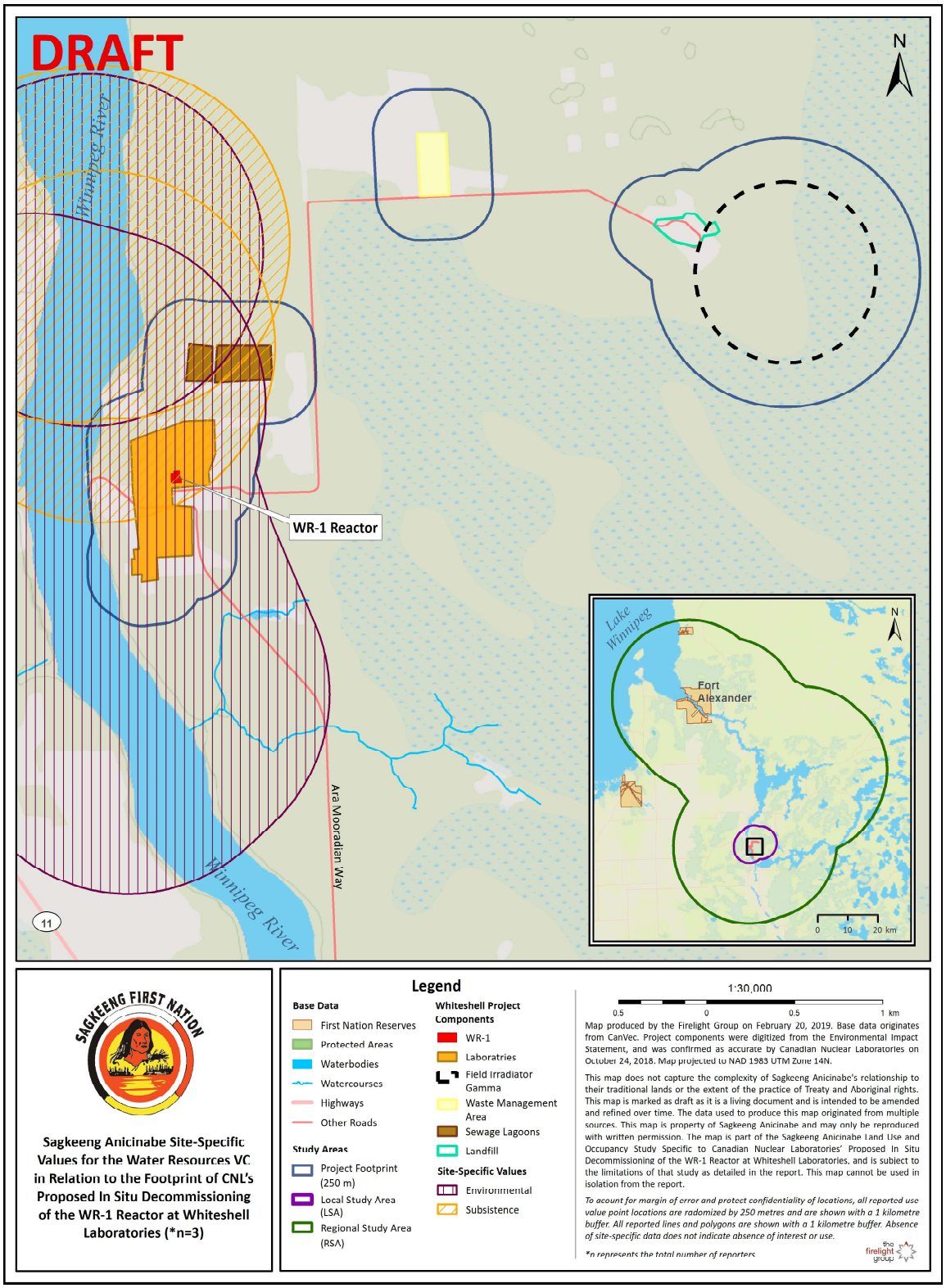

Figure 7: Sagkeeng reported site-specific Water Resources values within the Footprint of Canadian Nuclear Laboratories' proposed In Situ Decommissioning Project of the WR-1 Reactor at Whiteshell Laboratories.

4.2 WATER RESOURCES

This section (Section 4.4) discusses the importance of and existing impacts to the Sagkeeng Water Resources VC within in the Study Area. This section draws primarily from data collected during semi-structured interviews.

4.2.1 Importance

Water Resources, which include fish, wild rice and water, were discussed by interview participants as highly-valued resources for subsistence and cultural purposes. Sagkeeng members spoke at length about important locations in the Study Area for supporting Water Resources activities, such as preferred fishing locations, fish spawning areas, preferred areas for picking wild rice, and camping areas that Sagkeeng members rely on for fishing and picking wild rice with their families.

Fishing

Interview participants discussed fishing as an activity that has been practiced in the Study Area for generations. In particular, the Winnipeg River in the Study Area is an important source of fish for supporting Sagkeeng subsistence.

> *But, that's way before this thing [Whiteshell Laboratories] was built here. I guess there was a lot of fish there at one time. The rocks and, right up through here. And, then, you go to the dam. I guess, they were setting nets there and, then, they had, that's where they were getting their medicines or place they would camp and, move on. And, they did their hunting there too.* (S16 2018)

> *But back then I guess, and like my dad said, "No place was better than the next," he says, "for fishing. All of it is good," he said at one time. It was always good all over the place, you know. These Indians lived all over along the [Winnipeg] River. So, they would stay for, you know, some would stay for the winter. Some would stay all summer in that one spot just because the fishing is good. And they'd just stay there. (S17 2018)*

> *I love it. It's my home. It's my livelihood. Everything is here that I need. This [Winnipeg] River is my livelihood. Everything's there I need to eat*. (S16 2018)

During the interviews, several Sagkeeng members reported fish as an important food source for Sagkeeng families, particularly in the winter time. Interview participants spoke at length about the variety of fish species they harvested in the lakes and rivers found within the Study Area, including, but not limited to, sturgeon, pickerel and jackfish.

> *Yes, it [fishing] is [important] because it's a [winter source] of food, you know, for our people, you know?* (S13 2018)

> *...my dad used to fish, he used to set nets. That was our main source of food, was fish and deer and rabbits and that sort of thing. So, like when they went to buy stuff they only bought other staples like oil and flour and things like that to cook.* (S28 2018)

> *In that whole area, in that whole area of the Lac du Bonnet, Bird River … we would catch fish … [our father] used to catch sturgeon, and that's what we lived on … But I know that my dad used to come up into the Silver Falls area, up that way. There's an area just above the—between the two dams, I guess. And there used to be a lot of sturgeon there.* (S07 2018)

> *The resource that sustain Anicinabe from spring to break up was the sturgeon. You know, so, everybody – Ojibwe people, they have to start thinking about sturgeon was our buffalo. That's the guys that kept us alive. You know, there's so many uses of sturgeon - isinglass, the liver, the skin for the bag, the liver for the oil, you know…* (S10 2018)

> *There's a lot of pickerel in there [Winnipeg River], so that was kind of a delicacy besides the sturgeon, eh? Most of the time … if you got sturgeon, they wouldn't cook it or do anything with it there. They'd always take it home and freeze it and whatever, keep for the winter kind of thing. Or send it to Winnipeg with the other family members, the ones that are going back to Winnipeg.* (S17 2018)

> *Well, we used to go fishing down the bank [at Pine Falls] for the pickerel and the jackfish … The pickerel, but they call it walleye ... Yeah, that was our staple.* (S07 2018)

Ice fishing in the winter was also reported as an important method of fishing in the Study Area.

> *My dad used to [go] ice fishing … He did it himself … And they used to have different sized nets too because they used to want the young ones to go through the nets and not get caught up in the net so that they can grow.* (S01 2018)

Sturgeon spawning areas are important habitat features for supporting its population. In some cases, participants reported their reliance on spawning areas for harvesting sturgeon, noting how the fish are typically in abundance at these areas during spawning season.

> *Everywhere you find a rapid you're gonna find a sturgeon spawning site, you know? And then, what you'll find, you know, downstream in a cove is a rearing site where they let the little babies go and they'll, you know, the fingerlings or whatever, and then they'll rear them there. And then there's another place further down, then you'll find a feeding site, eh?* (S10 2018)

> *It all depends on the size of the boat and how many, if you're using one net, you could get up to about maybe 1200 pounds [of sturgeon], one lift, when they're spawning [at Seven Sisters].* (S16 2018)

Participants described the centrality of fishing to their way of life. Fishing is reported as a multi-faceted land use activity that contributes to both Sagkeeng subsistence (i.e., as a food source) and as a means of spending time on the land with family. Furthermore, fishing is a means of connecting members with their culture, which is further elaborated on in Section 4.5.1.

> *…taking the fish out of the nets and just spending time with my dad [are the fondest memories of Lake Winnipeg] … teaching me survival skills, you know? For my future if I had to live off the land … I still carry that.* (S01 2018)

Wild Rice Harvesting

In addition to fishing, wild rice harvesting is also an important water-based activity for Sagkeeng members, particularly for subsistence and ceremonial purposes. Sagkeeng members have been harvesting (also referred to as "picking") wild rice in the Study Area for multiple generations.

> *But back in the days they were, my granny was, I picked rice for her, you know, she'd always have a, she'd cook rice in the bush … [and] put it away for winter and stuff like that and, you know, getting ready for winter. That was basically what it was about in my early years … everything was put away in the cellars, you know. There's a big, we had a, three cellars that we had at home and that's where all that picking and the blueberries and the wild rice and whatever we got in the bush, that's where it all went into that, for the winter.* (S12 2018)

Wild rice, as emphasized by interview participants, is a highly-valued and healthy food source for Sagkeeng members. One participant recalled how in addition to wild rice being a healthy subsistence staple for their family, it was also viewed as a "treat" when they were young children.

> *And then the shorter rice is the ones that we used to pop. We used to call it popcorn, before popcorn came along. Before we knew popcorn. Wild rice is what we used, all you do is heat it up like popcorn on a stove and just add a little bit of sugar ... Yeah, it would pop. Like corn. Yeah. And that's what we used to have, you know, us kids, we didn't—we never really had any sweets, everything was natural. That's what I mean by, you know, all the stuff now that's coming in is spoiling our kids and their health, because of all the stuff that's new coming in, you know? And everything was natural.* (S07 2018)

An important part of harvesting wild rice for subsistence purposes, as explained by interview participants, are the methods with which it is collected. During interviews, several Sagkeeng members described the detailed process for harvesting, cleaning, and processing wild rice so that it can be cooked and consumed.

> *Well, they [pick wild rice] by hand, but, it's a lot slower. They used to have these big pots, sort of cement things in the ground. And, then, they'd come there with their feet and, then they'd dance on it. And, then, you've got to have a bit of a wind, so they'll have it in like, a blanket or, something and, then just throw it up … The wind will blow all that over and then just keep the rice.* (S06 2018)

> *...oh, does it [wild rice] ever taste good. How they used to do it a long time ago, they dig a hole and then they put the canvas in there, they put the rice. At first they cook it, you know, they have this thing that goes back and forth on the fire. They shake it and then after that when it's cooked they put it in that hole and a man has to dance it. They say dance it ... And then they bounce it after to get it clean. And then you cook it like that always, it's just good.* (S02 2018)

Dancing on the wild rice was often performed as a ceremony before and after harvesting. These ceremonies were described as a means of giving thanks to the rice and to the Creator for the harvest (see Section 4.5.1. for greater detail on the importance of ceremonies to Sagkeeng).

> *…they [wild rice dancing ceremonies] were thanking Creator that they made it there. And that they were—that the crop that they did see was going to be good. So, they did these ceremonies in order to thank Creator … it was their Creator that provided this food for them, and they were thankful for that. It wasn't a money thing, it was in order to survive the staple was used, you know, for food. And they used it for everything … That's what it was all about.* (S07 2018)

> *The only thing that I remember in the Rice Lake area before we—before they even used to pick, there was a ceremony that they used to do. And that was to check, you know, the rice. There was a—you know, there's certain ceremonies that they do when something is going to be ready to be picked … the old people used to check it to see if it was ready. If it was too milky then we knew that it wasn't ready, so we had to wait an extra couple of weeks … and then go out again. And the thing is, before they even had the machinery or the things to cook the rice, well they used to have a hole … Because you still see them, the hole where the person used to dance on the rice to separate the rice from the chaff ... they would put that in the hole, and pour the rice in there, and he would be dancing on the rice. Not with shoes or socks, because you know, the rice would get caught … so they would use the leather moccasins and dance on the rice to separate that out. And actually, it tastes better.* (S07 2018)

Harvesting wild rice at Rice Lake, which is located in the Project RSA, was reported numerous times throughout mapping interviews. Several interview participants described Rice Lake as an area used for camping with family members. Rice Lake was, and continues to be, relied on by Sagkeeng members as a highly-valued location for wild rice harvesting.

> *…Rice Lake, somewhere going into that area somewhere, where people used to come and go there all the time. My dad used to go there rice picking in the fall. And so, they used to harvest rice and all that. That was a traditional area for that purpose*. (S26 2018)

> *Yeah, that's why I'm saying like, you know, they would—they would—you know, choose their sites where they were going to stay, and you know, we'd drop them off there [at Rice Lake] … that's part of our tradition too—like, you know, it's not only for your immediate family but to help the other families as well ...* (S07 2018)

> *I mean, I first, when I met my wife there, in 1970, I brought her rice picking, in Rice Lake. She had never seen rice before or, never picked it, you know … I taught her how and, she pulled the canoe up. But, we had a small canoe and, she picked 400 and, almost 450 pounds of rice she picked there, the first time.* (S06 2018)

Rice Lake was discussed numerous times by interview participants as an area that is highly-valued for harvesting wild rice. In addition to Rice Lake, interview participants reported several other highly-valued areas for rice picking in the Study Area, particularly on the Winnipeg River near Lac du Bonnet, and towards Pointe du Boise.

> *Because I know when we'd go rice picking, we'd bypass Lac du Bonnet and go towards the Pointe du Boise dam. That's where we used to do a lot of the rice picking, in Rice Lake … that's where we used to go picking…* (S07 2018)

> *Yeah, between Rennie and Lac du Bonnet. Because they used to get rice and stuff along the [Winnipeg] River here, around this spot here … I still go fishing and checking the rice and all that stuff. Because some of these areas, my dad used to tell me that it was all rice along the river, for years, all along this spot here. It was all full of rice, he said. Like these people never – all this here was all little rice paddies, like these little bays here … These were all full of wild rice.* (S17 2018)

> *So, like, Dorothy Lake and Nutimik Lake and Betula Lake, White Lake, Big Whiteshell, this is where Lone Island is. And that's where we went wild rice picking. All these lakes, you know, they're all—all these areas, this whole area is really like a special area. Even like Point du Bois and stuff like that, I remember—Lee River—remember, I said my dad used to go in that area as well.* (S09 2018)

Water

In addition to wild rice harvesting and fishing being central Water Resources values, the collection of water for drinking was also discussed as an important part of Sagkeeng use and occupancy in the Study Area. One participant described how they would collect water while on the land, which was often done by digging a hole in the ground.

> *You know what, drinking water was no problem … You know, just dig a hole, just dig a hole there, there'd be nothing, right, maybe two, three feet and then just leave it, you know, you keep picking your blueberries or whatever you're doing. And then you fill up your container and by the time you go and, by the time you go and fill it up, by the time it's filled up and then you go and check your water, your hole then it's full of water already. So, there was always water filled by, flowing under, you know what I mean.* (S12 2018)

Water is also a critical means of transportation for Sagkeeng. As detailed in the quote below, the Winnipeg River is a vital transportation corridor that acts as a highway for their travel throughout the Study Area.

> *The whole [Winnipeg] River system was - it's just like a highway for them, for us. You know, like that's our highway isn't it, nothing else to use as a highway...* (S11 2018)

The site-specific and qualitative data together demonstrate the importance of the Study Area for Sagkeeng members' Water Resources values, including fish, wild rice and water.

4.2.2 Impacted Baseline

During the interviews, participants discussed existing impacts to Water Resources in the Study Area. With respect to fish, Sagkeeng members reported multiple instances of being restricted from fishing freely, usually within the context of being disturbed by game wardens and/or conservation officers. Moreover, interview participants reported numerous accounts of catching fish that were contaminated or had physical deformities, in addition to reporting an overall decline in fish quantities in preferred fishing locations, such as the Winnipeg River.

Fishing

Of critical importance and concern for interview participants are the fishing restrictions that affect Sagkeeng members. Interview participants reported numerous instances of feeling monitored, harassed, and in some cases criminalized by law enforcement officials (i.e., game wardens, conservation officers, and RCMP) for fishing sturgeon in the Study Area. These restrictions have led several members to reduce their participation in fishing.

> *Well it [fishing restrictions] really takes away your rights, you know? It's like your Treaty is no good. It's like you have not – it's worthless. You can't even go sell the fish because now you need a license to do that. That's what I was told, anyway. I don't even know where to get the license.* (S13 2018)

> *…the interesting thing with those gentlemen [Sagkeeng members] is that they were able to navigate the [Winnipeg] River at night. The reason they navigated the river at night is because they fished at night, because, like, it goes down, the sturgeon, again, criminalized for exercising your Treaty right for harvesting sturgeon.* (S10 2018)

> *Never had a problem with these people [game wardens] at all out there. Everybody is there for the same thing, I guess. Until the rules and regulations starts coming in, and then we kind of got a little leery about these [game warden] guys, you know? Blocking us off, everything. Kind of scary, like that's why there's not too many people going out.* (S17 2018)

The continued disturbance experienced by Sagkeeng members as a result of law enforcement has adversely affected the ability of Sagkeeng members to fish freely and peacefully in their territory. The disruption in fishing activities disrupts knowledge transmission, making it difficult for members to practice their culture. Several participants highlighted that since sturgeon harvesting restrictions came into effect,

Sagkeeng members often resort to fishing at night when they are less likely to be bothered or disturbed by law enforcement officials.

> *As long as we weren't seen in the daytime, to them, it was good enough, you know? But in the daytime, the RCMP would get in touch with them [game wardens] and they'd say there's somebody coming out of there with two or three vehicles. They had – they were pulling a boat. Check the boat. Check whatever. See if there's any sturgeon in there or whatever they're going in there for. Find out what they're there for.* (S17 2018)

> *Like, I say, when you go here [the Winnipeg River], you're harassed by the Natural Resources [officers], right away, yeah. That's why everything was done at night-time here, all the time.* (S16 2018)

> *...my dad would say, "That's the way it's got to be. That's why you don't come here [the Winnipeg River] in the daytime … You're coming to hunt, and fish, and trap, and they [game wardens] don't like you doing that in the daytime" ... that whole river, you know what I mean? … We should be allowed to go there anytime we want to fish and trap all we want.* (S17 2018)

> *…and then they [game wardens] see us coming down the road. All of a sudden the game wardens are on my ass. And they're asking questions. "Well, we're seeing from up there. What are you doing?" "Ain't you guys got anything better to do?" I says, "you know, I'm not doing – I'm not robbing or pillaging. You guys are good at that. It's not us. We're coming here to fish and hunt and trap … I'm just learning what my dad told me to do. That's it."* (S17 2018)

Interview participants spoke at length about the presence of game wardens and conservation officers in the Study Area. Their presence has led to behavioural changes in Sagkeeng members fishing activities due to the continued harassment and loss of access to important fishing areas.

> *Too many people there [Lac du Bonnet]. They [game wardens] watch, and they see and they know. The boats. They know who's who there, for sure.* (S17 2018)

> *Like when we come off the [Winnipeg] River there's somebody again at the other side here, watching, you know? They'd say, "We can see you guys. We can hear you guys. We can hear the paddles or whatever when you guys are landing over here." Oh, okay. We'll be more quiet, you know, we got to set up a net. We can set up our nets over here, close by that area there. So, we'd be getting our fish and stuff from there and then sneak out of there in the morning. They wouldn't know we were there, you know? So, things like that.* (S17 2018)

> *...my brother and them would try and go on their spawning, fish are spawning to go in with nets, they blocked the road on them and – so they couldn't go in you know, with their net. Phone the game warden, game warden would be on their side, then the cops would come – finally the cops found out that, you know, we were able to do - it's our right ... they can't stop them from going to their little fishing spots.* (S15 2018)

> *…like for sturgeon and that, well that's been – they don't let us fish for sturgeon no more, for I don't know how many years now. Even for our own use, we still get charged … Now they – it was supposed to have been for two years, now how long has it been? Like 12 years ago now and still they won't open it up.* (S15 2018)

As illustrated in the quotes above, a number of interview participants are choosing to fish at night time and under the cover of darkness in order to minimize the chances of being disturbed by law enforcement officials while fishing, and in some cases, to avoid being criminalized for fishing in the Study Area. The practice of fishing at night time also extends to other water-based activities, such as wild rice harvesting.

> *...we're forced, you know, we're forced to hunt at night, you know, yeah. Same with rice picking towards the end, you know, people were picking rice in the night and same with sturgeon.* (S12 2018)

In some extreme cases, family members of interview participants have stopped fishing altogether due to their negative encounters with game wardens.

> *...[my father's] the one that taught me the [Winnipeg] River … after my dad couldn't do it anymore. Just he'd say, you know, he stopped just because he got disgusted with the game wardens and everything like that.* (S17 2018)

The negative encounters described in the quotes above reveal a tense and complex environment in which Sagkeeng members are increasingly experiencing difficulties in exercising their Treaty rights to fish in the Study Area.

> *That was basically what we went there for was actually sturgeon. My dad would pick up the sturgeon there [Seven Sisters] most of the time … all summer long we'd be there. Like for especially the sturgeon spawning time. We'd be there, and they'd [game wardens] limit us to which areas we can go in at that time. They would question us, and they would charge us and whatever – or tried, anyways.* (S17 2018)

> *Well, of course, it has an effect on everybody. You know, the craziest thing about that is you go and exercise a Treaty right and the province of Manitoba turns you into a criminal.* (S10 2018)

> *All kinds of restrictions that we never heard of, you know? So, I'd say, "Well, in the Treaty rights – it doesn't say anything about that. So, where does this all come from?" ... I say, "Well, it's [restrictions] got nothing to do with the Treaty, so I'm not going to abide by what's written over there when I got the Treaty rights written right in front my eyes, you know. What do you guys go with, you know?" … They'd say, "Well, yeah, we're just trained to stop people from doing this, doing that."* (S17 2018)

In addition to feeling harassed by game wardens, one interview participant discussed a time when they had their fishing gear tampered with by recreational fishermen:

> *…and the fish, like I said, they don't know – we always put our nets out there [Lee River] and we don't go out there now. You know, the recreational fishermen do, but we'd set nets and then they'd come along, you know, drag them up without even letting us know, we'd just go out there and look, "hey, where's our net!?" you know, they say, "you're not supposed to be here."* (S15 2018)

Despite the numerous negative interactions reported between Sagkeeng members, law enforcement officials, and recreational fisherman, fishing nonetheless remains an important activity and is central to a Sagkeeng way of life. One interview participant explained how they will continue to fish in the Study Area, even if they anticipate negative encounters with game wardens.

> *I didn't let them [game wardens] get to me. You know, I'd just go do it anyways, for me anyways – as far as I seen it. I'm not going to let these guys stop me. I said, "I'm going to do it anyways," I says, "whether they're there or not." But I always go to their office and talk to them, explain to them, "I'm going fishing in this area. I don't want to be bothered and I'm not going to bother anybody," you know?* (S17 2018)

The quotes above illustrate the challenges Sagkeeng members experience in freely exercising their Treaty rights to fish in the Study Area. In addition to this, the decline in the quality of fish in the Study Area was discussed at length by interview participants. For one Sagkeeng member, participating in the Study led them to reflect on possible links between past nuclear activity on their lands and existing impacts to fish.

> *But like I said, just in this last little while is the first time I've learned—within the last month—that I've learned about this nuclear thing that's in Pinawa or in that area … and I'm beginning to understand why, you know—people have been talking all these years why the water was different, the fish, the animals...* (S28 2018)

During the interviews, several participants shared their concerns about existing nuclear activities in the Study Area, including those in the Project Footprint, and how these activities have affected fish in the nearby Winnipeg River. Participants are seeing and catching fish with visible infections and physical deformities due to effects from the nuclear plant.

