



June 30, 2020

VIA EMAIL

Mark Cliffe-Phillips
Executive Director
Mackenzie Valley Environmental Impact Review Board
200 Scotia Centre
P.O. Box 938
YELLOWKNIFE NT X1A 2N7

Dear Mr. Cliffe-Phillips:

GNWT 2020 annual environmental assessment measures implementation report for the Prairie Creek All-Season Road (EA1415-01, Measure 15-3):

On behalf of the Government of the Northwest Territories (GNWT), I am pleased to provide the GNWT's annual report on the implementation of environmental assessment measures for the Prairie Creek All-Season Road, for July 1, 2019 to June 30, 2020. This report is required by the October 9, 2018 [decision letter](#) on EA1415-01 from the then-Minister of Crown-Indigenous Relations and Northern Affairs, on behalf of responsible Ministers, and by sub-section 130(5) of the *Mackenzie Valley Resource Management Act*.

Requirements for this report are specified in Measure 15-3, Annual Reporting from Regulatory Authorities and Government, in the Mackenzie Valley Environmental Impact Review Board's (Review Board) *Report of Environmental Assessment and Reasons for Decision for Canadian Zinc Corporation Ltd.'s Prairie Creek All Season Road Project* (REA). Please note that Canadian Zinc Corporation is now a wholly-owned subsidiary of NorZinc Ltd.

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Measure 15-3 reads as follows:

In order to evaluate the effectiveness of mitigation measures for the protection of the environment, each regulatory authority or government that is wholly or partly responsible for implementation of any measure in this Report of EA will prepare an annual Report on Implementation of CZinc Project Measures. The Report will:

- a) describe the actions being undertaken to implement the EA measures or the part(s) of the EA measure for which the regulatory authority or government is responsible; and*
- b) explain how the implementation actions, including any actions implemented through adaptive management, fulfill the intent of the EA measures, including consideration of the following questions:*
 - i. How are implementation actions addressing a likely significant adverse impact on the environment?*
 - ii. How effective are implementation actions at reducing, controlling, or eliminating the impact or its likelihood?*
 - iii. If the measure is for monitoring or research, are the implementation actions clearly linked to mitigation and/or operations?*
 - iv. How are process considerations (such as consultation or engagement requirements, statutory obligations, etc.) being considered, and, if applicable, how are they affecting implementation of the EA measures?*

Prior to July 1 of each year, during all phases of the Can Zinc Project to which a measure applies, each regulatory authority and government will provide a copy of this annual report to the Review Board.

The attached report lists all measures as included in the recommendation adopted by the responsible Ministers, and summarizes GNWT actions to date, along with links to relevant documents.

Measures directed wholly or in part to the GNWT are:

- Measure 6-2, Part 1: GNWT to require a Wildlife Management and Monitoring Plan (WMMP); and
- Measure 15-3: Annual reporting from government and regulatory authorities.

Measures not directed to GNWT but requiring GNWT participation, such as approval of mitigation or management plans, are included in the attached report.

The GNWT will continue to participate, where appropriate, in the review processes for measures assigned to the Prairie Creek Project and other regulatory bodies, to review Prairie Creek All Season Road monitoring, management, and mitigation plans, and carry out compliance and enforcement duties as required.

As appropriate, the GNWT will continue to consider the Review Board's suggestions as set out in the REA.

The GNWT will continue to work with resource management boards, Parks Canada, NorZinc Ltd., and other parties to the Prairie Creek All Season Road Environmental Assessment (EA 1415-01) on measure implementation and reporting. Should MVEIRB or any parties have any questions regarding the attached materials, please contact Melissa Pink, Manager, Project Assessment Branch, by email at melissa.pink@gov.nt.ca or Darren Campbell, Project Assessment Analyst, by email at darren.campbell@gov.nt.ca.

Sincerely,



Lorraine Seale
Director, Securities and Project
Assessment
Department of Lands

Attachment: Measures implementation report

Implementation of the NorZinc Ltd. (CanZinc) Development Project Measures– GNWT 2020 Annual Report

Preamble

The GNWT's responses in the “Detail on Measure Progress” column are formatted in response to the Measure 15-3 criteria, outlined below for reference.

Measure 15-3: Annual reporting from government and regulatory authorities

In order to evaluate the effectiveness of mitigation measures for the protection of the environment, each regulatory authority or government that is wholly or partly responsible for implementation of any measure in this Report of EA will prepare an annual Report on Implementation of Measures. The Report will:

- a) describe the actions being undertaken to implement the measures or the part(s) of the measures for which the regulatory authority or government is responsible; and
- b) explain how these actions, including those implemented through adaptive management, fulfill the intent of the EA measures, including consideration of the following questions:
 - i. How are implementation actions addressing a likely significant adverse impact on the environment?
 - ii. How effective are implementation actions at reducing, controlling, or eliminating the impact or its likelihood?

Government and regulators will provide a copy of this annual report to the Review Board by **June 30** of each year.

Discipline	Measure	Text of Measure	Party Responsible – Level of Involvement	2020 detail on measure progress for measures assigned in whole or in part to the GNWT. GNWT responses are separated into sections of Measure 14-3.
EA14-01: Canadian Zinc Corp., Prairie Creek All Season Road Project Report of Report of Environmental Assessment Chapter 5. Human Safety	Measure 5-1: Independent Technical Review Panel			
		5 -1, Part 1: Introduction In order to prevent significant adverse impacts on people and the environment, CanZinc will establish and fund an independent technical review panel to evaluate and approve the final road design. The developer will follow the final recommendations of the review panel with respect to road design. CanZinc will develop a term of reference for the panel based on the requirements of this measure.	CanZinc	Measure is not directed to the GNWT.
		5 -1, Part 2: Panel mandate The mandate of the independent technical review panel will be to provide independent expert advice and recommendations on the design and construction of the road to minimize traffic related accidents, road failure or malfunctions, and any resulting significant adverse impacts on human safety or the environment. The panel will ensure that the road is designed and constructed to an appropriate standard that is highly protective of people and the environment, including consideration of: <ul style="list-style-type: none"> i. the number and type of mine and non-mine related vehicles expected to use the road; ii. two-way traffic; iii. human safety and minimizing traffic related accidents; 	CanZinc	Measure is not directed to the GNWT.

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Discipline	Measure	Text of Measure	Party Responsible – Level of Involvement	2020 detail on measure progress for measures assigned in whole or in part to the GNWT. GNWT responses are separated into sections of Measure 14-3.
		iv. permafrost degradation and impacts on water quality; and, v. appropriate road design criteria, including but not limited to: o watercourse crossings; o right of way clearing width; o road alignment, grades, subgrade width, and road widening at curves; o cut and fill slopes, cut and fill slope angles, slope stability; and o number of, and distance between, pullouts.		
		<p>5 -1, Part 3: Panel composition</p> <p>At a minimum, the panel will be comprised of three members who are professional engineers and geoscientists. The panel must have expertise in northern road design, including permafrost and mountainous terrain experience. Members of the panel will have knowledge and experience to appropriately address the mandate in Measure 5- 1 part 2 and considerations in Measure 5-1 part 5. CanZinc will engage with Parks Canada, the