> *But, I know there was something coming out [of the nuclear plant] and, it was the fish. And, the bellies were red, like, the bottom feeders, like, the sucker, the whitehorse sucker, the sturgeon, the catfish, those were all bottom feeders. They had a red, some kind of infected in the belly area, right to the arsehole part there. It was all red. And, the arsehole was, it had a grout sticking out. It was infected by something, you know. And, well, I mean, there's lots, a lot of things that went on there, past that plant, you know.* (S16 2018)

> *… the thing that really bothers me about that nuclear plant is ... there was deformation of fish … Not only that but our sturgeon is very sacred to us okay? In respect to the Sturgeon Clan and all these things. I remember one elder was talking about that as well, but those things are deteriorating at a very, very – and I*

> *would say that a lot of that is a result of that nuclear plant, that's what I think.* (S01 2018)

> *I'm glad it's [Whiteshell Laboratories] shut down. That's where a lot of that poison came out of, from here. All the way up this river. And, then, we end up eating the fish here. I'm glad they shut this down. Like, I don't know how far that they were putting their waste in that plant, like, you know, under the ground, under the rock, I don't know how far down they had it.* (S16 2018)

> *Just sometimes they [pickerel] have a swelling on their bodies, and we just throw them back in … I don't know and it might be some kind of a chemical in our river that – they eat, something like that? I don't know. Sometimes they have this oil on them, on their bodies, and we just throw them back in. They look sick.* (S13 2018)

> *…sometimes people, they catch fish that's full of cancer, you know. I don't know if that would be from that [Whiteshell Laboratories] … But that's making some of those fish sick ... not only from the Pinawa, but even Lake Winnipeg, that river, you know. Sometimes they catch a fish that's full of, they say cancer...* (S05 2018)

> *And, the sturgeon that were caught here [Seven Sisters], you know, they were, like, I said, they had red bellies, and they had sores in the mouth like. You know, but, at the time, like, we didn't know really much of what was happening with that land. But, we figured maybe it was just what they were eating or, they were rupturing themselves in the bottom, when they're spawning. That's what we figured was happening but, we didn't know. And, this wasn't only in the 2000's. This was back in the 80's, I'm talking about here. Until I got wind of that thing was leaking, that [Nuclear] Plant, you know.* (S16 2018)

Downstream effects on fish from the Whiteshell Laboratory site are a particular concern for some interview participants.

> *…I wouldn't go downstream [on the Winnipeg river] … let's say the Otter Falls in some areas it's not too bad, but from that plant down I wouldn't … some of our people have contracted rashes from swimming and stuff like that … and some of the fish themselves … had boils, like boils in their system but I think this is part of the contributing factor of a lot of things that happened with the fish and the water stream including the habitat around that area.* (S01 2018)

> *…you have natural flows coming from Ontario … and a lot of the fish that are travelling in that area… and then they're being stopped, the dams or whatever when they open them. Then they have to pass by a nuclear place where they're going to be poisoned on the way downstream? … by the time they reached our area with the foot of the [Winnipeg] River here they're all deformed and everything and there's hardly any fish left … that's our natural economic resource, and it's taken away, poisoned.* (S01 2018)

The perceived impacts from the nuclear plant in the Project Footprint has left some Sagkeeng members concerned about the quality of the fish in the Winnipeg River. Specifically, participants are concerns about the suitability of fish for consumption as a result of substances leaking from the nuclear facility into the Winnipeg River.

> *Yeah, he [husband] caught – I believe it was four pickerel or something but I don't believe he got any sturgeon. And because of what my dad had said [about contamination], we threw them back. ...we didn't keep them because we were still at that stage being told by my dad, although we were living in Winnipeg, we were told that the fish is not going to be good, like you were taking a chance eating that fish. ... We had already heard stories of deformed fish and things like that.* (S28 2018)

> *Probably catch and release now. If I eat fish it's got to be from way up north there. A little safer … [because of] the [nuclear] stuff from Pinawa – because I don't know how much has leaked into the [Winnipeg] River system … they said they had a leak in the reactor there. I don't know how long ago that was but they said they had a leak and I don't know how much leaked into the system. Because I heard that in the news, hey? That there was a leak in the reactor which was kind of hush-hush.* (S23 2018)

> *… I guess I'm just blown away by all the loss [of use] and all the things that happened there [Whiteshell Laboratories]. And I know there's a lot of different factors that could be involved in the—like, you know, the damage of the rivers, the wildlife and that sort of thing. But it seems to be more concentrated or more prevalent because of that nuclear reactor.* (S28 2018)

> *But now since the paper mill is gone maybe it's a bit different but still up ahead the [Winnipeg] River there is something up there between Great Falls and Seven Sisters and Great Falls, Great Falls and Pine Falls and Mud Falls they call it, Silver Falls. All those areas are not fit for consuming water and fish in there, fishing is no more in there. It's up to the people to find out how they got sick. Can't tell them not to go there, just like me they told us not to go around that area where the atomic area plant is. What for? We didn't know.* (S27 2018)

Spawning locations for fish along the Winnipeg River have also been observed to have been affected. One interview participant explained how oil from farms has been dumped into nearby creeks and riverbeds, which flows into the Winnipeg River and affects fish.

> *A lot of this fish [in the Winnipeg River] is spoiling … not that much at the spawns anymore because of oil and stuff getting into the – in the water, on the beds of these, where they spawn. It's just water and oil coming from the creeks and stuff like that. Where people, you know, farmers dump their oils and stuff like that instead of properly disposing them in, you know, where old oil should go and stuff like that. They just throw them in their creeks and stuff like that.* (S17 2018)

In addition to impacts on important fish habitats, such as spawning areas, interview participants also identified declines in in the number of fish the Study Area. Study participants described the increasing difficulty of catching desired quantities of fish in the Study Area.

> *I know a guy that fishes that [sturgeon], and he does feed the people with that but they still eat it … But it's just that the numbers are – it's almost becoming extinct … And the spawning, I remember talking to one fisherman here, there's no places for spawn anymore hardly … Because they're poisoning the fish, and the fish don't want to come around in that area. And even their habitat, like the plant life that they feed underwater, that's all being deteriorated because of that and so they got no feeding areas now … I blame that nuclear plant for doing a lot of that.* (S01 2018)

> *...now you have to go further down in the lake [to fish]. Even that now is becoming extinct. I just tried to get fish the other day and the guy couldn't get any.* (S01 2018)

> *And my father set nets in here [Winnipeg River] … weekly. He always had fish going and he set nets out here. And after a while he just stopped, he stopped doing it. More to the end of the years that we left [the reserve] he was not putting the net in anymore and we didn't have as much fish and I'm beginning to understand why.* (S28 2018)

Wild Rice Harvesting

In addition to impacts on fish in the Study Area, interview participants also reported numerous concerns about existing impacts on wild rice harvesting. During interviews, several Study participants observed a decline in the abundance of wild rice available for harvesting in the Study Area.

> *Well, it's [picking wild rice] slowly, slowly going away … the stems of the rice and, they got nowhere to go. So, they go on the shoreline, that's closing in. It's getting smaller and, you know. Like, us, we used to pick right close to the shoreline ... you can't pick there anymore … another 50 years or, so, there won't be any rice, you know, bog, whatever.* (S06 2018)

> *You know, sometimes rice won't grow. I know one year, the old man, [personal name], he said, "Take a canoe." He says, "Go and pick." Well, there's nothing to pick, you know…* (S06 2018)

The introduction of airboats (i.e. a flat-bottom motorized watercraft) to wild rice harvesting areas are known by participants to be destructive to wild rice harvesting areas, which have traditionally been harvested by canoe. Airboats make it difficult for people to pick rice by canoe – or at all – if the wild rice stocks have been destroyed or prevented from re-growing due to damage from the airboats.

> *Because the airboats are taking it all … with the airboats taking it all there's not much rice left ... from what my mom tells me is they take everything; they just clean the lakes right out of the rice. They don't leave much because it's supposed to be the rice-pickers, like the ones that pick by hand, to go first, and then the airboats go in, but this past year it was just straight the airboats. They [their mother] didn't even get a chance to pick this year because she usually makes quite a bit. She's pretty active for a 72-year-old, you know?* (S07 2018)

> *It [wild rice picking] started to change when there was [air]boats, you know, those, yeah, air boats because they would just rip that rice right off the ground. When they used to use the sticks, when we used to go out and do that some of the — the rice would just get back into the water so they would re-grow and that's how it's always been done until these boats came along and again it's always like money for them more than the conservation part of it.* (S09 2018)

> *We couldn't go [rice picking] there [Otter Falls]. Maybe a long time ago before the air boats came, but I don't remember that far. A lot of these places they picked before the air boats came, all those rice fields.* (S02 2018)

In some cases, airboats have been reported to be a risk to personal safety on the water. One interview participant described the dangers of airboats and the danger they pose to other people.

> *Those air boats are very dangerous, you know. They can't see you when you're hand picking [wild rice]. There's quite a few people got hit.* (S02 2018)

In addition to airboats reducing Interview participants' opportunities to harvest wild rice, one interview participant reported land privatization restricting their access to preferred wild rice harvesting places in the Study Area.

> *"Oh," he said, "these people put a camp up there. They chopped all that off. They don't want that rice there. They want to make a little beach over there," he said. So, you know. So, it's not us. No, it's not us. It's not me that wants a big, you know, big river front cottage there with a beach in front with our skids or whatever. It's not us.* (S17 2018)

As illustrated in the quotes above, the loss of wild rice plants, in addition to wild rice harvesting areas, is a prominent concern for Sagkeeng members.

Several interview participants described how nuclear operations at Whiteshell Laboratories has already led to discomfort and alienation with regard to harvesting wild rice in nearby and upstream areas, such as Seven Sister.

> *...they [family] used to pick rice in that area, they used to go to that area around Milner Ridge and I heard them talk about Seven Sisters. But then there was the shift to—for him [father] to go to other areas where he would hunt and fish and stuff. I don't think they would ever go back there unless they had to. They—from my understanding, and from my experience when we were younger, we didn't*

> *go in those areas unless they—we had to. And now I understand why but I didn't when I was younger.* (S28 2018)

> *And then as for picking rice and then, of course, picking rice I think is going, is a little bit fading away now so they don't get to use this place [Whiteshell Laboratories site] that much, as much.* (S12 2018)

Water

As evinced in the quotes above, impacts to Water Resources are closely linked to impacts on water quality, particularly for fish. Participants are concerned about the water quality in the Study Area, observing how its clarity has changed over time.

> *Our water was a lot clearer when we were growing up. (S07 2018)*

The section above details the impacted baseline for Water Resources based on the data collected for the Study. Nonetheless, Sagkeeng members continue to view the Study Area as an important area for supporting Water Resources values, such as fish, wild rice, and water.

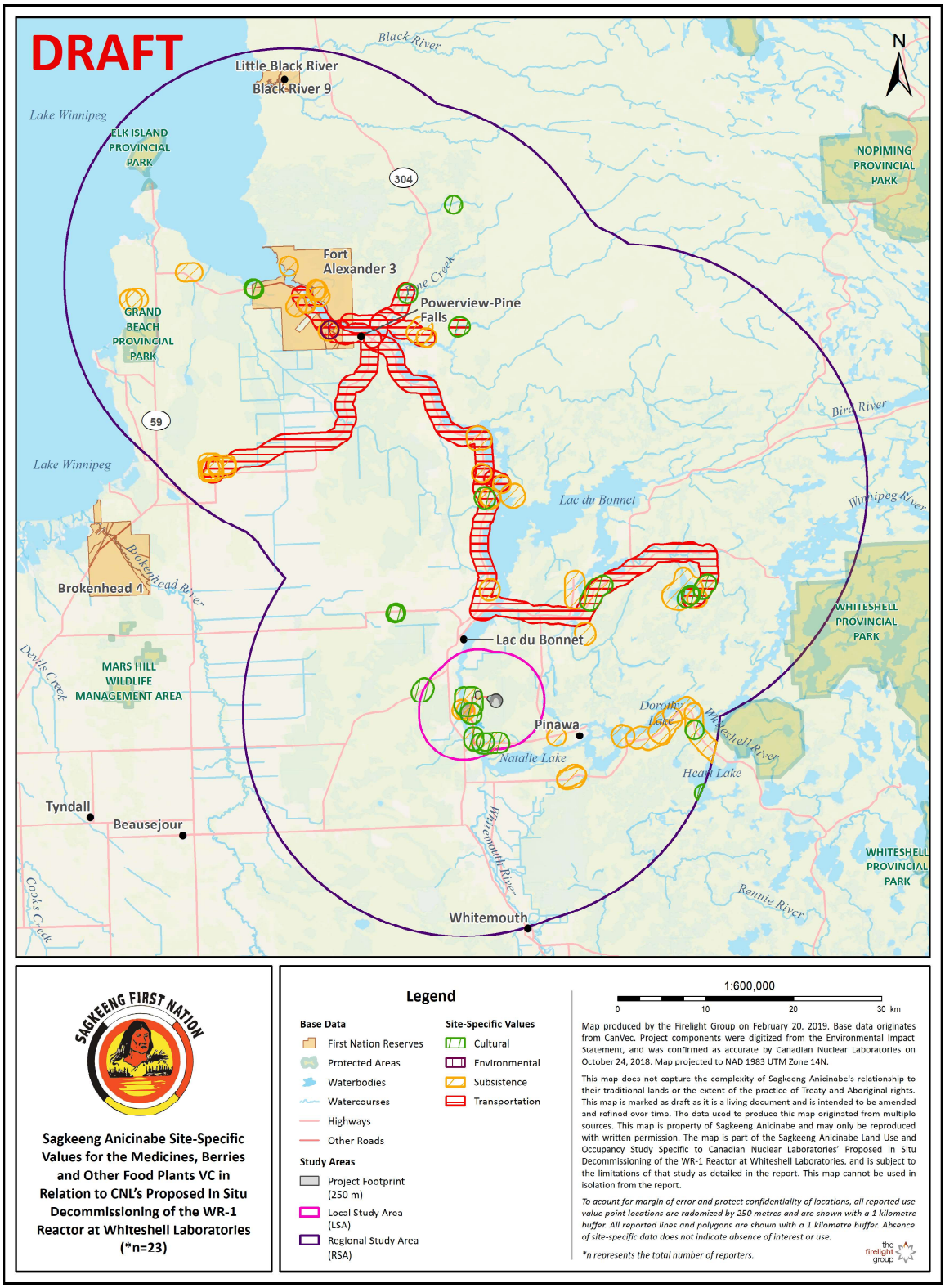

Figure 8: Sagkeeng reported site-specific Medicines, Berries, and Other Food Plants values within the Footprint, LSA and RSA of Canadian Nuclear Laboratories' proposed In Situ Decommissioning of the WR-1 Reactor at Whiteshell Laboratories.

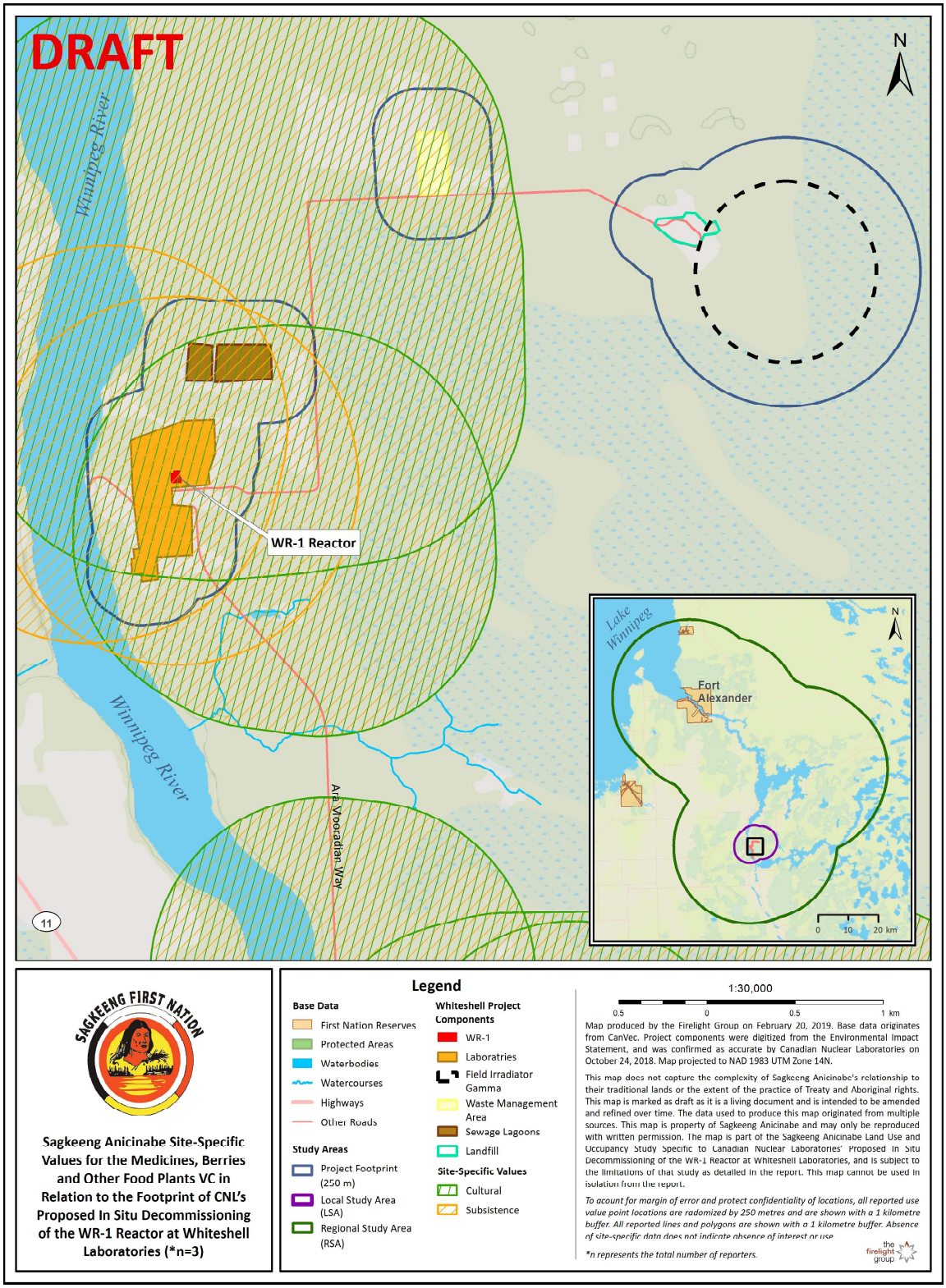

Figure 9: Sagkeeng reported site-specific Medicines, Berries and Other Food Plants values within the Footprint of Canadian Nuclear Laboratories' proposed In Situ Decommissioning of the WR-1 Reactor at Whiteshell Laboratories.

4.3 MEDICINES, BERRIES AND OTHER FOOD PLANTS

This section (Section 4.4) discusses the importance of and existing impacts to the Sagkeeng Medicines, Berries, and Other Food Plants VC within in the Study Area. This section draws primarily from data collected during semi-structured interviews.

4.3.1 Importance

Harvesting Medicines, Berries and Other Food Plants is an important component of Sagkeeng members' cultural and subsistence activities. A wide variety of berries and food plants were, and still are, a central part of Sagkeeng members' diets and way of life. These include, but are not limited to, blueberries, cranberries, saskatoon berries, plums, and nuts. A number of areas within the Project Footprint are particularly important to Sagkeeng members for the collection of berries and other food plants.

> *Because the whole Whiteshell area, we had picked berries there like through our whole life with my mom, she knows the best spots.* (S14 2018)

> *...we used to go up there [Project Footprint] and pick blueberries [with her parents and brother in the 1950s]. Lots of people from Sagkeeng used to go pick there. They used to call it Choka's Rock…* (S05 2018)

> *I know there's a lot of blueberry picking and stuff like that [near the Project Footprint], berry picking and harvesting, and for stuff like that, saskatoons. I remember plums and all these other things.* (S01 2018)

> *Like there was all kinds of trails there [Project Footprint], right? There was all kinds of trails where they went and picked berries and stuff like that. Like I said, there was so many – so much stuff in there. Like, you know, aside from medicine and stuff like that...There was so much food in there. And, you know, it's a lot of stuff. Lot of berries.* (S17 2018)

As well as being consumed fresh, berries and other food plants are canned or preserved by other means in order to maintain a steady supply throughout the year.

> *… my parents would bring them [blueberries] home, some of them, make blueberry jam, or whatever my mum would make…* (S05 2018)

> *Whenever we—like I said, we used to work, when we'd do things, and also, you know, pick the traditional stuff, and she was a canner, so she'd can everything. You know, so we'd pick nuts, we pick the berries, and all the stuff that she required, the plants that she required.* (S07 2018)

> *There's a big, we had a, three cellars that we had at home and that's where all that picking and the blueberries and the wild rice and whatever we got in the bush, that's where it all went into that, for the winter.* (S12 2018)

During interviews, participants highlighted the importance of medicinal plants both for general health and for the treatment of specific injuries or ailments. The collection,

preparation, and application of a number of medicines were described by participants during the interviews.

> *…cranberries is a natural [diuretic] ... You know, it cleans your bladder, and bladder infections. It's a natural … same thing with choke cherries...* (S07 2018)

> *Well the—like I said, the chokecherries, with horsetail, and cedar—there are two men medicine and then the one women's which is the chokecherries. And you mix those together and you make a tea, and you drink that for menopause, that's the natural thing for menopause...* (S07 2018)

> *…the red berries that grew around there [Project Footprint], around the muskeg tea and that's good for diabetes and stuff they say. They make tea out of it and you drink it and it's good for lots of things.* (S15 2018)

> *It's [weekay] a medicine that cures you. It's good for anything in your body. Yeah, it's good for anything in your body … The Mountain Ash I can get for myself here. Cedar I can get, 'cause, I got a quad. I go in the bush and, as long as I got one of my grandchildren with me, I'm okay.* (S16 2018)

> *…Labrador tea is for energy and to clean out your system.* (S24 2018)

> *Muskeg tea, my mom would go pick somewhere down there too. I'm not too sure where. That's good tea...We use [sage] to smudge our regalia. When you pray to the Creator too you use it.* (S14 2018)

> *…Poplar, Birch. They used to peel it. Then there was layers inside. They used to use that and, I forget what it was called now. That was good for cuts, you know. It used to heal right away.* (S06 2018)

Participants described how the physical and ecological characteristics of the Study Area make it suitable for the growth of medicine plants. A number of medicine collection sites were recorded and mapped within the Study Area that have been used by multiple generations of Sagkeeng members, in addition to reports of planned future use of the Study Area for medicines.

> *The whole area, the Whiteshell [Park] area. Our family used to move around, like you know, for blueberry picking, rice picking, gathering … but in the Whiteshell—in the Pinawa area, it's kind of—it's a boggy area, so I imagine there must be a lot of medicines. My grandmother on my mother's side was more of a medicine woman, so she knew what medicines to pick …* (S07 2018)

> *So, that's where they used to come and there was a lot of area around there [Brightstone]. I remember like they used to pick a lot of – my dad was – he was, I guess, in his own way, he was considered a medicine man. And I know we used to go – we used to walk out, I don't know, if it's Lee River, but there's one medicine that you only find in the muskeg. It's called a [maska-eg]. It's for the heart – the heart medicine. So, we used to work way out. Way out. I used to help*

> *him quite a bit. I remember that. And it's only found, he said, in the muskeg.* (S24 2018)

> *Like now I'm just starting to—well, not just starting, but—just more recent, say in the last twenty years I guess, that I've been more going into the natural stuff, learning about the natural plants that we use to—to heal … Well, the root—it looks like a big banana. And then you cut that up, eh? And then you dry it ... And what I do is I pick it in the fall, you know, that's when the flowers bloom, eh? And you get it in the Whiteshell area. That's where I usually go for it.* (S07 2018)

Traditional protocols are followed for harvesting medicines, including asking permission before harvesting a medicine and offering tobacco. Participants described the importance of adhering to these protocols, and the specialized knowledge required for harvesting medicines.

> *My father in law once told me that, he says, when you go out for medicines, you don't just pick the medicine, you talk to that—that medicine, you ask it for that help. Because the Creator didn't only put us on this earth, he also put those plants on the earth, and each—everything that's on this earth, it has a spirit. And the plant has a spirit. So, you talk to that spirit and ask him, you know, I want you to help me to heal—help this person heal. And you put that tobacco down. You put it back where you took the plant from, so it will grow back. And that's the way we do things.* (S07 2018)

> *...you can go and pick medicine anywhere in the bush as long as you leave your offerings. I go and leave my feast plates up in—near McArthur Falls I guess, up around this area. Fall time is where we usually go and leave—or if something is bothering you, you know, where you go and feed your spirits—feed the spirits. So, that's what we do.* (S09 2018)

The knowledge required for locating, identifying and preparing medicines is highly specialised and is a valuable resource that is transferred from one generation to the next through experiential, land-based learning. The importance of intergenerational knowledge transfer is discussed in more detail in Section 4.5.1.

> *We'll tell them [elders] we'll pick some up and deliver it. Sometimes we did – meet us just close by to where they tell exactly where it is. They tell us because they're too old to do these things, so we'd have to go and do it. Me and my dad would go do it. He'd show me these areas, right? (S17 2018)*

> *And I try to teach [grandchildren] about the traditional plants in the area, because I tell them, you know, you're going to need this, you know, maybe not right away, but when you get older, you'll know what to pick, and feel the texture. And I remember my grandmother doing that to me. So, what she taught me is what I'm trying to carry forward for my grandkids, so they'll know—so they'll recognize the plants [pause]—and the reason why I'm going that way, too, is the healing. How costly medicines are nowadays, eh? The natural stuff is more potent, and it doesn't only concentrate on one thing, you know that it concentrates on the*

> *whole system of our human body. And that's what I'm trying to teach my grandkids.* (S07 2018)

Sagkeeng members noted that harvesting of medicines, berries, and other food plants are often carried out in large groups with multiple generations represented. As well as providing an opportunity for knowledge transmission, time spent out on the land serves to strengthen familial ties and social connections within the community.

> *Because they would pick along the roads [at Otter Falls]. Pick berries and stuff along the roads. So, it's like everybody's down picking along these areas [at Otter Falls] and camping along these areas. This is where I would take my kids out there when we were done and then we would head back.* (S22 2018)

> *You want to pick berries, you pick up [personal Name], she knows where to go. And when we're on the Pow Wow Trail she knows all the spots… (S14 2018)*

The site-specific and qualitative data together demonstrate the importance of the Study Area for Sagkeeng members' collection of Medicines, Berries, and Other Food Plants, which is linked to subsistence, intergenerational knowledge transfer and the continued practice of Sagkeeng culture.

4.3.2 Impacted Baseline

The ability of Sagkeeng members to harvest medicines, berries, and other food plant species in the Study Area is influenced by a number of existing impacts that have reduced both the quantity and quality of available resources. These factors have negatively impacted traditional harvesting patterns, with consequences for Sagkeeng members' diets and health.

An observed reduction in the quantity and size of berries was shared by an interview participant.

> *And the berries, of course, those are very important. And as far as I can remember, the wild berries were so important. And now they're so, so tiny. And so scarce and so tiny. I remember them being so huge and luscious. And I remember how important those were. That was part of our diet. And now, when you go out you can walk for miles and miles and miles and when you do find them, they're so puny and so – and they used to be so huge.* (S24 2018)

A number of participants attribute this decline in quantity and quality of plant resources, such as berries and medicines, to impacts from industrial development, including the operation of the Whiteshell Laboratories facility. In some cases, these declines have led to an avoidance of picking berries that are located in the Project Footprint or near other industrial sites due to potential contamination. This has required Sagkeeng members to travel farther in order to harvest these important resources.

> *And you hear about the vegetation that was non-existent. Berries, even we heard about the trees being a smaller mass than they usually are. So, they're—all of this*

> *has affected this area and there's no other way to attribute that kind of change but to that nuclear site, there's no other thing around that area.* (S28 2018)

> *But from what I can remember … my dad was already avoiding this area [LSA] … we were already told this is not a good area, it's dirty there, it's—they didn't use words like contaminated or anything, but that's the kind of way that they were describing. So, he would always steer us away from there and he would get us to go pick berries more closer to the beach areas and that sort of place. So, I think even back then he was already trying to prevent us from, you know, from any kind of damage or from having fish that was, you know, that wasn't going to be good for us to eat. (S28 2018)*

> *Like I said my grandmother was from the line of the medicine people, and her mother picked medicine, but I don't know where. Like you know, I know—a long time ago, you didn't have to go too far to pick the medicines that you required. Today, I know that you have to go further. Because of the contamination around the local area, with the mill being in place, and then of course the reactor, the nuclear plant, it did affect the plant life and the animal life. We see those—those are more prominent today than they were at my—when we were kids.* (S07 2018)

Sagkeeng members noted that industrial development has decreased their ability to access important areas used for harvesting berries and medicines. A number of participants reported decreased access to important harvesting locations within the Project Footprint due to the Whiteshell Laboratories facility.

> *And yet one time this was ours and this was a sacred, big medicine was often here [Project Footprint] and now it's gone.* (S12 2018)

> *We used to pick [blueberries] on … [Choka's] Rock [in the Project Footprint] … I remember when we were kids, we used to go on that rock and we used to pick there … Not just us, there was, like other families … Me and my brothers, we know there was a nuclear thing up there, but my brothers said, let's go check around where we used to go and pick. Oh my god, when we got there, we got out of there … There's little buildings, I don't know, a bunch of little signs on the rocks, and we don't know what those mean. I said, let's get out of here.* (S05 2018)

> *We were getting bark there [Pinawa]. But, now, like, I say, you know, you can't even go here regularly without, you've got to get some kind of a permission slip, just to get off the road to go in the bush to do our … and, at the [AECL] gate here, you had to have a permit. You know, when you go into Whiteshell, there's a stand there. You had to have a permit, what purpose you were there for? What did you need? You had to get, you had to buy a permit to get in there. Yeah. That's how it was then. That's why a lot of these Native people didn't really go there, because, and that's our traditional land to pick medicines, you know.* (S16 2018)

Interview participants also observed changes to the landscape and physical environment in the Study Area. In some cases, areas near the Project Footprint do not appear to be regenerating as they should, which is a concern for plant health and mortality.

> *I looked at the trees [in the Project Footprint] and I noticed how skinny they were. I says why are your trees so skinny, you know? ... But the trees, I found them really, really skinny. So maybe it's from the soil, you know?* (S09 2018)

The decline in quality and quantities of medicines and berries has been exacerbated by reduced access to important harvesting locations in the Study Area. Sagkeeng members noted that interactions with conservation officers have deterred them from accessing a number of areas used for harvesting medicines, berries, and other food plants.

> *I've heard people have had to hide in that area [Project Footprint], they're being monitored when they go into that area. Game wardens come after them, telling them … to get out of there.* (S28 2018)

> *But this general area was more or less closed off for us, going into Pinawa there. They'd [conservation officers] always pull us over and ask us which part of, you know, this area we're going. So, we tell them, you know, we're just going to go there. These ladies want to go pick up their berries. Stuff like that. And that's why we're here, these guys from Great Falls. My aunties and them and stuff like that, they pick up their stuff from there. A lot of that stuff they still do, but they go, more or less, to Ontario now. There's too much rules and regulations here in this area now.* (S17 2018)

Despite the range of impacts identified by Sagkeeng members, they continue to collect Medicines, Berries, and Other Food Plants in the Study Area, including the Footprint and LSA.

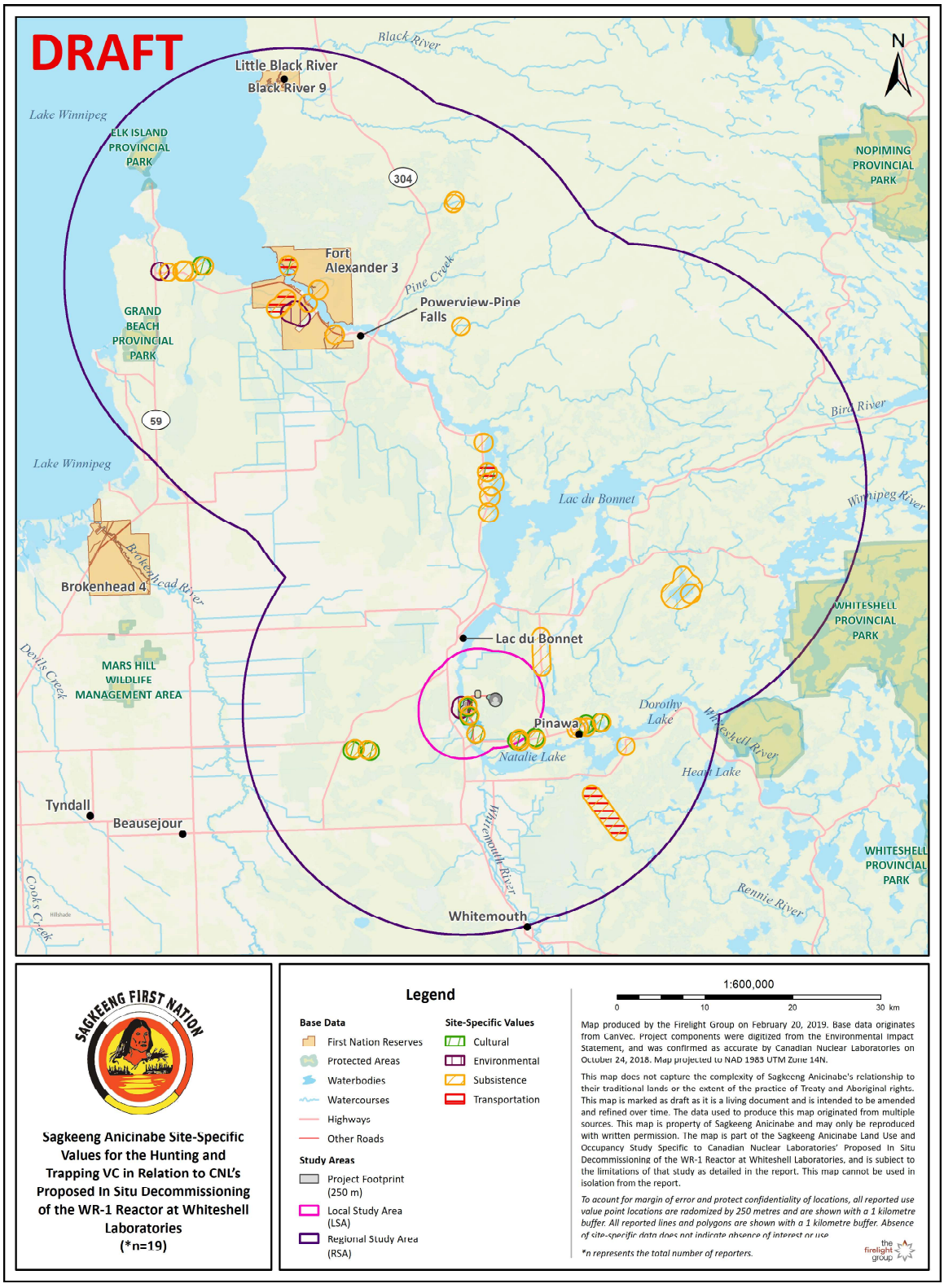

Figure 10: Sagkeeng reported site-specific Hunting and Trapping values within the Footprint, LSA, and RSA of Canadian Nuclear Laboratories' proposed In Situ Decommissioning of the WR-1 Reactor at Whiteshell Laboratories.

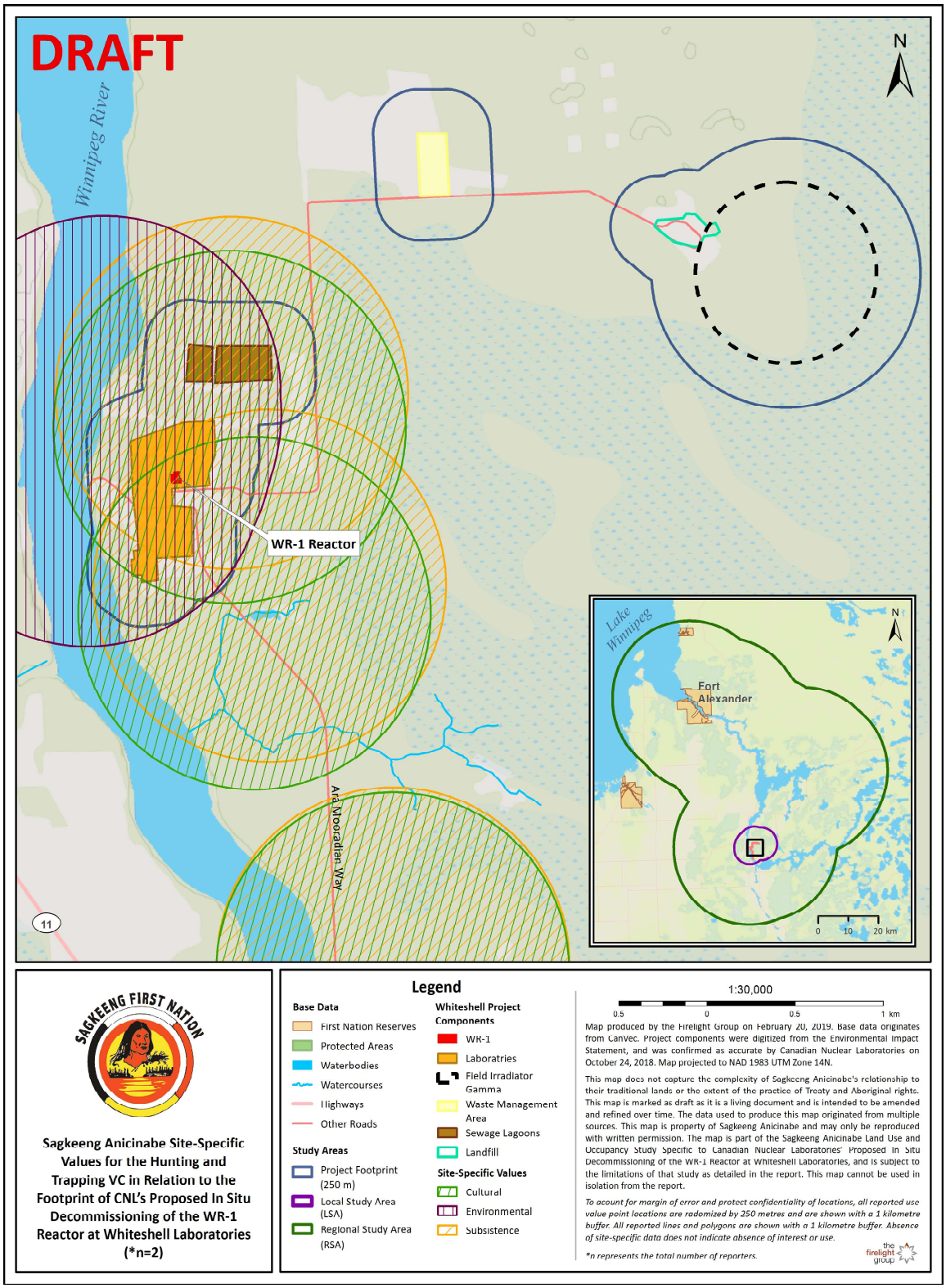

Figure 11: Sagkeeng reported site-specific Hunting and Trapping values within the Footprint of Canadian Nuclear Laboratories' proposed In Situ Decommissioning of the WR-1 Reactor at Whiteshell Laboratories.

4.4 HUNTING AND TRAPPING

This section (Section 4.4) discusses the importance of and existing impacts to the Sagkeeng Hunting and Trapping VC within in the Study Area. This section draws primarily from data collected during semi-structured interviews.

4.4.1 Importance

Game harvested through hunting and trapping are utilised as a key food source by Sagkeeng members. During interviews, Sagkeeng members described hunting and trapping for a number of species and using them for their meat, such as moose, deer, muskrat, beaver, and prairie chickens.

> *So we got a lot, we never went hungry with him. We got a lot of moose and deer. We used to eat a lot of things like muskrat, beaver, rabbits.* (S26 2018)

> *Yeah. Because most of our childhood we were pretty much in the bush, growing up in the bush. Like we ate rabbit and everything, but give it to me today I won't eat it. I'll eat deer meat and moose meat, pickerel … I've even seen people eat muskrat, and beaver ... Oh, yeah, they'll cook the whole beaver, the tail too.* (S14 2018)

> *But my grandpa did [trap] … I remember him coming home with a bunch of pelts … I know that he used to travel up the Winnipeg River, and he used to portage … He was a hunter and trapper, eh? That was his livelihood, that's how we survived, eh? When we were young.* (S01 2018)

> *Every fall we go to a rice [stake] they call it by Pointe du Bois there. There's a lot of prairie chickens and deer so we still do that, yeah.* (S02 2018)

One participant described canning harvested meat as a means of preserving food for winter months.

> *Say you shot a moose and it was canned and everything, jarred in, you know, it was canned, you know, and it was pickles and ... big gardens and stuff like that, everything was put away in the cellars, you know.* (S12 2018)

During interviews, a number of locations within the Study Area used for hunting and trapping were mapped, such as Seven Sisters, Lac du Bonnet, and Otter Falls. Participants described how these areas have been used by Sagkeeng families.

> *... I used to go up there [to hunt moose near the plant]. That's why I used to go to Seven Sisters and around that area used to come around, Lac du Bonnet is another old road on this side down beside where that used to be our hunting areas … I used to accompany most of the hunters. I'd say, I don't know, in the early 70s maybe? … I was only about maybe a teenager 12, 13…* (S01 2018)

> *He [Grandfather] would say that that's where [Otter Falls] they used to get a lot of beaver and the animals for the waterfall or whatever water animals.* (S01 2018)

As well as comprising an important food source, hunted or trapped game can also provide a source of income for Sagkeeng members. Participants described how family members sold or traded pelts from trapped animals for food items, trapping equipment, and other household supplies.

> *But they trapped all kinds of stuff, and they used to skin the beaver, eh? Place it on a—on one of those stretchers, and you know, clean it, and dry it, and then sell it. Or exchange it. I remember as a kid going to Pine Falls, you know that—that little strip mall that's there now, or it used to be a strip mall—that was the old Hudson's Bay...Yeah, Hudson's Bay Company. And I remember going in there and seeing all this stuff, you know, and as a kid just being "oh, yeah!" and I remember that old stove that used to—a little, pot-bellied stove that used to heat that up. And I remember them going in there and exchanging their fur for some flour, sugar, baking powder, equipment, and more trapping stuff. New traps, and maybe a shotgun or something, like you know.* (S07 2018)

> *...they'd [grandparents would] go all over the place, especially the water systems … what they used to do is they used to trap beavers and otters, whatever and they used to trade for implements from the Hudson's Bay and that's what they used this area for [in the vicinity of Otter Falls].* (S01 2018)

> *… I know my dad used to hunt [Rice Lake, Williams Lake, area towards Nopiming Park, Point du Bois] – hunt beavers and rabbits and he used to fish, like, make snares – squirrels, weasels and stuff like that. They used to sell them to Winnipeg Fur Company, yes.* (S05 2018)

Sagkeeng members noted that as well as providing food or income, hunting and trapping also sustain traditional practices, including food sharing. Participants described how food sharing traditions ensure elders and other members who are not able to hunt still have access to culturally important food.

> *And, you know, my family are still hunters, I have my cousins, my niece and their husbands that still go out and hunt. And they do what we used to do, in the old days, is when—they still do that—when they get their first hunt, they share it with the community. Yeah, so last year I was helping cut up this moose that they got, and so we were cutting it in pieces and it was already cold, and snow on the ground and stuff like that. But it was hard work, and so—and the ribs were huge on this moose, they were huge, they were this—like, big. And so, they would cut it up and I think they must have fed about—over 50 people. Fifty communities—families—yeah, that they would tell. You know, we bagged it, all the meat, for roast, and then we cut it up in chunks for stew. And so, we bagged this, my niece, my cousin, myself … We were cutting it up and bagging it, and they would send out a message, on Facebook now, and say, you know, for the elders, if you guys want some meat and they would deliver—go house to house and deliver meat to the elders and stuff like that. And that's how our*

> *people used to be, you know, we used to do all that sharing. That's what we do as Anicinabe people, is follow those—our values of sharing, you know? And so, it's nice that my family still does that, yeah.* (S09 2018)

Time spent out on the land enables youth in the community to learn hunting and trapping skills from elders and land users. The intergenerational transfer of knowledge and skills required to hunt and trap successfully is discussed further in Section 4.5.1.

> *...they [friends] were teaching me [to hunt moose near Otter Falls in the 1970s]. I was only about 12, 13 at the time so I couldn't even handle a gun, but I went hunting with them … They were just teaching a young buck how to hunt. And it's restorational, you know what I mean?...* (S01 2018)

A set of important Anicinabe protocols and ceremonies govern the manner and means by which Sagkeeng members hunt and trap animals. This includes respecting the harvested animal by not wasting any of the meat. This set of values is described in more detail in Section 4.5.1.

> *But they'd never waste anything; they used to … eat the beaver. My mum used to clean it, yeah. Same with muskrats. Yep, my dad used to make, like, a smoker, they used to hang those muskrats, I guess to smoke the muskrats … And we were kids and my mum used to cut the tails off the muskrats, and we used to singe them on the fire and cook them … Same with the beaver tail … (S05 2018)*

4.4.2 Impacted Baseline

Sagkeeng members reported numerous impacts to Hunting and Trapping values within the Study Area. Specifically, interview participants shared their observations of declining wildlife species in the Study Area, historical impacts from development projects, as well as access restrictions to key areas that are critical for supporting trapping and hunting values.

Over the course of the individual interviews, participants shared their observations of declining wildlife in the Study Area. In particular, interview participants reported declines in deer, moose, and rabbits – all of which are species that Sagkeeng members rely on for subsistence purposes.

> *You know, there was a lot of deer or whatever back there [Project Footprint]. There was lots back then. You could see them all the time. Here now you got to wait for them. You got to wait and wait. Back then these people just seen them all the time. It wasn't hard for them to go get a moose or a deer or something like that eat. Not like today. Everything is scared off and they're hiding somewhere.* (S17 2018)

> *Well, even them [rabbits] are hard to come by now. There's not too many of them. Not like, I guess, you know in the 70s, there used to be lots of them and, now there's hardly any. Hardly see them now...Well, you know, they were supposed to die out every seven years, but, that's more than seven years now*

> *that, you know, it's hardly any now. It's, I guess, maybe the weather affecting them...The food that they eat. Hardly any. I know, in the 70s there, yeah, in the 70s, me and, my wife used to go out in the moonlight there and, shoot them. Yeah. But, you know, after that, you know, she couldn't kill any more. So, we stopped. We used to go out and, shoot 20, 25, like, you know in not even an hour, because, they'd be sitting in the moonlight, on the trails. But, now there's none.* (S06 2018)

Trapping has long been an important land-based activity for Sagkeeng members. More recently, however, trapping has declined amongst Sagkeeng members due in part to a reduced availability of animals in the Study Area, particularly around the community of Sagkeeng.

> *…there's been a depletion of animal life in that area [near Sagkeeng] … I can guess but that's probably part of the reason [why people don't trap there anymore] and not only that but I think since people are more dependent on government assistance now so they don't really bother doing very much. But I know that some people have tried, but they've never caught really anything anymore, it's not there anymore hardly so I guess they're waiting for it to replenish if it ever will.* (S01 2018)

> *In the early 20s to maybe the late 60s maybe around there … in that area [around Milner Ridge] until he [my grandfather] got a bit older I guess and probably I'm just assuming the deterioration of the wildlife he couldn't get the things that he used to get after that.* (S01 2018)

For Sagkeeng members, the reduced availability of wildlife for trapping and hunting are linked to existing industrial development in the Study Area. The AECL nuclear facility, hydroelectric dams, mines, and forestry have all contributed to contamination and land clearing in the Study Area, which has led to a decline in wildlife that are important for Sagkeeng members' harvesting, such as moose, deer, beaver, weasels, and muskrat.

> *So, when it [development] affects the growth of the plant life, then you're not going to have any animals around. It's going to have an effect on them as well. Then they're not so abundant in that area anymore. And I've noticed a lot of that, even today, like—even with the moose ... And where they used to cut [trees], and we used to go into that area, and see where they cut — the animals weren't there. The beaver aren't there, the weasels, the skunks — all those little animals, and even the deer and the moose aren't in those areas, because the trees are not there. And what they used to rub against, to get the ticks off, or you know, to—their fur, whatever, their winter fur, like you know — so that's affecting all of that. It's not only — like I said, it's not only hydro, it's the industries as well, like take the mining industries, you know, that affect all of that. It affects the environment. You know, they don't — they don't realize the impacts that it has on our areas. And not only that but on the livelihood. Like, I was talking to a couple of relatives of mine that are still fishermen, and they're saying that there's no pickere!.* (S07 2018)

> *He [grandfather] used to talk about hunting and trapping all over the place within the area of our traditional area and this is part of it [Study Area], but they used to have an abundance of wild things happening in that area like muskrat, beaver, and all these other things. And just recently talking to some of the elders in this community a lot of that has been deteriorated … I blame this site [AECL] as part of it. They're contaminating a lot of area. Especially the water system ... So those are the things that would concern me.* (S01 2018)

> *But, the trees in the back [near the former Pine Falls paper mill], are all spoiled. They're poisoned, I would say. Yeah, but, before that, like, before the beavers, the beaver were there, they left. There was no life, no nothing there. Even the bugs, you know those bugs in the water you get, there was nothing. Nothing!* (S16 2018)

As mentioned in Section 4.4.1, the Study Area is highly-valued by Sagkeeng for Hunting and Trapping values. Access to the Project Footprint, however, has been restricted for many Sagkeeng members since the AECL nuclear facility was constructed in the 1960s. Interview participants described their experiences in being prevented from accessing the Project Footprint for hunting and trapping purposes.

> *But like I say, I wouldn't doubt that area [Project Footprint] was probably really nice at one time before they did that [built a nuclear facility]. Yeah, I bet it was nice in that area at one time. Yeah. But like I said, when I seen it, it was like we weren't allowed to go in there. Yeah, not allowed to go into that area at all. We'd go all over to the other places and stuff like that. Go hunting, fishing, whatever, all around there, but you couldn't go into that general area.* (S17 2018)

> *So, why would it not be just accessible to us in that area? Freely hunt and fish along the river, period, you know what I mean? Why do they stop us from going to the river through that area? Like around that area, close to that area? They said, "No, you're not allowed to go off the road here. Sorry." You know, you're too close to this area here.* (S17 2018)

Throughout the interviews, participants described feeling restricted or prevented from trapping and hunting in the Study Area in a free and peaceful manner. Sagkeeng members discussed their frustration at frequent encounters with law enforcement officials (i.e., game wardens, conservation officers, and RCMP) while in the Study Area. These encounters have left many participants feeling constrained in their ability to trap and hunt in the Study Area.

> *Even their hunting, you know, was affected. Like I said the game wardens [would] come along and get them out of there or, you know, tell them that they can't fish here or whatever. Like they're being criminalized in their own territory, being treated like criminals for just getting basic food and that's—that doesn't seem right.* (S28 2018)

> *They [game wardens] called it [moose hunting] illegal. I don't know where they got that term from, you know. First Nations people fishing and hunting on their traditional areas. I don't really understand that part, like why are we not allowed to go there? I mean, you know, and it's out of harm's way, right? I mean it's out of there, you know, their little town or whatever. It's away from all that, you know, where there's people.* (S17 2018)

> *... they put so much restrictions – you know, even if you go driving at night, they'll stop you if they know you're Native or if they know you're not from there, you know, and if you happen to have a gun, they'll take it and they'll keep it for the season and then they'll tell you if they'll ever give it back to you. Stuff like that. They make it so restrictive for Natives to do anything that we used to be able to do.* (S15 2018)

> *…you got to explain to the Natural Resources, what are you doing up here? I'm going moose hunting. Did you know moose hunting is closed? That's what they tell you. Well, I'm going up there for medicines. Well, can you Report back to the game warden's office and, show us what you guys picked? You know, that's invading your privacy. You know, that's crazy.* (S16 2018)

Hunting is an activity that occurs year-round for Sagkeeng members, as it is a key subsistence activity and supports the health and well-being of community members. One participant, however, reported being questioned by game wardens about the timing of their moose hunting activities.

> *We got hungry to go get a moose, you know what I mean? It didn't matter what time of the year it was. We'd go in these areas [near Lac du Bonnet] and get a moose anyways. They'd [game wardens] say, "Well, how come you guys don't wait for the fall?" they'd say. I'd say, "Well, I'm not hungry in the fall. I'm hungry now." You know what I mean? That's probably why the government said, "Okay, well, you know, you got the right to hunt, fish, trap 24/7, 365 days a year". So, as far as I understood it, and that's how I would tell the game warden when they'd pull me over. I'd tell them, "I thought we were allowed to do this all the time. I didn't know we had to wait until the fall or wait until whenever … I'm not waiting for that. I'm starving now, you know?"* (S17 2018)

Encounters between Sagkeeng members and law enforcement officials were typically characterized as being negative. Some interview participants feel that the frequent interventions from law enforcement officials are affecting their traditional way of life, to the point where Sagkeeng members are hunting in the Study Area less than they used to.

> *I don't think that anyone goes there [the Project Footprint] from Sagkeeng … There's some young men that will go, you know, hunting areas, maybe the younger generations will probably go there. I did at one time, but, I can't be bothered, cause, you know, they phone, they phone the COs [conservation officers] on you right away, you know.* (S19 2018)

Participant's also reported seeing hunting restriction signs posted in the Study Area following their negative encounters with game wardens. As a result of the negative encounters with law enforcement officials while hunting, a number of Sagkeeng members have begun to change their hunting patterns in an effort to avoid conflicts with game wardens and conservation officers. One of the most common changes to Sagkeeng members' hunting and trapping patterns is to hunt and trap at night when they are less likely to be bothered.

> *We try to go canoeing, you know, or we do hunting but, you know what, we're forced to hunt in the night. So, we do hunting in the night, okay. Basically, that's all we can do there is hunt in the [night].* (S12 2018)

> *So, yeah, but the way my dad showed me all these areas [in the Study Area], it's like a very well-hidden map, I'll say. Like a lot of these places he says he can't tell people where this is, where that is. "Because you tell them that," he says, "then you're giving up your – you're giving up too much information already," … But as far as telling these people, I mean as soon as they found out, that's it. All of a sudden, there's a sign there, can't hunt there anymore ... So, that's why we'd always travel at night in those areas.* (S17 2018)

> *They'd give you a hard time sometimes, those people [Natural Resources]. They'd try and take away your traditional life. They'd try to take away what you're – like what you kill, you know? They'd try to take that away from you. That's one thing we have a hard time with, Natural Resources, those officers? ... every year our people would have issues with it. You know you've got to hide most of the time, you know.* (S13 2018)

In addition to issues with access to the Study Area (including the Project Footprint), concerns were also raised regarding emissions from the AECL nuclear facility. One interview participant voiced concern about how emissions from the nuclear facility may have affected nearby wildlife, waterways, and medicines.

> *And, what kind of emissions, if there was any emissions from this [nuclear] plant? Nobody ever, nobody ever asks. I never hear anybody to ask. But, there's tributaries to the Winnipeg River. How were they affected? I never heard anybody ask that either. We have wildlife there. There's moose, deer, beaver, muskrat. We have vegetation that's all around there that was very useful to our people for medicines and, for food.* (S25 2018)

Despite the concerns and impacts described above, the Study Area continues to be an important area for Sagkeeng members and their Hunting and Trapping values.

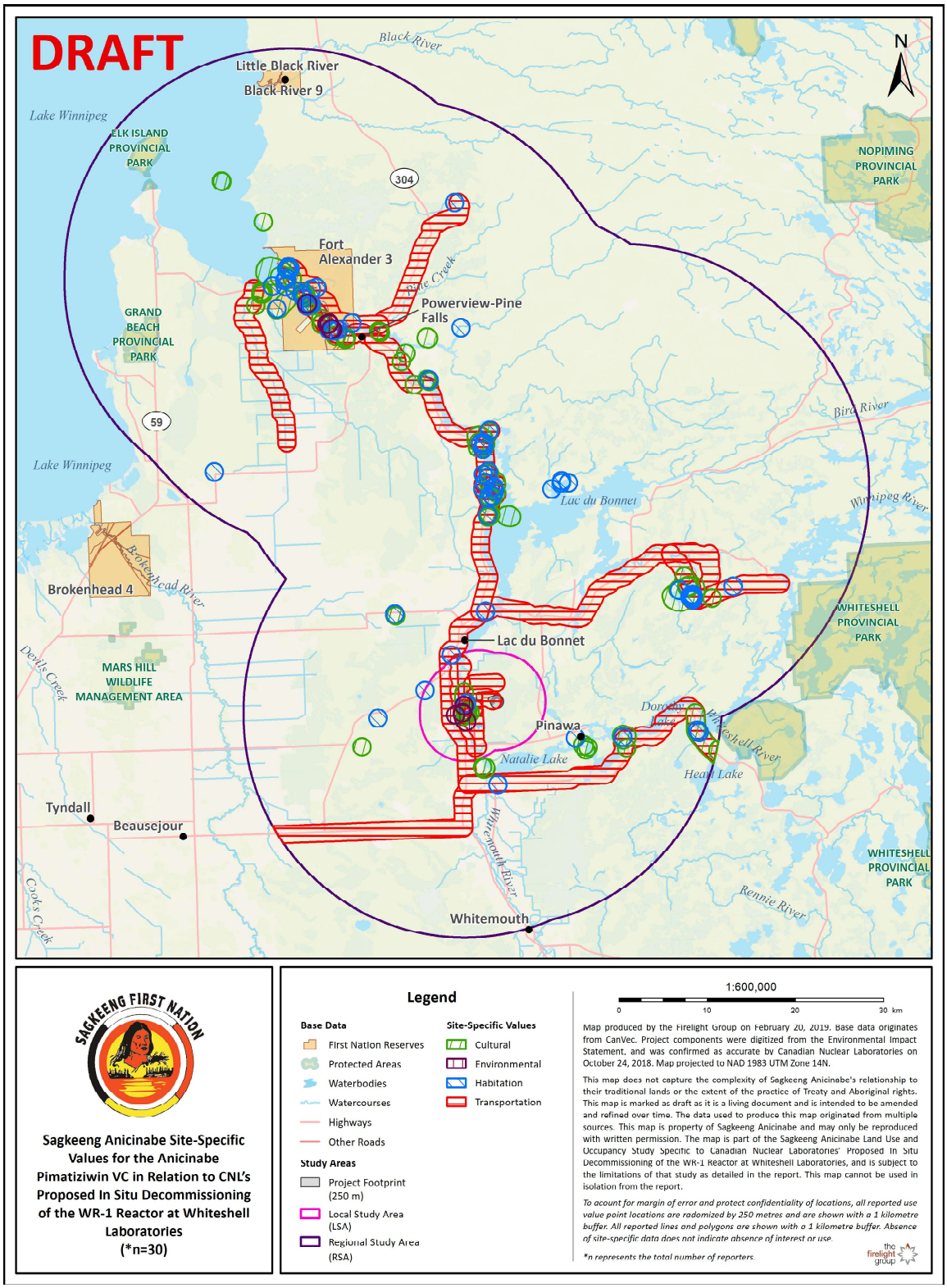

Figure 12: Sagkeeng reported site-specific Anicinabe Pimatiziwin values within the Footprint, LSA and RSA of Canadian Nuclear Laboratories' proposed In Situ Decommissioning of the WR-1 Reactor at Whiteshell Laboratories.

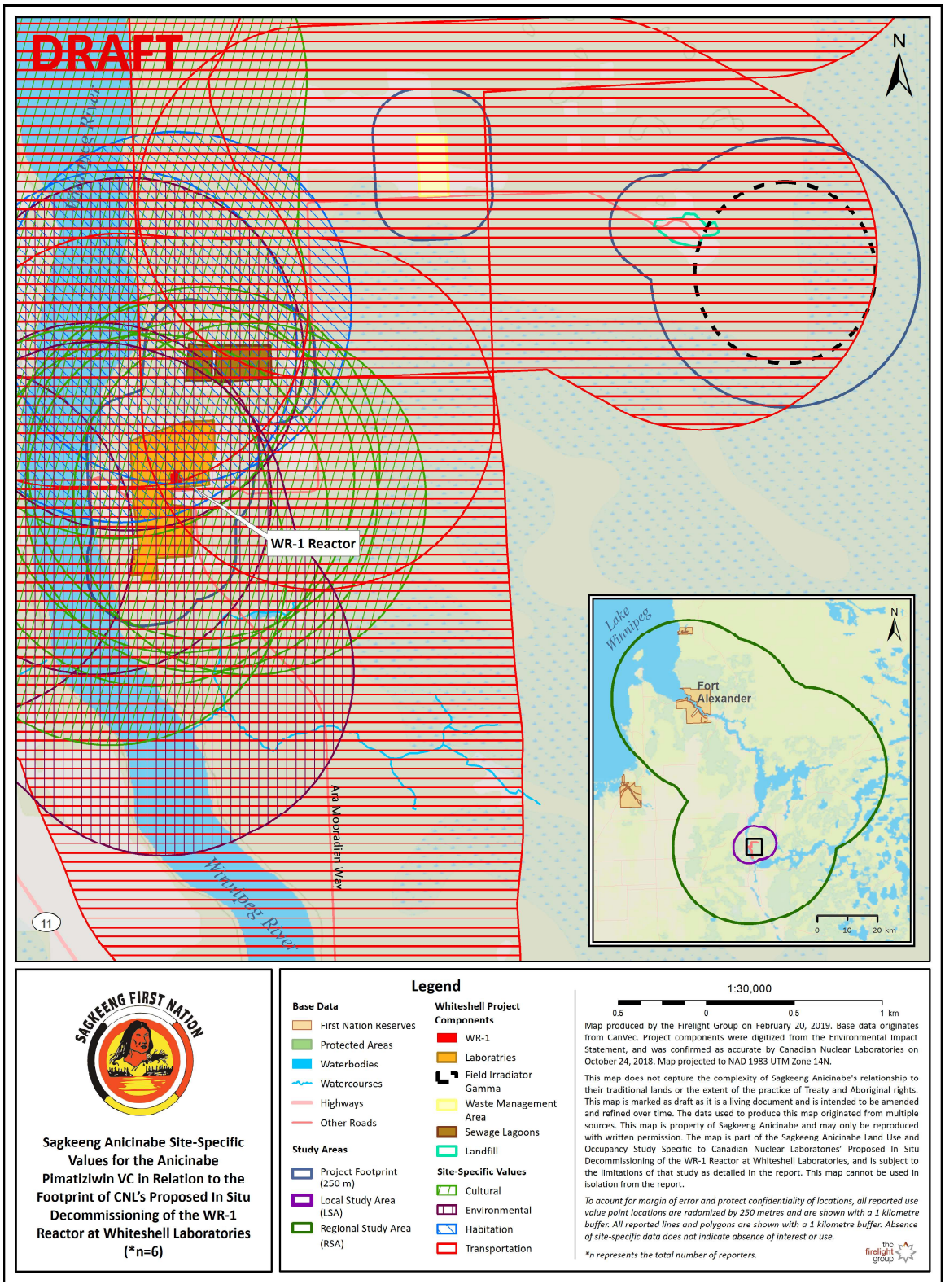

Figure 13: Sagkeeng reported site-specific Anicinabe Pimatiziwin values within the Footprint of Canadian Nuclear Laboratories' proposed In Situ Decommissioning of the WR-1 Reactor at Whiteshell Laboratories.

4.5 ANICINABE PIMATIZIWIN

This section (Section 4.4) discusses the importance of and existing impacts to the Sagkeeng Anicinabe Pimatiziwin VC within in the Study Area. This section draws primarily from data collected during semi-structured interviews.

4.5.1 Importance

The Study Area was described by Study participants as an important area for supporting Sagkeeng Anicinabe Pimatiziwin, which includes the connection between the Study Area, Sagkeeng culture, sense of place and identity, the transmission of knowledge between generations, performing ceremonies, and the importance of burial sites, gathering places, travel routes, and the petroglyphs at Bannock Point.

Sense of Place

The connection between Sagkeeng members and the Study Area was apparent throughout the individual mapping interviews. Interview participants described their sense of place and connectedness to the land, which is closely linked to their spirituality.

> *Yeah, it [the Study Area] feels like home, because every time I go down that way [near Lac du Bonnet] I feel at home.* (S21 2018)

> *I still feel connected to Sagkeeng when I come back here, when I've moved back here. This is still home. When I come here it's still my home. And this whole area it's like a piece that's been taken away. I know it's just as beautiful an area, like when we went to the falls and all that they're just as beautiful as my back door when I was growing up. Those are beautiful areas but it's not the same. But that's still home, Sagkeeng is still home.* (S28 2018)

> *Oh yeah, I do [feel connected to the land], yeah, probably till the day I die. That's what I told my kids, that's my home, that's how I was brought up, you can't stop me, you know.* (S02 2018)

> *…there's a very strong spiritual connection to this [Study] Area, to Mother Earth … the ceremonies are in honour and thanking the Creator for all of that…* (S01 2018)

Participant's sense of place is closely connected to their identity. Several interview participants described their connection to the land through their continued use and occupancy of their traditional territory, as well as exercising their Treaty rights in the area.

> *Me, I've lived here and I talk about a connection to the land … Although we're on a reserve and it's not very good land, we still have that connection through living here and through exercising the right to natural resources; cutting a tree down, picking berries, going hunting a moose, a deer, trapping for mink. You know, stuff like that. So, those are things that don't go away, and that's what ties us*

> *here, and yeah, I think it's built in every Anicinabe person, even though they don't exercise that right. (S10 2018)*

Sagkeeng members' sense of place is frequently described in the context of spending time on the land and waterways in a peaceful and respectful manner. Protocols and principles of stewardship and respect were described as important elements of personal conduct, as it instils a sense of reciprocity between people and resources.

> *…do good by everybody that I meet, and that's the way our people did things, you know? Treat everybody well, and that's what you'll get in return. Respect everything you—all life forms, and that's the way I'm trying to live*. (S07 2018)

Some elements of personal conduct and cultural protocol extend to young Sagkeeng women specifically. This is particularly true during a young women's transition into adulthood. The protocols many young women adhere to, as explained in the quote below, are closely tied to young Sagkeeng women's spirituality and strength.

> *…we were nothing but girls, eh? Well, three older ones anyway, before the younger ones came along. And he [Dad] always used to tell us not to step over the fish, or not to step over anything that they worked with. So that was one of our traditions and our customs, you know, that you don't step over anything that has to do with men working with tools or whatever they used ... because a woman is strong, the strength of the woman would overpower the men in whatever they did, so they kind of—kind of steered you away from being around the men's tools, equipment, and shoes, or whatever they had … We wouldn't step over them because we would take that power. And they always told us that it was not to be ashamed of it, but you know, that we were much stronger in the spiritual sense...* (S07 2018)

Knowledge Transmission

Cultural protocols are often learned by spending time with family members on the land, and transmitting knowledge between older and younger generations. Part of the knowledge transmission between generations includes spending time on the land to pass on traditions.

> *I always will [feel connected to the land in the project area]. I don't know what my grandchildren are going to do … but I'd like to have something for them in that area so that they can come out there, and enjoy it, and learn from some of these areas that are a part of their tradition…* (S01 2018)

Spending time with family learning traditional activities, such as fishing, is central to the transmission of knowledge between generations. Several interview participants shared their stories of learning to fish from their family members when then were young.

> *So, I grew up in that little area [near McArthur Falls], close to Number 11 Highway. We totally lived off the land, at the time. Yeah, we got everything from the land. At the time, I was nine – nine years old. So, my dad first took me out, in*

> *the [Winnipeg] River, in those areas, showed me how to set nets and, fish. I was nine years old at the time.* (S19 2018)

> *Because it's our traditional life, you know? I was taught by my uncle and my dad about that [Project] area. I think that's our way of life, to hunt and fish, trap, you know? They taught me how to clean the fish, and I got better as I went on, you know. I even teach my cousins. Now I teach them what to do...* (S13 2018)

In addition to learning about important Sagkeeng activities from family members, the feelings of contentment while fishing and harvesting wild rice were also shared by Study participants. Participating in these important resource-based activities is an enjoyable activity for Sagkeeng members that elicits feelings of peacefulness.

> *I feel at peace, you know? I feel at peace when I do it [fishing], when I go out there to fish.* (S13 2018)

> *[feeling of camping on the land with her family] It feels good. It's relaxing. It's really peaceful. Like even when we all camp together at campsites, it's fun. It's fun sitting there listening to the elders talking about the old days and where they used to go picking [wild rice]…* (S22 2018)

Ceremonies

In addition to supporting knowledge transmission through resource-based activities, such as fishing and wild rice harvesting, ceremonies were described frequently as being central to Sagkeeng Anicinabe Pimatiziwin. Ceremonies are commonly relied on as a means of teaching younger Sagkeeng members about their culture and spirituality, which is an important component of Sagkeeng identity.

> *You know, our community does a lot of spiritual work; we do a lot of things for the water. We have water ceremonies, which we do twice a year. And it's to pray for the health of the water. We do that with the students here, we invite the youth. So, we do that in the spring and in the fall, we do water ceremonies, and we make offerings to the water beings and the water spirits—little people—you know, they live along the waters as well, and so we have those stories that have been shared to our families coming through our—to us. So, we make those water offerings of copper, they like copper, they like shiny stuff and so we make those things.* (S09 2018)

As described above, spending time on the land with family and participating in Sagkeeng culture and ceremonies are crucial to supporting the Sagkeeng way of life. When discussing the importance of ceremonies, one participants described them as an integral part of their spirituality.

> *The importance [of ceremonies to the Sagkeeng way of life] is that as our ancestors and ourselves have a direct connection with Mother Earth … We're all connected one way or the other. We need each other in order for us to sustain a livelihood here … for us it's a spiritual connection to all of creation and that's*

> *what this area [Whiteshell Laboratories] signifies for me because it reminds me of those things that were taken away from us long time ago.* (S01 2018)

Mapped data from the individual interviews reveal that Project Footprint is a highly-valued location for Sagkeeng ceremonial practices. Many Study participants consider places within the Study Area to be sacred, including the land where the Project Footprint is located and where the Powerview-Pine Falls Dam sits.

> *And that's [ceremony] what happened there [Project Footprint] when the, the ceremony, when that ceremony was over and then people would come together … So this is a very sacred place, this was a very sacred place. And I still, and I still think that it is a very sacred place.* (S12 2018)

> *I know they had a sacred site, they used to meet where that Powerview Dam is now. There's one meeting place you know they used to meet during the summer area.* (S26 2018)

> *So, this [Project Footprint] was chosen for that particular [ceremonial] place as well too, 'cause it was away from civilization in all four directions, you know. There wasn't that much people in either direction so this was a good place to do those things, you know.* (S12 2018)

One of the interview participants described how neighbouring nations from as far as Ontario would travel to the Study Area for ceremonies with Sagkeeng, including at the Whiteshell Laboratories site. Some of these ceremonial gatherings would last for several days at a time, and were important for maintaining connections between families and neighbouring nations.

> *And then, I guess most of the time the reason why [people from] Ontario came there was because they were invited to come into their, their ceremonies in there [Project Footprint], their healing ceremonies and stuff like that, eh. And I think when I look at this map here, when I look at this map, you know, most of those ceremonies were mostly done in that area there exactly where that spot [nuclear reactor] is ... So, everybody would meet in there and they'd have a, they'd have a four-day ceremonies in there. So that was a very traditional place where that, they put this place [Whiteshell Laboratories] here.* (S12 2018)

> *So this, this [Project Footprint] was a very sacred ground where, where this place is, a very sacred ground to Anicinabe people, Ontario, the east, the west and us here, of course, in the middle. So they meet there, in a, in a certain time that would be in September … I remember lots of, hundreds of tepees and stuff like that around that area, in that area where we're looking at. And they weren't mixed to, you know, the Ontario people are one, one spot. Sagkeeng was one spot and Fairford was one spot. They had, they had this big bonfire and that's where they'd meet when, when the ceremonies was over. But in the meantime everybody was, basically almost, almost quiet like, you know, while the thing was going on, while the ceremonies was going on. So that was a, a very sacred place this place here, you know.* (S12 2018)

In addition to performing ceremonies in the Project Footprint, interview participants reported participating in ceremonies near the townsites of Pinawa, Seven Sisters, and Brightstone, which are located in the RSA.

> *But also, we did quite a bit traditional things too in there [Pinawa] as well, ceremonies … Sweat lodges and stuff like that. And not only that but special ceremonies and healing ceremonies.* (S12 2018)

> *We used to have traditional dances. There was what they call the Moon Dance and stuff, especially for the ladies and stuff. We used to organize all that in that area [of Seven Sisters].* (S01 2018)

> *…I know they did a lot of ceremonies in that area [near Seven Sisters] … Plus there was ghost dances they call them. That's for the ones that passed on to the other side. There was different types of dances … The bear, yeah different types of dances, plus ceremonies…* (S01 2018)

> *Important ceremonial [place at Brightstone] because I know that people from the reserve, from Fort Alexander back then, used to come here for the ceremonies. And I think I started going there by the time I was like probably about maybe 5 … We camped in the area. Yeah. There was camps. There was camps set up. And there was not – I know there was a lot of people from Fort Alexander. There was a lot of people there from Fort Alexander ... And at that time, they [ceremonies] were considered unlawful.* (S24 2018)

As revealed in the quotes above, ceremonies are central to Sagkeeng Anicinabe Pimatiziwin. One particular form of ceremony performed by Sagkeeng members is the Sundance. The Sundance is considered to be an important part of Sagkeeng spirituality and identity, as well as paying respect to the Creator.

> *To me it [the Sundance] was giving of myself prayers for the nation, for the people, for my family. You'd fast for four days and four nights, and you'd dance all day and then you rest at night but you wouldn't eat. It was giving of yourself in order to sustain a good life for your family and for the community ... for myself, you know my own spiritual growth it was very important and I dragged buffalo skulls, and I also pierced my chest twice, a couple of times ... asking the Creator to – for to do prayers for your family or stuff like that and you're dancing for them. It's almost like a self-sacrifice...* (S01 2018)

While some ceremonies, such as the Sundance, are large cultural events that occur over multiple days, participants also described the importance of smaller ceremonial practices to personal growth. These include, for instance, making tobacco offerings, both for health-related purposes, and for restoring peace and calm.

> *I remember I was eight years old and I was – it was thundering outside and raining hard and I was always scared of thunder, always, always scared of thunder and my mom would tell my dad, take her in the bush and get her to go and offer that tobacco. And I was eight years old and my dad and I were out there in the bush and it was just raining hard and I took my tobacco and, you*

> *know, we prayed. And it's been really good since, you know, the power of prayers and the power of the tobacco …* (S09 2018)

> *…if I need to learn something, and there's nobody to teach me, then I will go out and put out tobacco, and say come and teach me what it is that I need to learn about this ... so I went and put out tobacco, and I asked the grandmothers, "can you come and teach me what it is that I have to take for this … menopause?" … So, I put my tobacco out, and come Saturday morning … They gave me the medicine. And they were very specific about where I had to go, the grandmothers told me, "Okay, you go here. And the second place, you go over there. Go over here for this." So, they were very specific on where I was to go for that medicine. So, I did it, I made it, I drink it like a tea, and I take it every day. Just like you would take aspirin or if you were given a prescription. I would take that medicine, and that's what helped me. I didn't have the hot flashes anymore, the cold—the hot sweats, like you know, during the day, and during the night, like you know?* (S07 2018)

Offerings made to the land are an important part of ceremonial practices. Another ceremonial practice that was reported by an interview participant was the burying of placenta after childbirth. This practice is meant to connect an individual to the land, which contributes to their sense of place.

> *Some of the other things that we used to do in the areas was to, you know, how I talked about women's teachings and some of the things that we do, like the placenta, you know, when a woman just had birth … So that's what we do, go take it back to the earth and we take it in the bush in our areas. I have my grandsons in the bellybutton too, the umbilical cord, it naturally falls off, you know, where they cut it and you look after it and it falls off and within seven days—and what I was told by parents was that you have to take that and you have to keep that part and you have to take it back to the bush. And whatever it is that you want your child or your grandchild to be when they grow up is what you put with that.* (S09 2018)

> *Like a lot of times we learn by— our people learn by observation, you know? … it's just because of that connection that we have to the land, that spiritual connection—and that's the same thing, you know, of why do the placenta [burial], it connects you back to that land. Connects that child, you know, to the land, and that's basically one of the most important—is to have that connection back to that land. And so that's why we teach our young people—is for them to understand that connection, you know, of why we do things.* (S09 2018)

Burial sites were also described as an important ceremonial practice that connects Sagkeeng members to the land. As described in the mapping interviews, burial sites represent Sagkeeng Anicinabe Pimatiziwin, identity, heritage, and spirituality. It is therefore important for Sagkeeng members to protect burial sites, which were mapped in the LSA and RSA.

> *Because those people [ancestors] are still with us. Their spirit is still here with us. And we have to honour them … that's what connects us to it. To deny your ancestors is to deny you and your future ... we have to acknowledge that they, you know, they got us to this point where we are today.* (S04 2018)

> *So that's why it's important for us to acknowledge … what they've [ancestors] given to us. And by protecting them. They're still with us. Yeah, we're not here – we're not alone here. We're in this universe with them and when we need them, when we ask for their help and they come to us and they guide us.* (S04 2018)

Habitation and Travel Routes

The ancestral links between burial sites and Sagkeeng members today is an important aspect of Anicinabe Pimatiziwin. Qualitative interview data reveals the importance of visiting and returning to areas used by their ancestors, as it connects them to their heritage and their ancestors through the continued use of important places, such as habitation sites and travel routes. By returning to these places, interview participants feel as if they are with their ancestors.

> *There must have been some kind of – people must have lived along the [Winnipeg] River for many, many years, thousands of years maybe, you know, Anicinabe people, I guess. Just because you hear them, you know, you can hear them with the wind or stuff like that, he says. It's just like it's almost so real. Like they're just – they're still here.* (S17 2018)

> *I think people always talked about it [Whiteshell Laboratories]. I mean different people. You know, they always talked about … [what] that area meant to them in terms of being able – as a stopping area ... the late [personal name], before he passed away and he talked to me about how we used to walk down all the way down to Great Falls and to different areas in the middle of the night. Because they knew the pathways ... People used to have extensions and trails and camps.* (S04 2018)

Extensive travel is inextricably linked to Sagkeeng culture and way of life. While traveling, Sagkeeng members would participate in other land use practices, such as hunting and fishing. One interview participant shared a story of their grandmother traveling for over a month from Little Saskatchewan, MB to Sagkeeng across Lake Winnipeg, and their journey of hunting and fishing along the way.

> *…she [grandmother] told me how she got back from Little Saskatchewan to here [Sagkeeng] by boat … Took them one month and one week. They had to wait at night like Winnipeg to cross to come to Sagkeeng because the waves are too big during the day I guess. One month and one week. I said how did you get food? She says well your grandpa was hunting on the way. He'd camp for a while and then smoke fish and deer meat and whatever they got. And then every reserve they stop, they give them flour whatever they need for food. That's how they got here…* (S02 2018)

Travelling on the Winnipeg River is an important means of accessing the Study Area and the broader territory. Activities such as medicine picking, harvesting berries, trading goods, accessing campsites, and mobility across the land and waters are supported by Sagkeeng member's ability to travel safely and freely in their territory.

> *This is not the only area [Otter Falls], but there's other areas, but they had certain area too that they had trap lines and stuff like that, yeah but I'm not familiar with that part … [the Winnipeg River was used for] not only trade, but mobility, population. Seven Sisters, before the highways were even there from what I heard they used the water system, and they used to portage every so often…* (S01 2018)

> *So that's basically was our main travel routes [the Winnipeg River]. And there was an abundance of certain things as you were going along, campouts and all these other things as people were travelling and they used to have ... berries, all an abundance of berries and stuff like that in order for them to feed themselves. Plus, there was traditional medicine picking that was taking place at the same time. That's why it's so close to that Seven Sisters area there, the Petroforms because of that travel, yeah. I understand it works together so basically that's what it was.* (S01 2018)

Interview participants described how their ancestors lived and travelled in the Study Area to access important cultural sites. This includes places in the Project Footprint, such as the Winnipeg River and the present-day Whiteshell Laboratories site, as well as Rice Lake in the RSA. These places are important for supporting other subsistence activities, such as trapping, harvesting wild rice, and picking berries.

> *… some people lived here [the Whiteshell Laboratories site] for months. Then they finally find a little village over there where there's more of them. So, then they'd stay there for a while … It was just maybe 20 people there at that one particular point for maybe the winter and moved on the following spring, you know, further, closer to some place like Winnipeg or something, you know, where they can go trade their furs or whatever, closer. Yeah. Native people weren't set in one spot. They had to roam all over the place. You know, they had to go all over to survive.* (S17 2018)

> *Yeah, and right along the—like you know, there'd be lots—there's—because of these little islands, there's lots of rock in the area, eh? And they would camp by the—not only where the rice was, but you know, the staples, the food staples, eh? They would—not only for wild rice, but you know, if there was animals in the area, then they'd hunt those animals, and you know, it wasn't only for the wild rice, it was for the animals in the area and the berries and the stuff that were abundant in this area.* (S07 2018)

> *Well, it's [rice picking] a, it's a tradition, like, when you keep going out like, every year and, you know, you like it … in the 70s, they used to camp all over here [at Rice Lake] in this area here. There used to be tents. Back in that rock and, this area, there used to be tents all over … you grow up into it...* (S06 2018)

Sagkeeng cultural persistence relies on knowledge transmission between generations, typically between elders and younger community members. Several interview participants described their experiences learning to pick plants, medicines, and roots from a boat.

> *But what I learned from them [elders] was the basics, more or less ... you know, which plants for what because they'd just tell me just dig in the water there ... Just get right in there and dig them all up. All these roots and whatever. So, they'd throw them in the boat, put them in garbage bags or whatever. They'd take them to the shore and then the old man would look at them and say, "Okay, this, this, this," sort them out ... These kind of things we'd have to do for them.* (S17 2018)

> *And I try to teach [my grandchildren] about the traditional plants in the area, because I tell them, you know, you're going to need this, you know, maybe not right away, but when you get older, you'll know what to pick, and feel the texture. And I remember my grandmother doing that to me. So, what she taught me is what I'm trying to carry forward for my grandkids, so they'll know—so they'll recognize the plants [pause]—and the reason why I'm going that way, too, is the healing. How costly medicines are nowadays, eh? The natural stuff is more potent, and it doesn't only concentrate on one thing, you know that it concentrates on the whole system of our human body. And that's what I'm trying to teach my grandkids.* (S07 2018)

Petroglyphs

For Sagkeeng, ceremonies are multi-faceted and practiced in a variety of ways. The petroglyphs (or petroforms, as often referred to in interviews), which are located at Bannock Point in the RSA, are used by Sagkeeng members to perform ceremonies. One participant discussed why it is important for Sagkeeng members to visit the petroglyphs, as it supports the health of the rivers and lakes nearby.

> *To do ceremonies. Because that's where our—generations ago they did ceremonies. And that's why we go into the bush there and we do our ceremonies there, we make our offerings to the health of the rivers, the lakes and the health of the area, the air, and for the water, yeah.* (S09 2018)

For Sagkeeng, the petroglyphs at Bannock Point is a sacred area. It is a site used for ceremony, it is a spiritual location, and is also an area where many nations gathered long ago. For interview participants, the petroglyphs help to preserve the important connection between themselves, their ancestors, and their spirituality.

> *That was where they gathered [Nutimik Lake] … people from all over, yeah, from east, west ... It was quite significant for people from years ago and they had them – they had a little tower, they built a tower and you could see the snakes and the turtles and the bears and all that, made from basic stones and stuff. Yeah, and it's just flat, it's amazing how flat it is, but it's rock, you know. It's pretty amazing.* (S15 2018)

> *[The turtle petroglyph] carries truth, and if you look at the turtle shell too it's got 13 spots, 13 moons. That's how a lot of our people learned, knew about a lot of this stuff the astrology, the animals because it was all given by the Creator for us to learn from and to give us guidance to our life. That was the spiritual part of it ... The animals taught us, and the existence of all the animals played a part in all our livelihood there to feed us, to teach us...* (S01 2018)

> *To us they're [petroglyphs are] sacred. And I'll tell you why. It gives – it reveals a time of a people that – that lived on this land, and their struggle was to stay together and to work together. And those lessons are here for us today. That's how I see it. And I get strength from that place knowing that they walked this Earth the same time at that place and left a mark there. And to us that – that gives us strength.* (S04 2018)

> *We were the keepers of Mother Earth and all the symbolic stuff that was there, you know, the animals, the snake and all these petroglyphs and all that other stuff was there for a purpose, to remind us of our spirituality and our connection to Mother Earth in that area [Bannock Point]. That's what it was about.* (S01 2018)

The quotes above clearly demonstrate Sagkeeng members' continued reliance on the Study Area for Anicinabe Pimatiziwin. The data reveal Sagkeeng members' strong connections to the land and waterways in the Study Area, which, as discussed above, is strengthened through their practice of ceremonies, making offerings, passing on knowledge to younger generations, and spending time on the land.

4.5.2 Impacted Baseline

Over the course of the individual mapping interviews, Sagkeeng members detailed numerous impacts to Anicinabe Pimatiziwin values within the Study Area. This includes residential schools disconnecting young Sagkeeng members from their family and culture, past restrictions on practicing ceremonies, the disruption of knowledge transmission, and the impacted sense of place due to land access restrictions, negative interactions with law enforcement, cultural prejudice and reduced environmental integrity.

Residential School

The Fort Alexander Indian Residential School was in operation from 1906 to 1970, where many Sagkeeng members attended this school. This was a difficult period of time for the community, wherein participants disclosed the long-term and negative effects that residential schools had on Anicinabe people. Several interview participants described how residential schools affected the ability of Sagkeeng members to connect with their identity and traditional way of life.

> *And that [connection to the land] was taken away during the residential school time, they [children] were taken away from their families.* (S09 2018)

> *Nobody wanted to be an Indian the years I'm telling you about [during Residential School], nobody wanted to be an Indian here in Sagkeeng, in Black River, all over. Nobody. The only ones that wanted to be Anicinabe was the ones that was brought up by traditional people like me. I was brought up by my granny and, to be proud of who I am, that's the way I was brought up. My sisters, my brother, same thing. But we had neighbours that were brought up the Catholic way, they see the big differences there already … the traditional life in the Catholic way is, was very much different in those days, very much.* (S12 2018)

> *I haven't had an opportunity to go back to my roots, as far as back as I wanted to. Because I had to let go of a lot of bad stuff that happened first, you know, at the residential school and my healing journey … I'd ask sometimes my older brother, "Do you remember?" you know. But, you know, the answer was always, "No, we were in the residential school most of the time."* (S24 2018)

Ceremonies

During the era of residential schools, Sagkeeng members also reported experiencing restrictions on their ability to participate in ceremonies freely and safely on the land. In some cases, Sagkeeng members recalled the threat of being imprisoned for practising ceremonies in the Study Area, leading some members to do so in secret.

> *I only knew it by [Wasco-se-nee], but I also knew later on it was Brightstone. And that's where, because of where lived in McArthur Falls, a lot of the elders from – well, it was Fort Alexander then, now it's Sagkeeng First Nation – had a camp, a spiritual camp in Brightstone. And that's where we used to go for ceremonies and attend. Even though we were not – even though it was already outlawed by the government, and there was, you know, the threat of being jailed and put to jail and whatever if caught ... they used to come to Brightstone because that was part of their territorial lands, like from the Whiteshell [Park] all the way up. And Brightstone, somehow, because of the name and the significance of the [Wasco-se-nee], the Brightstone. That's where a lot of the ceremonies took place, in secret, I believe*. (S24 2018)

In certain instances, the RCMP and Christianity had negative effects on Sagkeeng members' ability to perform ceremonies. By being prevented from participating in ceremonies, some interview participants observed that the very practice of ceremonies in the community was diminished.

> *I don't know if there's anybody that knows how to do those [ceremonies] anymore. Because like I said, you know, the Christianity had a lot of impact on a lot of our stuff that we used to do, eh? You know, it was almost like it was—what would you call it? Outlawed?* (S07 2018)

> *But, like, I told you, our traditional faith was, spiritual faith, was outlawed. So, things had to go … They had to be then undercover all the time.* (S25 2018)

> *…they had the Sundance there [Brightstone]. I remember the one Sundance. And I find that a little bit different too, but that's okay. Like we lost – we lost a lot during that process of when they [RCMP] were trying to take everything from us. So, we were just coming back to it.* (S24 2018)

When considering existing impacts from the Project, of critical importance is that the Project Footprint resides on what once used to be a ceremonial site for Sagkeeng members. The lack of consultation when the nuclear plant was built in the 1960s continues to frustrate Sagkeeng members today.

> *It's like people come in and say okay, this is what we're going to do. And just like putting this thing here, so many people have said "Why did they put it [the nuclear plant] here?" … that piece of land was an actual traditional ceremonial site, right where that thing [nuclear reactor] is situated. They had an upper level of, you know, up in the rock area where they were doing their traditional ceremonies and then to have this thing come right there, nobody was consulted, nobody—surely you would try to find out, you know, is this going to be a safe place to put it, how is it going to affect the people? And they would have found out that those—you know, they [Sagkeeng members] were using that land...* (S28 2018)

In addition to the loss of important ceremonial sites in the Project Footprint, interview participants reported losing gathering places in the Study Area to development. In particular, the construction of a children's camp near Otter Bay where Sagkeeng members used to gather led to the loss of a burial site.

> *...And they [Tim Horton's camp] said "Oh, we'll never bother this area, this land over here [near Otter Bay]." Because they were asking us about this area and [personal name], the old man at the time was telling them, you know, you guys stay off this area here because it's a burial area and burial sites are there. It was a significant area to us. And this was the gathering area right down here. And that's where the road went down at the beginning. But I guess they built it all up now.* (S04 2018)

Knowledge Transmission

The loss of use and access to culturally important sites in the Study Area, as well as restricted access to the Project Footprint, were reported by several interview participants. This loss has made it more difficult for Sagkeeng members to teach their youth and younger generations about the Sagkeeng way of life.

> *Well, I'll tell you about this place [Project Footprint] here, you know, I wanted to go show them where the things used to happen. I try to show my nephews traditional way of life, right, so I take them to spots, sacred spots, you know, then, when I went there then, of course they put a stop to that…* (S12 2018)

> *And those days [of using the land freely] are, I think, are just disappearing because a lot of these young people don't want to go. I showed a lot of people these areas, but a lot of the young Anicinabe guys … everybody stops 'em on*

> *the highway before they can even get close to those places nowadays, you know? So, they kind of give up on that too. That's probably why. I would tell them, "Like we have to sneak around all the time. So, think about it, you know? You have to come from the opposite end of the other end or like that." You sneak in the river all the time. And you got to portage here and there to get to so many of these places and it's a lotta work.* (S17 2018)

> *I don't think anything is going to be good around that area, maybe in future generations people that don't know that it was there will use it, but as far as right now, my generation, we know that the ground around there is no good, it's—and it's so close to the [Winnipeg] River, it should have been way in there, in the middle of nowhere, that's really close to the river.* (S15 2018)

Descriptions of Sagkeeng members losing access to culturally important areas were numerous throughout the interviews. Since the nuclear site was built in the 1960s, Sagkeeng members have not been unable to freely access the site as they once did. This has had large implications for their ability to bring younger Sagkeeng members to these sacred areas that are historically important and rich with Sagkeeng history, and thus of high cultural value.

> *…everything was peaceful, you know, as a kid I was brought up to respect you know, to have great respect for people. But then things are turned around now, you know, and I take my nephews there [Project Footprint] and all of a sudden, you know, we take [canoes] there, you know, then all of a sudden, it's cut off, like we can't go there, we can't go to the rivers and stuff like that because we're Natives, you know? And yet this is our sacred grounds are there, you know, still today there's lots of spots in there, especially towards Whiteshell [Park] there's a lot of sacred grounds in there where me and my dad went and he showed me the sacred ground where I can see arrowheads and stuff like that. You know, sticking in a cliff in the rock, you know, where one time somebody had shot a, [seven] arrows into this rock. And still today those arrowheads are stuck in there but you can't reach them. And for some reason the rock down where a particular place I'm talking about is just flat like this. And then he says, "You got to put tobacco here, my son, every time you pass here you put tobacco here." So that's what I do and that's the thing that I can't go, but I don't have any rights to take my grandchildren or our friends, or my nephews out there cause there's a big gate there, you know, an invisible gate, you know, and that's it, you know; we can't use this spot anymore.* (S12 2018)

> *But it almost seems like the lost that they've [Sagkeeng members] had now is irreplaceable. People being told now, you know, don't go back there. Like when I learned this I don't even want to go there, I wouldn't go pitch up a tent or I wouldn't go and put a house in that area or, you know, even downstream now because of all that I learned about this place [Whiteshell Laboratories]. I would not put my family in a place where I did not feel safe and I think that's a big thing that sadly Sagkeeng has had to deal with this. It's not a safe place, it's not — and there's no information that's been given to them [Sakgeeng]. The more questions they have the more unsafe you feel.* (S28 2018)

One interview participant maintains that if the nuclear site were not there, their family would still use the Project Footprint.

> *...if that nuclear site wasn't there I believe our family would have used this place because those are beautiful—that's a beautiful area. If you go down there it's a gorgeous area.* (S28 2018)

Sense of Place

The loss of use of the Project Footprint has affected interview participants' sense of place. Reduced access to the Project Footprint, combined with a decline in the environmental integrity of the Footprint, have compounded the difficulty of maintaining a connection to the area for some interview participants.

> *I have no reason to [go to the Project Footprint]. We're not allowed to go in there for anything.* (S15 2018)

> *I don't feel connected to it [Project Footprint] at all. Just a dirty place, that's all. Yeah, just a dirty place. I wouldn't go there again. Not, after I fished with Fisheries and Oceans for this place, what I've seen, you know. I don't think I'd want to go back there again. It's too dirty. Too much stuff there. Poison, I guess, yeah.* (S16 2018)

> *But, now it's, like, I say, this whole place [the Project Footprint] is polluted. It's dirty. It's no good. Even all the way up here, look, all the way, it's, "Watch what you eat." That's what some of the signs say up here, by the Manitoba border.* (S16 2018)

> *Because nature regenerates itself and it recycles, you know, and—but now I don't think it can regenerate itself, because there's too much pollutant. Yeah, so it's sad, it's kind of sad ... There's a reason why they call it Mother Earth.* (S03 2018)

As explained by one participant below, Sagkeeng members are stewards of the land. Without access to the Project Footprint, they are unable to care for the resources and the land within the area, which is a responsibility deeply ingrained within Sagkeeng culture.

> *They [AECL] must have knew what they were doing. They had to know what they were doing. If the government can spend that much money to ruin our traditional territory, they should have that much money to ensure that they leave it as they found it. Like, Mother Earth gave us this area to be the stewards of it. They didn't come and ask us. They completely ignored. They outlawed what Mother Earth was given to us, by the Creator. They totally ignored everything the Creator gave us. The responsibilities the Creator gave us. The resources the Creator gave us. How to maintain everything.* (S25 2018)

The effects of loss of use, and access to, the Study Area are exacerbated by interference from game wardens, conservation officers, and RCMP. As described above in section 4.5.1, travel and peaceful enjoyment in the Study Area is central to Sagkeeng culture. However, as discussed in Sections 4.2.2, 4.3.2, and 4.4.2, Sagkeeng members have been prevented from traveling freely on the land, frequently by law enforcement.

> *Anytime we went there in the daytime, I'd always get pulled over, stopped, checked over, make sure everything is up to their [conservation officer's] specifications … Because they'd always stop us no matter what, going through Lac du Bonnet, especially. They'd stop us from going right to Seven Sisters or something – going into these areas without anybody knowing. Like very seldom we'd make it through there without anybody knowing, you know?* (S17 2018)

> *All of a sudden, you'd have RCMP there, game wardens, everybody, telling us, "You're not supposed to be here." For what? We're not doing anything. We're away from everybody else. All of a sudden, you guys are coming here to bother us, you know? … we're away from the town. We're away from everybody…* (S17 2018)

> *Cat and mouse game with these people [game wardens]. Why, I don't know. I used to tell my dad, like, you know, "I'm not gonna stop, I'm just going to go there in the daytime, I don't care what anybody says, you know!" "Go ahead!" I went and sure enough, I'd run into all this bureaucratic nonsense that these people got to give out there.* (S17 2018)

Similarly, some Sagkeeng members feel prejudiced by private land owners in the Study Area.

> *...they [home owners] own it [the land], the people that go and live there [Lee River], you know, they don't like us – it's hard being an Indian … you feel it, but they disguise it really good, they're good at it.* (S15 2018)

The negative encounters experienced by Sagkeeng members on the land point to the broader structural and societal changes of day-to-day life for some members, which in some cases can be a difficult adjustment.

> *What I did and how I'm trying to teach them [younger generations] that, you know, how I was brought up and that. But I don't know if they'll go into it because everything is changing for us. We didn't need schooling when we lived off the land, now you need school to live so I don't know. It is a big change. I never went to school. I was lucky if I did go to school for two years. I don't think I even finished grade two. I learned to talk English when I met my husband and I'm still learning from my kids. I couldn't hardly talk English when I met my husband. And we moved to Winnipeg, I didn't know where I was, I was lost, I was lonely. The bush is my home. That was a big change for me.* (S02 2018)

Despite the impacts detailed in the above section, the Study Area continues to be important, and highly-valued for Sagkeeng Anicinabe Pimatiziwin.

4.6 PROJECT INTERACTIONS

Sagkeeng members expressed numerous concerns regarding the Project, and emphasized the intertwined nature of potential effects. For the majority of Study participants, the principal way the Project may affect the community is through the contamination of Water Resources and the soil/ground should containment efforts be compromised (see Sections 4.2.2, 4.3.2. 4.4.2 and 4.5.2). From the perspective of Sagkeeng members, ground and water contamination from radiation would have deleterious effects on a wide array of culturally important resources, from plants and medicines to fish and terrestrial animals.

> *If it's going in the ground, it's gonna affect everything that comes out of the ground. Anything that eats off the ground. You know, I don't know if you're familiar, it's a cliché, we're all connected, we're in the spider web of life. You know, we're just a string, so, we're doing all this stuff, and you have to bear in mind, I don't know if you think this way, but, anything man makes, breaks. That's the reality of it. Anything nature makes, let's not break. So, yeah, I do have big concerns…* (S10 2018)

> *About the—about the [Winnipeg] river … whatever goes over there comes down to us here in the Reserve here, you know, and kills off our—our fishing and hunting as well too, right? Cause they don't know … when I went there for a tour, anyway, you know, you had to wear special clothing and stuff like that. And so you can only imagine the danger of—of this thing here—that [the nuclear site], being there.* (S12 2018)

> *Well, they have to look at the environment. What impact is it going to have on the environment? That, of course, includes the Mother Earth. The river, the life of the wildlife, the plants, the fish—everything that lives, that has to live from that area. I don't know how they're going to contain that.* (S25 2018)

For many Study participants, expectations of adverse effects from decommissioning originate from observed impacts attributed to the existing Whiteshell Laboratories nuclear facility. For example, in the quotes below, one participant explains how fish have already been affected while another discusses the loss of plant and animal resources. (Also see Sections 4.2.2, 4.3.2. 4.4.2 and 4.5.2 for discussions on the past and ongoing effects of the existing Whiteshell Laboratories facility.)

> *I think [decommissioning the site] will affect the animals and the plant life in there, yeah. Because it's probably where the holding tanks were for the coolants and that. It's probably in the ground already, because I see a lot of fish there that look kind of funny, hey?* (S23 2018)

> *[thoughts on decommissioning] ...they're killing our ground, aren't they? Our land, not the ground but the land. And see there's no more blueberries or rabbits or anything like that.* (S02 2018)

A prominent theme in the qualitative data is a low level of confidence among interviewees regarding the durability, longevity, and permeability of the containment approach proposed by the Proponent (see Section 2.2). The majority of potential Project interactions raised by Study participants presupposes a breach of Project facilities.

Water

As highlighted above, a major concern in the event of a breach is the contamination of waterways and waterbodies. The Winnipeg River in particular is a prominent waterway that may transport contaminants downstream to affect the Sagkeeng community.

> *I think they should pull out all those reactors and dump them somewhere else because it's poison to the river system, hey? That concreting over time will – you're old, hey? So, if it's still like … charged, it will seep into the river system."* (S23 2018)

> *...they don't think like we do, we think always of the future generations ahead. You know, we think—like they say, you know, seven generations ahead, we think about that. And if it's never done before, it's going to—you know, it's [the nuclear waste] going to seep into the ground, it's going to seep into the water system. It's really close to the water where they're proposing to bury that, it's right along the Winnipeg River. And that's the river that runs through our community.* (S09 2018)

> *Yeah, it'll have an impact on the water, I'm pretty sure ... So I don't think they should be putting it through, man, they should just try to take it out of here safely, fly it out of here. It'll probably be the best thing to—but where else would they take it to, right?* (S20 2018)

Impacts to water are especially concerning for Sagkeeng members because of the vital role water plays in supporting all forms of life and the Sagkeeng way of life (including hunting, trapping, and plant resources). In addition, effects may carry over many generations in the future. Sagkeeng members also reported drinking water from the land, which would be precluded by contamination local waterways.

> *We're all living things, and the water is like the life blood of Mother Earth. If we didn't have water, if we don't have water we're all going to die. Like there won't be life, there won't be animal life, plant life, us, birds, you know? If we didn't have all this water around this area. Because there's a lot of—this is all freshwater, and creeks, and groundwater, you know? And what they're thinking of doing in Pinawa, it's going to seep. And it's going to go out, and it's going to affect from underground, right? It's going to affect us, it's going to affect our children. They're only thinking 300 years, we think like thousands of years ahead.* (S09 2018)

> *It's dangerous … for the farmers and the wildlife and the water too … we drink it, hey. Fish lives in the water, and … it is a big—a big concern there.* (S05 2018)

Water is furthermore of spiritual importance and a part of Sagkeeng members' identities (see Section 4.2.1). In the quote below, a Sagkeeng member describes the desire to teach younger generations about the importance of water through prayer, and the risk posed by the Project in this context.

> *And so, you know, that's what we pass along, these teachings and these things that we've learned, you know, sharing those with our family, and sharing those with our youth, with our young people so that they know how important it is to pray for the water. You know, a lot of our young people, they think they don't—they don't know how to pray. You know, we tell them why we do it, why we're praying and making these offerings. It's so that—that water—because we all need water to live. You know, the animals. And if they have that thing—if they put that thing and bury it in the water, and it seeps into the water system? Yeah.* (S09 2018)

Fish and Wild Rice

Aquatic resources such as fish and wild rice may be particularly susceptible to water contamination. Sagkeeng members discussed avoiding fishing in the vicinity of the Project while simultaneously voicing uncertainty over potential Project effects (such as their nature, extent, and severity; uncertainty is another major theme of interviews, see Section 4.2.2).

> *I don't think I would feel comfortable to be fishing near the area itself.* (S25 2018)

> *Well that nuclear thing there—I don't know how far that thing would affect the area, so, you know, that's—that I don't know .... I'm not too sure if it would affect the fish. 'Cause, there is a bit of a creek that runs into this place here.* (S06 2018)

> *[Referring to concerns about how nuclear waste could interact with wild rice and berry picking areas] But yeah, a lot of it is just blueberry picking and the rice, but it's also like—what would happen if one of them ever leaked, see? … I think if it leaked into the ground, got into the water, it would just spread from there.* (S14 2018)

Medicines, Berries, other Plant Foods

Similarly, whether plants (used for subsistence and medicinal purposes) near the Project can be safely consumed is on the minds of Sagkeeng members. One interviewee stated they would likely avoid areas around the Project site for berry picking.

> *… even though if they say it's safe, I don't think I'd go back there [to pick berries] anyway, because I think that's the most dangerous thing there, that nuclear…* (S05 2018)

> *Like, for me, I don't think I would go back there and pick anyway, but you know, like, what you're going to pick, you're going to eat it, you know. I don't know how safe that would be, you know. No, I don't think I'd go back there.* (S05 2018)

Hunting and Trapping

Study participants also discussed the avoidance of hunting and trapping resources in the context of the Project, as linked to contamination and downstream effects in the event of a leak.

> *…because of the radioactive stuff I wouldn't feel comfortable taking stuff in that area. I don't even feel comfortable because knowing that it could actually seep into the river, yeah. And we're downstream from where that site is, a lot of our animal life like I said is not safe.* (S09 2018)

For other Sagkeeng members who are not wholly deterred by the risk of exposure to nuclear contaminants, access to resources may still be at issue. One Study participant noted that the Project will not improve access (even though they would consider hunting in nearby areas), while another was adamant that access must be provided as connection to the land is fundamental.

> *They can keep it [speaking about burying the reactor]. I don't want to have nothing to do with that contaminated stuff … you know, I wouldn't mind to be able to go up there and hunt with no restrictions and that, but they own everything now. They want to own us but they don't want to take care of us.* (S15 2018)

> *...we have to make sure that we have access to the area. You know, through this walls or fences or anything else. It's not going to keep us away, or keep us disconnected. We have to have access to the territory.* (S04 2018)

Anicinabe Pimatiziwin

As previously highlighted, many Study participants stressed a deep sense of insecurity and uncertainty regarding the Project and its likelihood of success in containing nuclear contaminants from the reactor. Interviewees expressed apprehensions about whether grouting was a feasible means of containment and whether there were any guarantees that containment would not fail, affecting current and future generations.

> *I don't know really what to say about this place. They should have shut down years ago. They shouldn't have ever built it in the first place. Yeah. That's what I say about it. It should never had that there. Even that close to the water. Yeah. That's what they say, should never had it there in the beginning. Never. I don't know how it's going to be now, when they shut it down. Like, how they're gonna keep everything in there.* (S16 2018)

> *A major [question] is: How safe is it? Is there a guarantee? What would happen? How would it affect us? ... Because when you drive by—when you go down Highway 11 to Seven Sisters, you don't see nothing ... My major concern is what*

> *would happen if it did leak? That's my major concern. And how long would it affect us? Because you want to leave something to the children, you know what I mean?* (S14 2018)

Sagkeeng members questioned the integrity of the grouting system, including its vulnerability to earthquakes, erosion, and to the effects of time, as illustrated by the quotes below.

> *…if something ever happened, if it erupts, or a big earthquake comes and that, what do we do? Everything goes … Our animals, our water, even our people. Our farmlands, and I don't know how long it will take, years and years I guess, to clean it up … it is so dangerous, even though they're going to shut it down, still, there is something in there...* (S05 2018)

> *Now to think about this thing here that's going to be under the ground for whatever, one mile down there or whatever. I don't know, you know, eventually, land moves too, you know, so close to the river. And, of course, it's going to widen, right, the river's going to widen. And it's going to bring it down, you know ... It's going, roughly, just the nature itself it's going to pop out, it's going to leak out and everything's going to, you know.* (S12 2018)

> *Well, we have to know that level of detail. Because there's residue under there. They can't just cover it and assume that they've got it contained. I don't think that does any justice to put a lid on it, like, okay, supposing you're boiling water and you put your lid on that and the water is in your pot and it's boiling. Eventually that lid is going to go like, this, right and, let the steam out. And, that is water, the steam. So, that could happen here. But, as far as the bottom is concerned, there's nothing to hold it there, like, your pot would hold the water. But, there's nothing to hold that, to contain it in there. There has to be a way for them to make sure that it's tightly sealed. But, is the concrete going to do the work? Have they tested the concrete if it holds any nuclear material without leaking?* (S25 2018)

> *But how long would this capping last though? Because things deteriorate. Like concrete deteriorates too. It deteriorates by heat and rain and cold. It cracks, you know? I don't know if that's going to be a safe way to do it … I don't think a cap is going to be a good thing. I think it's going to deteriorate by rain, cold and heat and wind. That's my point, dismantle it.* (S13 2018)

Many interviewees contemplated the potential effects of the Project in the long-term, on the scale of multiple generations. Great uncertainty also exists regarding the effects of the Project (or failure of the Project) on human health and wildlife.

> *Because no way—no matter how they encase it, it's—there's going to be a crack, you know, eventually—it'll take years, mind you, but it's going to crack. I don't care how much grout you put on it, you know, it's going to seep in. And I'm worried about, you know, the generations to come, because like I said, even the young people, the young mothers now, are giving birth earlier. … There's a*

> *lot of sickness, the diabetes, and I believe that has a lot to do with the chemicals in the water.* (S07 2018)

> *Well, if they're going to bury it, do it in a way that they—that it doesn't stand out to be a problem after. That's all I'm worried about, because I have grandchildren to worry about.* (S21 2018)

> *I guess it would be—I would be concerned for the people. I don't know how long I'll be here, but for other people, hey. It's not going to happen in my time, I don't think, but it would be a concern for the people, yeah.* (S05 2018)

> *We don't know the—living in an area where your body is being subjected to long-term effects of radioactive activity—we don't know the effects of what it has on the human body. We don't even know what the effects are on the wildlife, in terms of otters, beavers, dogs, cats, whatever. In terms of how they affect it ... how does it affect the impact of the other wildlife in terms of ... being exposed to radioactivity?* (S04 2018)

Beyond the physical risks of exposure to contaminants, important and intangible Sagkeeng values may be affected by the Project. Values such as sense of place, identity, attachment to the land, and identity can be affected whether containment of the nuclear reactor is breached or not. The prevalence of feelings of uncertainty and a lack of safety can be mentally and emotionally taxing for Sagkeeng community members. For instance, in the quotes below, one participant discusses the psychological toll exacted by having hazardous materials nearby the community and the need to be continually wary and alert to the hazard.

> *...it denies us our full potential. And by limiting and having—having this type of dangerous material within your—within your backyard, it's—it, you know, it does something to your psyche. And to your mind, in terms of being able to—people have—people have that ability to do that to you, but more importantly they wouldn't put that in their populations. You know, why would it be acceptable in my population?* (S04 2018)

> *... what's this thing radiating, that's what these Geiger counters indicate, when you're getting close to an unsafe site, and the Geiger counter starts to make those moves. So I think that's one thing we're going to have to arm ourselves with in terms of some of these areas ... Maybe be able to determine whether or not they should be able to continue any further. This is our Chernobyl.* (S04 2018)

Psychological effects on community members and their sense of place may be especially strong because, for many, the land is part of their identity and sense of being.

> *...it's in my blood stream, it's in my water, it's in my—it's in my—you know, … I have to respond. I have to respond to somebody putting something into my water, into my blood supply. You're in my system now. I can't ignore you.* (S04 2018)

Another Study participant described how the Project would take away from the aesthetics and enjoyment of the land, which would also likely impact current and future generations' sense of place, attachment to the land, and cultural identity.

> *…because if they don't store it [the reactor] properly, you know, it's going to damage the land and it's—nobody's going to be able to enjoy the nice views that are around, and the use of the waters.* (S21 2018)

> *…sometimes they just, well, this is my thought, sometimes I think they just bury whatever and really don't care ... And it comes out later and then there's a problem ... And then it makes it hard for people to live in that area, especially when it's a nice area.* (S21 2018)

Ceremonial practices and associated values may also be adversely affected if containment of the reactor is compromised, but would likely be affected regardless. For example, the nature and circumstance of ceremonial activities would be altered as explained in the quote below.

> *[Speaking about future use and wanting to do water ceremonies in the project area] Yeah, definitely because I know that place is endangered now so that would be important.* (S09 2018)

Knowledge transmission, which spans all aspects of Sagkeeng culture and is itself a critical part of Sagkeeng cultural persistence, would also be affected by the Project; particularly in the event of a failure. Vital resources such as wildlife, plants, and water may be avoided, preventing instruction - as explained in the quotes below - whether out of fear or actual contamination.

> *I wouldn't want them burying nuclear … What is it, nuclear waste, in the ground? ... That's crazy. I would hate to see what it would do, that's for sure, because if it doesn't affect us it will affect our kids or our grandkids somewhere down the line, then where's the hunting going to go? Where's all the teachings going to go? You know, the kids are learning from my mom and me that, you know, that you can get stuff from the land still, you know, you don't have to go to the store. It will just poison everything.* (S14 2018)

> *...the plans that I had for my retirement is to try and teach the next generation, okay? And a lot of these sites that I used to go to, or that I'm aware of I wanted to go and show them … that nuclear site is going to affect…* (S01 2018)

> *...I wanted to take them fishing ... in that area, okay? Close to that area and if the things are contaminated, I wouldn't trust it ... maybe to go paddling up in that area or let's say if a canoe tips and then they get radioactive stuff that falls into their system. So yes, it will affect a lot of things that I'd like to do in the future with a lot of these young people.* (S01 2018)

Ultimately, the collected evidence suggests that the Project has the potential to seriously affect Sagkeeng rights and culture in the event of a containment failure. Even through normal operations, there is substantial uncertainty and anxiety about the safety of the Project over the long-term, which has already had consequences on the well-being of Sagkeeng members and their exercise of Treaty rights.

5. CONCLUSION

5.1 SUMMARY AND RECOMMENDATIONS

The Study of Canadian Nuclear Laboratories' proposed In Situ Decommissioning of the WR-1 Reactor at Whiteshell Laboratories project with Sagkeeng suggests likely interactions with the VCs of Water Resources, Medicines, Berries, and Other Food Plants, Hunting and Trapping, and Anicinabe Pimatiziwin. Interview participants observed the critical importance of the Study Area for fishing, harvesting wild rice, as well as the centrality of water to Sagkeeng members' land use and subsistence activities. The harvesting of medicines, berries and other food plants was also observed as being highly important within the Study Area, as well as that of wild game, such as deer, moose and other fur-bearing animals. Anicinabe Pimatiziwin values in the Study Area such as ceremonial sites, burial sites, gathering places, and travel routes were also emphasized throughout the interviews, as well as being vital to Sagkeeng members' identity, spirituality and sense of place.

To understand the full scope of potential Project effects, it is imperative that they are considered in the context of effects from past, present, and reasonably foreseeable future developments. While a cumulative effects assessment was not conducted for this Study, interview participants emphasized that the VCs and within the Study Area are already subject to a variety of impacts from past and current nuclear development activities within the Study Area. Decommissioning work has the potential to further affect the ability of Sagkeeng members to freely exercise their Treaty rights within the Study Area, while increasing the vulnerability of the VCs to additional disturbance.

A summary of potential Project interactions identified through this Study and described in Section 4.6 follows:

- Reduced confidence in water quality as a result of potential Project-related leaks and contaminants, which is inextricably linked to the practice of Treaty rights including (but not limited to) fishing, harvesting wild rice, hunting, and collecting drinking water;
- Decreased confidence in the quality and edibility of fish species in the Study Area, particularly fish found downstream of the Project, as a result of both perceived and/or actual contamination from the Project;
- Decreased confidence in the quality and edibility of wild rice, resulting in reduced opportunities for wild rice harvesting in the Study Area as a result of perceived and/or actual contamination from the Project;
- Decreased confidence in the quality and edibility of medicines, berries, and food plants available for harvest in the Study Area resulting in avoidance as a result of perceived and/or actual contamination from the Project;
- Decreased confidence in the quality and edibility of wildlife resulting in avoidance as a result of perceived and/or actual contamination from the Project;

- Reduced opportunities for harvesting wildlife in the Project area due to reduced access to the Project area Project activities;

- Disturbance to Sagkeeng members' sense of place, identity, connection to the land, and psychological well-being as a result of a heightened sense of uncertainty and insecurity due to the presence of hazardous nuclear materials in the Study Area; and

- Disturbance to ceremonial practices and decreased opportunities to transmit and share knowledge across generations as a result of avoidance of the Study Area and reduced confidence in the resources within.

Moreover, Sagkeeng members expressed substantial concern, uncertainty, and disappointment over the proposed *in situ* decommissioning approach, as well as the lack of decommissioning alternatives provided by the Proponent for consideration.

In addition to the information provided in this Report, further work is recommended to more completely evaluate the Project's potential to affect Sagkeeng rights, use, and interests. The following is a preliminary list of recommendations for further work:

- Participants emphasized discomfort and uncertainty around the safety and likelihood of success with the Proponent's proposed *in situ* decommissioning approach. It is recommended that an alternatives assessment be completed and provided to Sagkeeng for evaluation, including options for decommissioning alternatives that do not require leaving the WR-1 Reactor in the ground;

- A cumulative effects assessment is recommended in order to more comprehensively understand and evaluate potential Project effects on Sagkeeng rights, knowledge, and use;

- During the Project-specific verification meetings held on December 18 and 19, 2018, participants emphasized that further studies are needed to holistically understand the potential for the Project to affect Sagkeeng values and way of life. Such studies identified by participants include, but are not limited to, an economic impact assessment, a socio-economic and health impact assessment, and a water quality study; and

- The Study does not include suggestions for monitoring and mitigation. It is recommended that Sagkeeng be provided with meaningful and advanced opportunities to develop monitoring and mitigation measures with the Proponent.

5.2 CLOSURE

Should you wish to discuss any aspect of this Report further, please do not hesitate to contact Rachel Olson at (604) 563-2245.

Sincerely,

ORIGINAL SIGNED

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S01. Transcript of October 24, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S02. Transcript of October 25, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S03. Transcript of October 25, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S04. Transcript of October 25, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S05. Transcript of October 26, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S06. Transcript of October 26, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S07. Transcript of November 5, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S09. Transcript of November 6, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S10. Transcript of November 6, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S11. Transcript of November 6, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S12. Transcript of November 6, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S13. Transcript of November 7, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S14. Transcript of November 7, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S15. Transcript of November 8, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S16. Transcript of November 8, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S17. Transcript of November 9, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S19. Transcript of November 13, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S20. Transcript of November 13, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S21. Transcript of November 13, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S22. Transcript of November 14, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S23. Transcript of November 14, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S24. Transcript of November 15, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S25. Transcript of November 15, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S26. Transcript of November 15, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

S28. Transcript of November 16, 2018 from the Sagkeeng Knowledge and Use Study for Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project. Firelight Research Inc. for Sagkeeng Anicinabe.

APPENDIX 1: CONSENT FORM

Sagkeeng Anicinabe Land Use and Occupancy Study and Impact Assessment Specific to Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project Description

Declaration of Informed Consent and Permission to Use Information

I (name) _____, on this day (complete date) _____, give permission for The Firelight Group to interview me for the Sagkeeng Anicinabe Land Use and Occupancy Study and Impact Assessment specific to Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project.

I understand that the study is being conducted by Sagkeeng Anicinabe. The purpose of this study is to document the rights and interests of Sagkeeng Anicinabe in the area of the project.

By signing below, I indicate my understanding that:

(a) I consent to have my words and responses recorded on maps, in notes, and using audio and video recording equipment.

(b) I am free to not respond to questions that may be asked and I am free to end the interview at any time I wish.

(c) Sagkeeng Anicinabe will maintain intellectual property rights over information and recordings collected through my participation and may use the information and recordings, including audio, video, or pictures, in pursuit of its claims, and for defending and communicating the rights, interests, and titles of its members. This includes, but is not limited to, sharing information for the purposes of negotiation or participation in regulatory or court proceedings.

(d) Sagkeeng Anicinabe will ask permission from me or my descendents, before using my information for purposes not indicated above.

Signature of participant

Witness

_____

_____

PIN #:

APPENDIX 2: INTERVIEW GUIDE

Interview Guide for the Sagkeeng Anicinabe Land Use and Occupancy Study for the proposed **Canadian Nuclear Laboratories' Whiteshell Nuclear Decommissioning Project**

This guide includes:

- Pre-interview setup guide
- Interview questions
- Mapping notes
- Mapping codes

1. PRE-INTERVIEW

Before formally beginning the interview, ensure the following steps have been completed:

1. Introductions
    - Introduce yourself and the research team, who you work for, who you were hired by and who you Report to.

2. Give the participant an overview of the project
    - In advance of the interview, the research team will have developed a 1-2 page summary of the project and its components. Provide the participant with the project summary and/or describe it in detail verbally and demonstrate on Google Earth where project components would be located in relation to landmarks such as the community, neighboring towns, roads, rivers, lakes, etc.

3. Explain the mapping and interview process and goals of the research. Read the following:
    - The purpose of this research is to document community members' knowledge and use on the land in relation to the project. This means we will be mapping places and areas where community members hunt, trap, fish, collect plants and medicines, camp, practice other culturally important activities and spend time out on the land. We will also be recording other cultural places and environmental features that are important to you and the community, such as sacred sites, teaching areas or gathering places. We will be focusing on the Study Area outlined by (define the Study Area and indicate its location on the map). Afterwards, we will map other areas that are important to you.
    - From this, we will be compiling all of the data and preparing a Report for the community based on community members' knowledge and use in the project area. This Report will be given to the community so that they may

use it to support their goals and objectives.

4. Provide an opportunity for the participant to ask questions
    - Providing accurate answers to participants' questions is an important aspect of free, prior and informed consent.
    - Technical questions relating to the project should only be answered if you have the necessary project information from the proponent or regulator.
    - Questions that you cannot answer should be directed to the community coordinator, principal investigator or proponent contact, as appropriate.

5. Review of the consent form
    - Read the consent form aloud to the participant.
    - Ask the participant if they have any questions.
    - Once the participant's questions have been answered, ask them if they give their consent and, if yes, ask if they will sign the form are comfortable signing the consent form.
    - If the participant would prefer to give verbal consent, ensure that the audio recorders are on, read through the consent form, and have the participant provide their verbal consent for the recording.
    - If the participant does not sign the consent form or provide recorded verbal consent, do not continue with the interview.

6. Provide participant with honorarium or tobacco where appropriate

2. INTRODUCTION

[Complete the interview checklist and pre-interview section, above, then read the text below with AUDIO & VIDEO RECORDERS ON at the start of each interview.]

Today is [date]. We are interviewing [participant name] for the Sagkeeng land use and occupancy study for the proposed Canadian Nuclear Laboratories' Whiteshell Decommissioning Project. Thank you for coming.

My name is [name] and my co-researcher(s) is/are [name]. We're at the [building/office] in [community] in Manitoba. [participant name] has read and signed the consent form, and we have assigned him/her participant ID [number]. We have explained the purpose of the study, mapping process, and interview plan. We will be mapping in Google Earth at 1:50,000 or finer.

Primary goal: to document community knowledge and use in the area of the project. We'd like to know how you have and continue to use these areas, as well as what you may know about how community members have used them in the past.

3. BACKGROUND AND EXPERIENCE

1.1. Personal Information

- What is your full name?
- Do you go by any other names or use a traditional name?
- Where were you born?
- What is your date of birth?
- Where were you raised?
- Where do you live now?
- Are you a member of Sagkeeng Anicinabe?
- What are your parents' names?
- What are your grandparents' names?
    - On your mother's side
    - On your father's side
- Do you have any siblings? If yes, what is/are their name(s)?
- Do you have a spouse/partner? If yes, what is their name?
- Do you have any children? If yes, what is/are their name(s)?

1.2. General Use Questions

Be sure to ask the following questions with Google Earth centred on and displaying the entire Study Area. Questions in Section 3.2 are designed to give an overview of the parts of the Study Area that are important to participants, and how they use this area and its resources.

For this first part of the interview, we are hoping to get an overview of how you or your family members use this area and whether it is important to you. We will map these locations in more detail afterwards.

Have you ever used the area around the project, or areas nearby?

- If yes, what activities have you done there?
- Which locations or areas are used?
- If no, why?

Have your family or community members ever used the area around the project, or areas nearby?

- If yes, how have family/community members used the area?
- Which locations or areas are used?
- If no, why?

Is the project area important to you / your family / your community?

- If yes, what makes this area important?
- If no, why?

Do you use any other areas close to the Study Area?

Are there other areas that are important to you?

Are there other areas that are important to your family or your community?

4. DETAILED DISCUSSION OF USE AND OCCUPANCY

Part 3 of the interview will focus on a more detailed discussion of the participant's use and occupancy of the areas identified in Section 3. Skip to the subsection below for each identified activity or value as appropriate to find relevant questions.

The goal is to discern why an area and/or activity is important, whether the participant's use or experience of an area has changed in any way and how the participant feels the project may affect their use and experience of the area.

Mapping Notes

Ensure all features are mapped below an eye height of10km.

When mapping routes and linear features in Google Earth, follow the actual route indicated by the participant and follow natural features. Do not record a straight line from A to B.

When mapping polygons in Google Earth, avoid mapping large areas where possible; follow natural features and avoid recording straight lines. Ask the participant to be as precise and specific as possible.

For each site mapped in Google Earth, ensure to include the following in the Name field:

- The activity code (e.g. Permanent Habitation – PX)
- The mapped site number (i.e. sequence in the interview)
- Any relevant modifiers:
  - If second hand knowledge, map with a *
  - If they were with someone who carried out the activity, map with a +
  - If the activity was for commercial purposes, map with a $
  - If an approximate location given, map with a ?
  - If mapped above 10km eye height (i.e. 1:50,000), map with a ^
- The Participant ID

Example map code:
PX01*?^$-X01
[ActivityCode/SequenceNumber/Modifier(s)-ParticipantID]

For each mapped site, ensure to include the following in the Description field:
- Who was there (spell out all proper names)
- What activities took place at the site

- When they were first there, last there, how frequently they return there and whether they plan to return there in the future (include year, month and season)
- Relevant value-based information on why that area is used for that purpose. This may include the importance of the site for kinship, ecological, or knowledge transfer values. [See follow-up questions below]
- Reference to any other recorded values that may be related (e.g. Cabin access by recorded route TR02-X01
- Include trapline number, if applicable

Make sure to record all other activities and values in this area. See further detailed questions on additional values throughout Section 4.

Next, we will talk about each of the important areas you just discussed and we will try and record as much as possible on the map while we do so.

Leading questions
It is important not to ask "leading" questions. A question may be leading if it suggests a particular answer or assumes a particular answer or reality. Ask yourself if the questions you are asking encourages a particular answer over other possible responses?

DON'T ASK: "This project will impact moose populations. How does that make you feel?"
DO ASK: "Do you think the project will impact moose populations? How?"

DON'T ASK: "You like camping here, right?"
DO ASK: "Do you like camping here?"

4.1 Habitation

Permanent Habitation (PX) & Temporary Habitation (TX)

Can you show us where you were born? [BP]

Can you show us where you live? [PX]

Can you show us where have you stayed in one of the following?

- A cabin you built or used, campsite, tent, other temporary or permanent structures?
- How many times have you stayed there?
    - *Once or short-term (less than 3 days): (TX)*
    - *More than once or long-term (more than 3 days): (PX)*

Read the map code aloud for each mapped feature.

Example map code:
PX01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:
[Participant name] stayed at this cabin with [names] in February 2018. [Participant name] built the cabin in 2010 and they have stayed there every summer since 2010. [Participant Name] accesses this cabin through the trail recorded as TR02-X01. They plan to return there in 2019.

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- How do you get to this place?
- Why do you go there?
- What is this place called? Does it have any other names in other languages?
- Can you describe what this place is like / the current conditions of this place?
- Can you describe what it is like to be in this place? How does it make you feel?
- Would you consider this place to be unique? If yes, what makes it unique?
- How did you find out about this place / who showed it to you?
- What other activities do you do when staying there?
    - Follow up with questions from the relevant part of Section 4
    - Specifically, have you taken younger generations there? Do you teach them there? If so, what do you teach them? (map as a teaching area)
- Is this place important to you / your family / community? Why?
- Is this place important for your culture / way of life? Why / how so?
- How do this project make you feel about visiting / staying at this place in the future?
- How would you explain the importance of this place to people who do not know it / the government / industry?

After you have covered a participant's personal use, and if there is still time, you may want to ask about their knowledge of how other community members use the area. You may do this particularly for important areas, if the participant does not have much personal experience of an area, or if you are trying to collect historical use data.

Can you show us places where members of your family or community or your ancestors have camped or stayed in cabins?

1.3. Travel Routes

This refers to routes used specifically for hunting, trapping, gathering plants, accessing camping or fishing areas etc, rather than just driving on a highway

Trail (TR)

Can you show us routes you have travelled by foot, quad, snowmobile, truck or other means?

Can you show us old trails that have been used by community members? [map with *]

Water route (WR)

Can you show us routes you have travelled along creeks, lakes or rivers by boat?

Can you show us old water routes that used to be used by community members? [map with *]

When recording routes and linear features in Google Earth, follow the actual route indicated by the participant and follow natural features. Do not record a straight line from A to B.

Read the map code aloud for each mapped feature.

Example map code:
PX01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:
[Participant name] travels along this route with [names] in order to access the [related value] located at [identity e.g PX01-X99]. They learned about it from [name] and have travelled along it every [season] since [year]. They last travelled there in [year/month] and plan to return there in [year/month]

Make sure to record all other activities and values in this area. See further detailed questions on additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- Does this route have a name? In your language?
- Is this a new route, or a well-travelled, well-recognized route?
- What is this route like (current condition)?
- Is this the only route to get from point A to B, or is there an alternative?

- Why did you use this route?
- What is the farthest point that you have travelled along this route?
- Are there many routes like this one or is this route unique? What makes it unique?
- What do you do when you are travelling along here?
    - Do you teach younger generations along this route? If so, what do you teach them? (map as TA)
- How did you learn about this route? Did anyone teach you about it?
- Is this route important to you? If so, how / why?
- Can you describe how it makes you feel when you're travelling this route?
- Is this route important to you / your family / community? Why / how so?
- Is this route important for your culture / way of life? How?
- If this project were to go ahead, how would that make you feel about travelling this route in the future?

After you have covered a participant's personal use, and if there is still time, you may want to ask about their knowledge of how other community members use the area. You may do this particularly for important areas, if the participant does not have much personal experience of an area, or if you are trying to collect historical use data.

Can you show us places where members of your family or community or your ancestors have travelled across the area?

1.4. Hunting and Trapping

Can you show us places where you have trapped any of the following animals?

- Badger [BG]
- Beaver [BR]
- Bobcat [BO]
- Chipmunk [CK]
- Coyote [CO]
- Ermine [ER]
- Fisher [FI]
- Fox [FX]
- Groundhog [GH]
- Lynx [LX]
- Marten [MT]
- Mink [MK]
- Mouse [MO]
- Muskrat [MU]
- Other Fur Bearer [FO]
- Otter [OT]
- Rabbit [RB]
- Raccoon [RC]
- Skunk [SK]
- Squirrel [SQ]
- Weasel [WE]
- Wolf [WO]
- Wolverine [WV

A mapped trapping area or line can be copied and pasted for each species listed by the participant. Mapped trapping values can be copied as a general trapping area [TP] for mapped polygons and trapline [TL] for mapped linear features

Can you show us places where you have shot and killed any of the following animals?

- Black Bear [BB]
- Bison/Buffalo [BI]
- Caribou [CA]
- Chicken [CH]
- Elk [EK]
- Grizzly Bear [GB]
- Grouse [GR]
- Moose [MO]
- Mule Deer [MD]
- Other Game [OG]
- Porcupine [PO]
- Sheep [SH]
- White-tailed Deer [WD]
- Whistler/Marmot [MM]

Do you hunt birds? If so, can you show us where you have shot and killed any of the following birds?

- Blue Heron [BM]
- Crow [CQ]
- Duck [DU]
- Eagle [EA]
- Falcon [FL]
- Geese [GE]
- Grouse [GR]
- Hawk [HA]
- Loon [LO]
- Other Bird [OB]
- Owl [OW]
- Partridge [PA]
- Ptarmigan [PT]
- Raven [RV]
- Sand Hill Cranes [SC]
- Sandpipers [SN

Read the map code aloud for each mapped feature.

Example map code:
PX01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:
[Participant name] trapped/shot and killed [species] in the [season/month] of [year] with [name(s)]. [Participant] first hunted/trapped here in [year/month] and last hunted/trapped here in [year/month]. [Participant] accesses this hunting/trapping area by [mode of travel].

Make sure to record all other activities and values in this area. See further detailed questions on additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- Where did you cut up the animal? [mark as PR]
- Did you share the meat?
- How many people can [animal species] feed? For how long?
- Did you smoke / dry the meat? Where?
- What is this area like for hunting / trapping?

- Are any of these animals hard to find? Which ones?
- Are there many areas like this to hunt / trap this / these animal[s], or is this area unique? What makes it unique?
- Does [animal species] have a name in your traditional language?
- Who taught you how to hunt / trap? Where? [mark as TA]
- Is hunting / trapping important to you? Why?
- Have you taught anyone how to hunt / trap? Who? Where? [mark as TA]
- Is it important to teach younger generations how to hunt / trap? Why?
- Is this / these animal[s] important for your culture / way of life? If so, how / why?
- Can you describe what it is like to be out on the land hunting / trapping? How does it make you feel?
- How does this project make you feel about hunting / trapping in this area (now and in the future)?
- How would you explain the importance of these animals to people who do not know / the government / industry?

After you have covered a participant's personal use, and if there is still time, you may want to ask about their knowledge of how other community members use the area. You may do this particularly for important areas, if the participant does not have much personal experience of an area, or if you are trying to collect historical use data.

Can you show us places where members of your family or community or your ancestors have killed or trapped animals or birds?

1.5. Fishing

Can you show us places where you have caught any of the following fish species?

- Bass [BS]
- Bull Trout [BT]
- Carp [CD]
- Catfish/Mariah [BH]
- Dolly Varden [DV]
- Grayling [GY]
- Jackfish/Pike [JF]
- Lake Trout [LT]
- Minnows [MN]
- Northern Pike [NP]
- Other Fish [OF]
- Perch [PE]
- Pickerel/Walleye [PK]
- Rainbow Trout [RT]
- Shells/Mussels [MC]
- Sturgeon [ST]
- Suckers [SU]
- Whitefish [WF]

Mapped fishing areas can be copied and pasted for each species caught by the participant.

Mark any locations where the participant has fished but released the fish or not caught anything as an Environmental Feature (EF).

Read the map code aloud for each mapped feature.

Example map code:
LT01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:
[Participant name] caught [species] in the [season/month] of [year] with [name(s)].
[Participant] first fished here in [year/month] and last fished here in [year/month].
[Participant] accesses this fishing area by [mode of travel].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What did you do with the fish [meat] (dry it, smoke it, other)? Where?
- How many people can [fish species] feed? For how long?
- What is fishing like in this area?
- Are there many areas like this to fish this / these species, or is this area unique? What makes it unique?
- Are any of these fish hard to find? Which ones?
- Does [fish species] have a name in your traditional language?
- Is fishing important to you? Why?
- Who taught you how to fish? Where? [mark as TA]
- Have you taught anyone how to fish? Who? Where? [mark as TA]
- Is it important to teach younger generations how to fish? Why?
- Can you describe what it is like to be out on the water fishing? How does it make you feel?
- Are these fish important for your culture / way of life? How?
- If the project went ahead, how would that make you feel about fishing in this area in the future?
- How would you explain the importance of these fish / fishing to people who do not know / the government / industry?

- If the project went ahead, how would that make you feel about hunting / trapping in this area in the future?

After you have covered a participant's personal use, and if there is still time, you may want to ask about their knowledge of how other community members use the area. You may do this particularly for important areas, if the participant does not have much personal experience of an area, or if you are trying to collect historical use data.

Can you show us places where members of your family or community or your ancestors have caught fish?

1.6. Harvesting Berries / Other Plants / Fungi

Can you show us places where you've collected any of the following berries or other plants?

- Aspen Bark [AB]
- Balsam [BL]
- Berries/Wild Fruit [BE]
- Cambium [CB]
- Cat tail [CT]
- Cottonwood [CW]
- Dandelion [DL]
- Dye Plant [DP]
- Eggs [EG]
- Food Plants [FP]
- Juniper/Crow Trees [JU]
- Lily Pad [LP]
- Mosses [ME]
- Mushrooms [MS]
- Other Plant [OP]
- Parsnip [PA]
- Pincherry [PI]
- Pine Cones [PC]
- Plums [PU]
- Poplar [PP]
- Poplar Sap [PB]
- Rose Bush [RS]
- Rotten Wood [RW]
- Spruce Gum [SG]
- Wheat [WT]
- Wild Carrots [WK]
- Wild Lillies [WS]
- Wild Onion [ON]
- Wild Rhubarb [RH]
- Wild Rice [WL]
- Wild Root [WB]

Can you show us places where you've collected any of the following medicine plants?

- Cedar Tea [CE]
- Chi [CI]
- Choke Cherry Bark [CC]
- Devils Club [DC]
- Flowers [FR]
- Fungus [FU]
- Labrador Tea [LB]
- Mint Tea [MI]
- Mountain Ash [MA]
- Muskeg Tea [MG]
- Medicinal Plant [MP]
- Peppermint [PM]
- Pine Cones [PC]
- Rat Root/Weecay [RR]
- Red Willow [RD]
- Red Willow Bark [RE]
- Sage [SA]
- Sweet Grass [SE]
- Tamarack [TM]
- Willow [WG]
- Willow Fungus [WI]
- Yellow Slippers [YS]

Can you show us places where you've collected mushrooms, lichen or other fungi?

Can you show us places where you've collected plants for crafts other uses? (e.g. creating art, building a drying rack)

Read the map code aloud for each mapped feature.

Example map code:
MP01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:
[Participant name] harvested [plant species] in the [season/month] of [year] with [name(s)]. [Participant] first harvested here in [year/month] and last harvested here in [year/month]. [Participant] accesses this harvesting area by [mode of travel]. These harvested items are used for [use].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What is picking / gathering / medicine / plants / fungi like in this area (current condition)?
- Are any of these medicine / plants / fungi hard to find? Which ones?
- Are there many areas like this to pick medicine / plants / fungi, or is this area unique? What makes it unique?
- Does [medicine / plant / fungus] have a name in your traditional language?
- What do you use medicine* / plants / fungi for? (*if appropriate to share)
- Who taught you how to collect and use medicine / plants / fungi / resources? Where? [mark as TA]
- Is gathering medicine / plants / fungi important to you? Why?
- Have you taught anyone about how to collect and use medicine / plants / fungi? Who? Where? [mark as TA]
- Is it important to teach younger generations about medicines / plants / fungi / resources? Why?
- Can you describe what it is like to be out picking / gathering medicine / plants / fungi? How does it make you feel?
- Are these medicine / plants / fungi important for your culture / way of life? How?
- If the project went ahead, how would that make you feel about gathering medicine / plants / fungi in this area in the future?
- How would you explain the importance of these medicine / plants / fungi to people who do not know / the government / industry?

After you have covered a participant's personal use, and if there is still time, you may want to ask about their knowledge of how other community members use the area. You may do this particularly for important areas, if the participant does not have much personal experience of an area, or if you are trying to collect historical use data.

Can you show us places where members of your family or community or your ancestors have collected berries / plants / fungi / water / other resources?

1.7. Gathering Materials and Other Resources

Can you show us places where you have collected any of the following resources?

- Antlers or sheds [SD]

- Barks used for construction, crafts or other purposes [BA]
- Feathers [FE]
- Other materials collected for crafts [CZ]
- Rocks, clay, vermillion, other earth materials [EM]

Read the map code aloud for each mapped feature.

Example map code:
SD01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:
[Participant name] gathered [resource] in the [season/month] of [year] with [name(s)]. [Participant] first gathered here in [year/month] and last gathered here in [year/month]. [Participant] accesses this gathering area by [mode of travel]. These harvested items are used for [use].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What do you use these resources for?
- Does [resource] have a name in your traditional language?
- Are any of these resources hard to find? Which ones?
- What is collecting resources like in this area (current condition)?
- Are there many areas like this to collect resources, or is this area unique? What makes it unique?
- Is collecting these resources important to you? Why?
- Who taught you how to collect these resources? Where? [mark as TA]
- Have you taught anyone about how to collect resources? Who? Where? [mark as TA]
- Is it important to teach younger generations about resources? Why?
- Can you describe what it is like to be out collecting resources? How does it make you feel?
- Are these resources important for your culture / way of life? How?
- If the project went ahead, how would that make you feel about collecting resources in this area in the future?
- How would you explain the importance of these resources to people who do not know / the government / industry?

After you have covered a participant's personal use, and if there is still time, you may want to ask about their knowledge of how other community members use the area. You may do this particularly for important areas, if the participant does not have much personal experience of an area, or if you are trying to collect historical use data.

Can you show us places where members of your family or community or your ancestors have collected berries / plants / fungi / water / other resources?

1.8. Collection of Water

Can you show us places where you have collected water while out on the land? (e.g. for drinking, cooking, making tea, ceremonies) [mark as WA]

Read the map code aloud for each mapped feature.

Example map code:
WA01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:
[Participant name] collected water here in the [season/month] of [year] with [name(s)]. [Participant] first collected water here in [year/month] and last collected water here in [year/month]. [Participant] accesses this area by [mode of travel]. [Participant] uses collected water for [purpose].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What did you do with the water you collected?
- What is collecting water like in this area (current condition)?
- Do you feel safe drinking the water collected from this area?
- Is water hard to find?
- Are there many areas like this to collect water, or is this area unique? What makes it unique?
- Who taught you about where to collect water in this area? [mark as TA]
- Have you taught anyone about where to collect water in this area? Who? Where? [mark as TA]
- Is the ability to collect water from the land important to do?
- Is it important to teach younger generations about where to collect water? How so?

- Is collecting water important for your culture / way of life? How?
- If the project went ahead, how would that make you feel about collecting water in this area in the future?
- How would you explain the importance of collecting water in this area to people to do not know / the government / industry?

1.9. ENVIRONMENTAL FEATURES

Environmental Features (EF)

Can you show us the locations of habitat or environmental features that are important for mammals / birds / fish / plants? (i.e. calving or mating areas, mineral licks, fish spawning areas)?

Environmental Feature Corridor (EC)

Can you show us any migration routes or crossings that animals use to move through the area?

When recording routes and linear features in Google Earth, follow the actual route indicated by the participant and follow natural features. Do not record a straight line from A to B.

Read the map code aloud for each mapped feature.

Example map code:
EF01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:
[Participant name] identified this area as an [environmental feature/corridor] for [species] due to [features]. [Participant] learned about this from [name]. [Participant name] last travelled through the area in [month/year].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What environmental features [e.g., migration routes / crossings / fish spawning areas] make for good [animal / plant] habitat? Why?
- Are any of these [environmental features] hard to find? Which ones?
- Are there many areas like this with these features, or is this area unique? What makes it unique?
- Have you observed any changes to migration routes / crossings / fish spawning areas in this area over your lifetime?
- Who taught you about these [environmental features]? Where? [mark as TA]
- Have you taught anyone about these [environmental features]? Who? Where? [mark as TA]
- Is it important to teach younger generations about these [environmental features]? Why?
- Are these environmental features important for your culture / way of life? How?
- If the project went ahead, would it impact animals' use of migration routes / crossings / fish spawning areas?
- How would you explain the importance of these features to people who do not know / the government / industry?

1.10. CULTURAL USE

Gathering Place (GP)

Can you show us important places where your community holds or attends gatherings?

Examples: pow wows, rodeos, Treaty celebrations, community camps, village sites, etc

Ceremonial Place (CP)

Can you show us places that are used for ceremonies?

Examples: Sundances, sweat lodges, shaking tent, etc.

Teaching Area (TA)

Can you show us places that are used or have been used for teaching knowledge to children or others?

Can you show us any places that have special knowledge or stories associated with them?

Examples: creation stories, dreamer stories, histories

Burial (BU)

Can you show us places where members of your first nation are buried or where their remains are found (e.g. cremation)?

Spirit (SP)

Can you show us places where spirit beings live or where there are special rules about how you act or respect the place?

Examples: Little people, spirits, bigfoot, etc.

Place Name (PN)

Can you show us any places that have traditional place names?

Include place names and translation in Google Earth description field

Read the map code aloud for each mapped feature.

Example map code:
CP01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:
[Participant name] has [gathered/attended activity, etc] here in the [season/month] of [year] with [name(s)]. [Participant] first [gathered/attended activity/etc] here in [year/month] and last [gathered/attended activity/etc] here in [year/month]. [Participant] accesses this area by [mode of travel]. The traditional name for this location is [name], which means [translation].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- Are [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names] important to you? Why?
- Does [gathering place / ceremonial place / teaching area / burial site / spiritual location / place name] have a name in your traditional language?
- What is the current condition of [gathering place / ceremonial place / teaching area / burial site / spiritual location / place name]?

- Have you observed any changes to [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names] in this area over your lifetime?
- Can you describe what it is like to be at [gathering place / ceremonial place / teaching area / burial site / spiritual location / place name]? How does it make you feel?
- Who taught you about this [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names]? [mark as TA]
- Have you taught anyone about [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names]? [mark as TA]
- Is it important to teach younger generations about these [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names]? Why?
- Are these [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names] important to sustaining your culture / way of life?
- If the project went ahead, how would that make you feel about the [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names] in this area?
- How would you explain the importance of these [gathering places / ceremonial places / teaching areas / burial sites / spiritual locations / place names] to people who do not know / the government / industry?

After you have covered a participant's personal use, and if there is still time, you may want to ask about their knowledge of how other community members use the area. You may do this particularly for important areas, if the participant does not have much personal experience of an area, or if you are trying to collect historical use data.

Can you show us places where members of your family or community or your ancestors have attended ceremonies, gatherings or other important cultural events?

Can you show us places where members of your family or community or your ancestors have participated in other activities?

1.11. Impaired Use

General impaired use (GL) & Specific impaired use (SL)

Can you show us any places where you used to hunt / gather / fish / camp/ practice other rights, but cannot anymore? (i.e. From industrial impacts, environmental change or other impacts)

Can you show us any general areas or specific sites where you have experienced degraded habitat for mammals, fish, or plants?

Read the map code aloud for each mapped feature.

Example map code:
GL01*?^$-X01
[ActivityCode][SequenceNumber]Modifier(s)]-[ParticipantID]

Example note:
[Participant name] identified this as a place where they used to [activity]. Use of this place has been impaired due to [reason for loss]. [Participant name] used this area since [month/year] until [month/year].

Make sure to record all other activities and values in this area. See detailed questions for additional values throughout Section 4.

Follow-Up Questions

Use the following questions as prompts to ensure you have a full understanding of why this place is important.

- What activities did you used to do in this place (SL) / area (GL)?
- Why did you first use this area? Why do you continue to use it?
- Why can you no longer use this place (SL) / area (GL)?
- When was the last time you used this place (SL) / area (GL)?
- How often did you go to or use this place (SL) / area (GL)?
- Can you do those activities somewhere else? Why or why not?
- How does it make you feel that you can no longer go to or use this place (SL) / area (GL)?
- Has the loss of use of this place (SL) / area (GL) impacted you / your family / your community?
- Has the loss of use in this place (SL) / area (GL) impacted your culture / way of life? How?
- How would you explain the importance of this place (SL) / area (GL) to the government / industry?
- How would you explain the impact of not being able to use the place (SL) / area (GL) to people who do not know / the government / industry?
- How the presence of this project make you feel about this place (SL) / area (GL)?

2. PROJECT IMPACT QUESTIONS

Make sure industry data and participant's mapped sites are on the screen.

Refer back to the participant's use in the Study Area, e.g. if they do a lot of fishing

Canadian Nuclear Laboratories is proposing to decommission reactor WR-1 at its Whiteshell Laboratories facility. Whiteshell Laboratories, and the WR-1 Reactor, is located approximately 10 km west of Pinawa and 100 km northeast of Winnipeg, on the east bank of the Winnipeg River. In the early 1960s, the Whiteshell Laboratories

complex for nuclear research was established by Atomic Energy of Canada Limited (AECL). The primary focus of the complex was its WR-1 nuclear reactor, which operated as organic-cooler reactor until 1985. It has been in safe storage since that time. Licensing for decommissioning the WR-1 Reactor was first issued to AECL in 2003, and again in 2008, however is license expires in December 2018. In 2016, Canadian Nuclear Laboratories Ltd. (CNL) applied to acquire the licensing for decommissioning the Whiteshell reactor, with a goal of completing the decommissioning process by 2024.

- Do you have any concerns about the decommissioning of this project? If so, what are they?
- Do you think the decommissioning will have any impacts on your ability to use the project area and its resources? If so, how?
- Are there any outstanding questions you have for Canadian Nuclear Laboratories with respect to this project? What else do you want to know about the project?
- Do you have any other concerns about this project that we haven't talked about today?
- Do you have any suggestions with respect to monitoring or mitigations that you would like to see implemented by Canadian Nuclear Laboratories?

Based on your understanding of the project, do you think it will affect:

- Your ability to enjoy your treaty or aboriginal rights or way of life? (includes hunting, trapping, or other activities they do in the area)
- Your children's or grandchildren's ability to enjoy their treaty or aboriginal rights or way of life?
- If so, how?

What do you think the most important issues are for your community to focus on in relation to the project?

Are there any other important places or issues related to the project that you think we should be documenting today?

Are there other community members that we should talk to?

Note: You may want to ask some of these questions earlier in the interview, for example if a participant has talked a lot about moose hunting in the Study Area, ask them if they think the Project will impact their hunting, and why.

3. Sense of Place

Ask the following questions in relation to territory in general, the Study Area and/or other areas identified as important by the participant during the interview. Use these questions to ensure you have a full understanding of why each place is important.

Do you feel connected to the land in this area?

- If yes, why do you feel connected to this place?

Is this place important to your identity? If so, how?

Can you describe what it is like to be on the land in this area? How does it make you feel?

Is there anything special about these places? What makes it special?

Are there many places like this one or is this place unique?
- If it is unique, what makes it unique?
- Could it be replaced? Why or why not?

4. CONCLUSION

Read with audio & video recorders on after every session

Today is [date]. We have just finished interviewing [participant name] for the Sagkeeng land use and occupancy study for the proposed Canadian Nuclear Laboratories' Whiteshell Decommissioning Project.

My name is [name], my co-researcher is [name] and we are here at [office/building] in [community/town]. We've given [participant name] participant ID [#]. We've mapped a total of [#] values in Google Earth at 1:50,000 or better, and recorded a total of [#] tracks on the digital recorders. Notes are recorded in/on [notebook/computer]. This interview has taken approximately [#] hours [#] minutes.

MAPPING NOTES

Map all points, lines and polygons at an eye height of approximately 10 km or less (1:50,000 or better).

Label each site consistently in the **name field** of the site properties dialogue box.

Each code should indicate:

- Site use;
- Site number;
- Modifiers (if relevant); and
- Source (participant ID).

Modifiers (after the site number):

- First-hand knowledge has no modifier (e.g., TX01-P08; member with ID P08 reports temporary shelter where she has camped);
- Second-hand knowledge is mapped with a * (e.g., TX01*-P08);
- Approximate spatial information is mapped with a ? (e.g., TX01?-P08)
- If the participant was present but did not take part in an activity, map with a + (e.g., BE01+-P08);

- Commercial use (including guiding/outfitting) is mapped with a $ (e.g., TX01$-P08); and
- If multiple modifiers are used, a code could look like, e.g., TX01*?$-P08.

All other information goes in the **description field** of the dialogue box.

Transportation routes and all linear features should be controlled.

- Zoomed in to less than 10 km eye-height; and
- Follow the actual route and natural features (i.e., not a straight line from A to B).

Include for each mapped site in Google Earth **description field** of the dialogue box:

- First and last use (day / month / season and year / decade);
- Frequency of use;
- Species (if relevant);
- Number and names of members who were present; and
- Any additional information you are told.

Other:

- Keep list of place names;
- Spell out proper names and place names where possible for the recording; and
- Use prompts to gain detailed access and use information

MAPPING CODES

Habitation and Transportation

PX = Permanent Habitation
TR = Trail
TX = Temporary Habitation
WR = Water Route

Environmental Features

EC = Environmental Feature Corridor
EF = Environmental Feature

Mammal Kill Sites

BB = Black Bear
BI = Bison / Buffalo
CA = Caribou
EK = Elk
GB = Grizzly Bear
MD = Mule Deer
MM = Whistler / Marmot
MO = Moose
OG = Other Game
PO = Porcupine
RC = Raccoon
SH = Sheep
WD = White-tailed Deer

Furbearer Kill Sites

BR = Beaver
CO = Coyote
FI = Fisher
FO = Other Fur Bearer
FX = Fox
LX = Lynx
MT = Marten
MU = Muskrat
OT = Otter
RB = Rabbit
SQ = Squirrel
TP = General Trapping Area
WO = Wolf
WV = Wolverine

Bird Kill Sites

DU = Duck
EA = Eagle
FL = Falcon
GE = Goose
GR = Grouse / Chicken
HA = Hawk
OB = Other Bird
OW = Owl
SW = Swan

Fish Catch Sites

BT = Bull Trout
DV = Dolly Varden
GD = Goldeye
GY = Grayling
JF = Jackfish / Pike
KO = Kokanee
LT = Lake Trout
MR = Maria / Burbot
OF = Other Fish
PK = Pickerel / Walleye
RT = Rainbow Trout
SU = Sucker
WF = Whitefish

Plants and Other Resources

BA = Barks (crafts, construction, etc.)
BE = Berries/Wild Fruit
DP = Dye Plant
EG = Eggs
EM = Earth Material (rocks, clays, etc.)
FE = Feathers
FP = Food Plant (roots, bulbs, cambium)
FU = Fungus
FW = Firewood
MP = Medicine Plant
MS = Mosses/Mushrooms
OP = Other Plant
PC = Pine Cones
WA = Water

Cultural Use

BU = Burial
CP = Ceremonial Place
DR = Drying Rack
PN = Place Name
SP = Spirit
TA = Teaching Area

Impaired Use

GL = General Loss
SL = Specific Loss

APPENDIX 3: CURRICULA VITAE

Rachel Olson, PhD

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EDUCATION

Doctor of Philosophy in Social Anthropology, University of Sussex, Brighton, UK, 2013

Master of Research in Social Anthropology, Ethnology and Cultural History with Distinction, University of Aberdeen, Scotland, UK, 2003

Bachelor of Arts in Anthropology with Distinction, University of Alberta, Edmonton, AB, 1999

EXPERT EXPERIENCE

Current member of the Expert Panel on Integrated Natural Resource Management for the Council of Canadian Academies. Feb 2017-present.

Expert and co-author of the Joint Expert Report on behalf of Buffalo River Dene Nation for the Department of Justice's Primose Lake Air Weapons range. January 2017-present.

Expert testimony on behalf of Saulteau First Nations at the National Energy Board hearings for the TransCanada North Montney Mainline hearings. 2015.

Expert testimony on behalf of the Tlicho Government at the Mackenzie Valley Environmental Impact Review Board for Fortune Minerals NICO Project hearing. 2013.

EMPLOYMENT HISTORY

The Firelight Group – North Vancouver, BC

President (2015 to Present) and Director (2009 to Present)

Responsible, as co-founder and director, for helping establish The Firelight Group, a firm of aboriginal and non-aboriginal professionals specialized in providing respectful and respected environmental and social science research, consulting, and support services in processes where aboriginal and non-aboriginal interests interact, and where good relationships are desired by all sides. Tasks include business development, as well as design, development, and delivery of technical services including community-based traditional knowledge research and documentation systems, environmental and socio-cultural impact assessments and monitoring programs, Indigenous land use mapping, GIS technical support and training, archival research, community involvement processes, and First Nations consultation support services.

National Aboriginal Health Organization – Ottawa, ON

Research Officer (2007 to 2008)

As a member of the First Nations Centre research team, my primary research areas were the topics of maternity care and environmental health. Also held the research proposal development and workshop development files. Tasks included primary research, technical writing, and participating in various committees and workshops across Canada. Was primary author of NAHO's series entitled, "Celebrating Birth".

United Nations Educational, Scientific and Cultural Organization - Paris, France

Consultant (2006-2007)

Worked with the LINKS (Local and Indigenous Knowledge Systems) program in the Science Sector and facilitated on-going projects with Indigenous communities in New Zealand, Micronesia, and Central America. Also focused on proposal development and editing and publishing various LINKS documents, including edited volumes.

School of Nursing Research, University of British Columbia – Vancouver, BC

Social Science Researcher (2004-2005)

Position of Health Research Associate for the research project, "Access to Primary Care Services for Aboriginal People in an Urban Centre." Duties include literature reviews, project coordination, and data collection, including participant observation of an Emergency Department, and in-depth interviews with aboriginal patients and health professionals.

Ecotrust Canada – Vancouver, BC

Aboriginal Mapping Network Coordinator (2003-2004)

Managed the Aboriginal Mapping Network program by meeting and engaging with like-minded individuals and organizations at various conferences and workshops. Coordinated of over 120 aboriginal mapping professionals from across North America, Malaysia and Panama for the "Mapping for Communities: First Nations, GIS and the Big Picture" conference, held on November 20-21, 2003 in Duncan, BC. Conducted a comprehensive evaluation of the Aboriginal Mapping Network.

Dene Tha' First Nation - Chateh, AB

Data Collection Manager (2001 to 2003)

Developed and implemented Traditional Use Study in two First Nations communities, Chateh and Meander River. Included developing research design, methodology, training community researchers, and reporting to the Steering Committee of the Dene Tha' Consultation Pilot Project.

Treaty 8 Tribal Association - Fort St. John, BC

Interview Coordinator (1999-2000)

Coordinated land use mapping and life history interviews with community researchers in two communities, Halfway River and Doig River, focusing on qualitative methods and mapping processes.

PROJECT EXPERIENCE – TRADITIONAL ECOLOGICAL KNOWLEDGE (TEK) AND TRADITIONAL USE STUDIES (TUS)

- Lead Author and Principal Investigator for the ***Ochiichagwe'babigo'ining Ojibway Nation*** *Knowledge and Use Scoping Study for TransCanada Pipelines Ltd.'s Proposed Energy East Project*.

- Lead Author and Principal Investigator for the ***Shoal Lake #40 First Nation*** *Knowledge and Use Scoping Study for TransCanada Pipelines Ltd.'s Proposed Energy East Project*.

- Lead Author and Principal Investigator for the ***Blueberry River First Nation*** *Knowledge and Use Study for BC Hydro's proposed Peace Region Electricity Supply (PRES) project*.

- Lead Author and Principal Investigator for the ***Eabametoong First Nation*** *Knowledge and Use Scoping Study for Greenstone Gold Mines GP Inc.'s Proposed Hardrock Project*.

- Lead Author and Principal Investigator for the ***Eabametoong First Nation*** *Knowledge and Use Desktop for Wataynikaneyap Power's Proposed Transmission Project*.

- Lead Author and Principal Investigator for the ***McLeod Lake Indian Band*** *Knowledge and Use Study for BC Hydro's proposed Peace Region Electricity Supply (PRES) project*.

- Lead Author and Principal Investigator for the ***Canadian Environmental Assessment Agency's*** *Framework for the Consideration and Integration of Indigenous Traditional Knowledge in Federal Environmental Assessment* project.

- Lead Author and Principal Investigator for the ***Musqueam Indian Band*** *Marine Shipping Effects Assessment Study for Port Metro Vancouver's proposed Roberts Bank Terminal 2 project*.

- Lead Author and Principal Investigator for the ***Nadleh Whut'en First Nation*** *Knowledge and Use Study for New Gold's proposed Blackwater Gold project*.

- Lead Author and Principal Investigator for the ***Paddle Prairie Métis Settlement*** *Knowledge and Use Study specific to TransCanada Pipelines Ltd.'s Proposed 2017 NGTL System Expansion* project.

- Lead Author and Principal Investigator for the ***Brunswick House, Chapleau Cree and Chapleau Ojibwe First Nations*** *Knowledge and Use Study for the proposed Goldcorp Borden Gold project*.

- Lead Author and Principal Investigator for the ***Blueberry River First Nation (BRFN)*** *Knowledge and Use Study for the Shell Canada's proposed and existing developments project*.

- Lead Author and Principal Investigator for the ***Mattagami First Nation (MFN)*** *Traditional Knowledge and Use Study for Canadian National Railway's Two Train Derailments*.

- Lead Author and Principal Investigator for the ***T'Sou-ke Nation's*** *Traditional Marine Knowledge and Use Study (TUS) for the Kinder Morgan's proposed Trans Mountain Pipeline Expansion project*.

- Lead Author and Principal Investigator for the ***Shackan Indian Band*** *Knowledge and Use Study (TUS) for the Kinder Morgan's proposed Trans Mountain Pipeline Expansion project*.

- Lead Author and Principal Investigator for the ***Wabun Tribal Council*** *Knowledge and Use Study for the proposed TransCanada Energy East Pipeline project*.

- Lead Author and Principal Investigator for the ***Eabametoong First Nation*** *Knowledge and Use Study*.

- Lead Author and Principal Investigator for the ***Samson Cree Nation*** *Knowledge and Use Study for the Enbridge's proposed Edmonton to Hardisty (E2H) pipeline project*.

- Lead Author and Principal Investigator for the ***Peter's Band*** *Traditional Use Study (TUS) for the Kinder Morgan's proposed Trans Mountain Pipeline Expansion project*.

- Lead Author and Principal Investigator for the ***Blueberry River First Nations*** *Knowledge and Use Study for the proposed TransCanada Merrick Mainline project*.

- Lead Author and Principal Investigator for the ***Blueberry River First Nations*** *Knowledge and Use Study for the proposed TransCanada North Montney Mainline project.*

- Lead Author and Principal Investigator for the ***Mikisew Cree First Nation*** *Knowledge and Use Study for the proposed Athabasca Oil Hangingstone SAGD Expansion project*.

- Lead Author and Principal Investigator for the ***Blueberry River First Nations*** *Knowledge and Use Study for the proposed TransCanada Prince Rupert Gas Transmission project*.

- Lead Author and Principal Investigator for the ***Saulteau First Nations*** *knowledge and use review for TransCanada's proposed North Montney Mainline Project*.

- Lead Author and Principal Investigator for the ***McLeod Lake Indian Band*** *Knowledge and Use Study for EDF Taylor Wind Farm*.

- Lead Author and Principal Investigator for the ***McLeod Lake Indian Band*** *Knowledge and Use Study for EDF Sundance Wind Farm*.

- Lead Author and Principal Investigator for the ***McLeod Lake Indian Band*** *Knowledge and Use Study for Glencore Xstrata Sukunka Coal Mine*.

- Lead Author and Principal Investigator for the ***Saulteau First Nations*** *knowledge and use study for 3 proposed pipeline projects: TransCanada's proposed Coastal GasLink and Prince Rupert Gas Transmission projects, and Spectra's proposed Westcoast Connector pipeline project*.

- Lead Author and Principal Investigator for the ***Saulteau First Nations*** *knowledge and use study for 4 wind energy projects: EDF Taylor, EDF Sundance, Boralex/Aeolis Babcock Creek Ridge, and Boralex/Aeolis Moose Lake Ridge wind projects.*

- Lead Author and Principal Investigator for the ***Saulteau First Nations*** *knowledge and use study for HD Mining International Ltd.'s proposed Murray River Coal Mine project.*

- Lead Author and Principal Investigator for the ***Big Grassy River First Nation*** *Knowledge and Use Study for the proposed New Gold Mine Project.*

- Lead Author and Principal Investigator for the ***Blueberry River First Nations*** *Knowledge and Use Study for the proposed TransCanada Coastal GasLink pipeline project.*

- Lead Author and Principal Investigator for the ***Buffalo River Dene Nation*** *joint expert Report for the Primose Lake Air Weapons Range in Saskatchewan.*

- Co-author and Principal Investigator for the ***Doig River First Nation*** *TransCanada - Aitken Pipeline traditional use study.*

- Lead Author and Principal Investigator for the ***Mathias Colomb Cree Nation*** *Initial Knowledge and Use Scoping and Mapping Study for three properties belonging to Hudbay Minerals.*

- Lead Author and Principal Investigator for the ***Tlicho Government*** *Indigenous knowledge study for the Fortune Minerals NICO project.*

- Senior Researcher for the ***Mikisew Cree First Nation*** *coordinated Indigenous Knowledge (IK) study for the Athabasca oil sands region.*

- Senior Researcher for the ***Athabasca Chipewyan First Nation*** *coordinated Indigenous knowledge (IK) study for the Athabasca oil sands region.*

- Senior Researcher for the ***Treaty 8 Tribal Association*** *Traditional Knowledge, Use and Occupancy Study for the Proposed 'Site C' Area along the Peace River.*

- Senior Researcher for the ***Mikisew Cree First Nation*** *Indigenous Knowledge study for assessing Shell-specific oil sands development projects near Fort McKay.*

- Senior Researcher for the ***Mikisew Cree First Nation*** *use and interests assessment for Shell's Jackpine Mine Expansion project and Pierre River Mine project.*

- Senior Researcher for the ***Athabasca Chipewyan First Nation*** *TEK/TUS project involving documentation of community use and interests assessment for the Total Jocelyn Oil Sands Mining project near Fort McKay.*

- Senior Researcher for the ***Ktunaxa Nation Council*** *TEK/TUS component of an environmental impact assessment for Teck Coal`s proposed mining project.*

- Senior Researcher for ***UNESCO-LINKS*** project, and coordinated the Maori language version of the CD-ROM project, *The Canoe is the People, entitled He Waka He Tangata.*

- Senior Research Manager for the ***Dene Tha' Nation***, and developed and implemented Traditional Use Study in two First Nations communities, Chateh and Meander River. Included developing research design, methodology, training community researchers, and reporting to the Steering Committee of the Dene Tha' Consultation Pilot Project.

- Senior Researcher for ***Halfway River First Nation***, coordinated land use mapping and life history interviews with community researchers. Included training in qualitative methodologies and mapping processes.

- Researcher for ***Tr'ondek Hwech'in First Nation***, Oral History Project focused on collecting life history interviews with elders, and stories of life in fish camps along the Yukon River.

PROJECT EXPERIENCE – HEALTH AND SOCIAL

- Lead Author and Principal Investigator for the ***First Nations Health Authority*** Nutrition Service Delivery Model for the Northern region of FNHA.

- Lead Author and Principal Investigator for the ***Community Midwives Association of Yukon*** ethno-historical study of midwifery and maternal health care in First Nations community in the Yukon Territory.

- Lead Author and Principal Investigator for the ***Shanti Uganda*** Propelling Motherhood project, a rural-based health intervention using mobile health data collection methods.

- Lead Author and Principal Investigator for the ***Manitoba First Nations Education Resource Centre***, for the development of community-based evaluation of the Family Literacy programs on First Nation reserves in Manitoba.

- Lead Author and Principal Investigator for *the* ***National Aboriginal Council of Midwives*** reports, toolkits, and various other resources.

- Lead Author and Principal Investigator for the ***National Aboriginal Health Organization*** Celebrating Birth series on maternal health.

- Senior Researcher for ***Opaskwayak Cree Nation***, conducting of interviews for a qualitative study on mother's experiences of childbirth from a northern Manitoban community.

- Senior Researcher for the ***Red Road HIV/AIDS Network*** for the "Mapping the Road to Healthier Communities Project".

- Senior Researcher for the ***Mother Saradadevi Social Service Society***, conducted a baseline survey of youth and sexual health issues to aid in the development and implementation of prevention programmes in the district.

SELECTED PUBLICATIONS- TRADITIONAL ECOLOGICAL KNOWLEDGE (TEK) AND TRADITIONAL USE STUDIES (TUS)

Peer Reviewed

Olson, Rachel, Jeffrey Hackett, and Steven DeRoy. (2016) Mapping the Digital Terrain: Towards Indigenous Geographic Information and Spatial Data Quality Indicators for Indigenous Knowledge and Traditional Land-Use Data Collection. The Cartographic Journal.

Corbett J. M., Giacomo Rambaldi, Peter A. Kwaku Kyem, Daniel Weiner, Rachel Olson, Julius Muchemi and Robert Chambers (2006). Overview - Mapping for Change the emergence of a new practice." Participatory Learning and Action 54. 13-20.

Candler, Craig, Rachel Olson, Steven DeRoy, and Kieran Broderick. (2006). PGIS as a

Sustained (and Sustainable?) Practice: The Case of Treaty 8 BC. Participatory Learning and Action 54. Guest Editor. Participatory Learning and Action. Issue 54, April 2006. International Institute for Environment and Development. London, UK.

Olson, Rachel. Contributor to Encyclopedia of the Arctic. 2003. Ed. Mark Nutall. Fitzroy Dearborn, Routledge: New York, NY.

Reports- Selected

Olson, Rachel and Peter Bates. Saulteau First Nations Knowledge and Use Study for TransCanada Pipelines Ltd. Coastal GasLink Pipeline Project. Submitted to Saulteau First Nations, BC. 2013.

Olson, Rachel and Steven DeRoy. Blueberry First Nations Knowledge and Use Study for TransCanada Pipelines Ltd. Coastal GasLink Pipeline Project. Submitted to Blueberry First Nations, BC. 2013.

Olson, Rachel and Peter Bates. (2013) Saulteau First Nations Knowledge and Use Study for TransCanada Pipelines Ltd. Coastal GasLink Pipeline Project. Submitted to Saulteau First Nations, BC.

Olson, Rachel and Steven DeRoy. (2013) Blueberry First Nations Knowledge and Use Study for TransCanada Pipelines Ltd. Coastal GasLink Pipeline Project. Submitted to Blueberry First Nations, BC.

Candler, Craig and Rachel Olson. (2013). Mikisew Cree First Nation Indigenous Knowledge and Use Report and Assessment for Southern Pacific Resource Corp. STP McKay Thermal Project – Phase 2. Submitted to the Mikisew Cree First Nation Government and Industry Relations, Fort McMurrary, AB.

Olson, Rachel and Georgina Chocolate. (2012). Asi Edee T'seda Dile: Tlicho Nation Traditional Knowledge and Use Study. Tlicho Government: Yellowknife, NWT.

SELECTED PUBLICATIONS- HEALTH AND SOCIAL

Peer Reviewed

Olson, Rachel and Carol Couchie. Returning birth: the politics of midwifery implementation on First Nations reserves in Canada. *Midwifery*, Volume 29, Issue 8, Pages 981-987. 2013.

Olson, Rachel. Bodies of Water: exploring birthplace and ceremony in Manitoba, Canada. Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health, Volume 10, Issue 3. 2013.

Olson, Rachel, Kerry Bebee, Jasmine Benedict, Ellen Blais, Evelyn Harney, and Sara Wolfe. Introduction: prioritizing Indigenous maternal and infant health. Pimatisiwin: A Journal of Aboriginal and Indigenous Community Health, Volume 10, Issue 3. 2013

Book chapters

Olson, Rachel. (2017). Bearing witness: rural Indigenous women's experiences of childbirth in an urban hospital. In, *Indigenous Experiences of Pregnancy and Birth*. University of Toronto: Demeter Press.

Olson, Rachel. Restoring the Connection: Exploring Aboriginal midwifery and the context of the relocation for childbirth and in First Nation communities in Canada. In, *The Cultural Politics of Reproduction: Migration, Health and Family Making*. Unnithan-Kumar, Maya, and Sunil Khana (eds). Berghahn Books: Oxford. 2015.

Reports

Olson, Rachel. The Landscape of Midwifery Care for Aboriginal Communities in Canada: A discussion paper to support culturally safe midwifery care for Aboriginal communities. National Aboriginal Council of Midwives: Montreal, Canada. 2016.

Olson, Rachel and Carol Griffin. (2012). An Evaluation of Midwifery Services in Manitoba. Midwives Association of Manitoba for Manitoba Health. Winnipeg, Manitoba.

Olson, Rachel and Carol Couchie. (2010). Clearing the Path: An Implementation Plan for Midwifery Services in First Nations and Inuit Communities. Ottawa: Government of Canada.

National Aboriginal Health Organization. (2009). Celebrating Birth- Aboriginal Midwifery in Canada. Ottawa: National Aboriginal Health Organization. [Primary Author]

National Aboriginal Health Organization. 2008. Celebrating Birth - Exploring the Role of Social Support in Labour and Delivery for First Nations Women and Families. Ottawa: National Aboriginal Health Organization. [Primary Author]

Olson, Rachel. (2008). Exploring the Potential Role of Doulas and Doula Training for the Children and Youth Division of First Nations and Inuit Health, Health Canada. Ottawa: Government of Canada. Internal circulation only.

Guest Editor. Bloodlines Magazine. Issue 5: Spring 2005. Red Road HIV/AIDS Network Society. West Vancouver, BC.

CONFERENCES AND WORKSHOPS

Keynote Presenter, 2017 Indigenous Mapping Workshop, October 2017 in Winnipeg, Manitoba

Paper presentation, Normal Birth and Labour Conference, October 2017 in Grange-Over-Sands, UK.

Presentation, Centre for Reproduction, Technology and Health at the University of Sussex, Brighton, UK.

Presenter, 2016 Indigenous Mapping Workshop, October 2016 in Vancouver, British

Columbia

Keynote Presenter, 2015 Indigenous Mapping Workshop, July 28-30, 2015 in Waterloo, Ontario

Paper presentation. International Congress of Midwives Conference, July 2015 in Prague, Czech Republic.

Plenary presentation. Canadian Association of Midwives Annual Conference. Ottawa, Canada. November 7th, 2013.

Paper presentation. Annual Conference of the Canadian Association of Social and Cultural Anthropologists. May 8th, 2013. University of Victoria, Victoria, B.C.

Paper presentation, Uncertainty and Disquiet: 12th European Association of Social Anthropologists Association. Paris, France, July, 2012.

Presenter, Workshop on Indigenous Mapping and Cartography. United Nations Educational, Scientific and Cultural Organization, Paris, France, November, 2007.

Keynote Presenter, Mapping for Change, September 7 – 11, 2005 in Nairobi, Kenya, Africa

Participant of Strategic Planning Sessions, ESRI International User Conference, July 2004 in San Diego, California

Paper presentation, Indigenous Communities Mapping Initiative Conference, March 10 – 15, 2004 in Vancouver, British Columbia

Paper presentation, Breaking the Ice: Transcending Borders through Collaboration and Interdisciplinary Research, 7th ACUNS Student Conference on Northern Studies, October 24-26, 2003 at the University of Alberta, Edmonton, Alberta

OTHER INFORMATION

Research Associate at the Centre for Cultures of Reproduction, Technology and Health at the University of Sussex, United Kingdom.

Received the 2009 Scientific Director's Award for excellence in Aboriginal Health Research at the Graduate level from CIHR- Institute of Aboriginal Peoples' Health.

Honourable Mention. Council for Anthropology and Reproduction Graduate Student Paper Prize. 2012.

Registered member of the Tr'ondek Hwech'in First Nation.

Sagkeeng Anicinabe

the firelight group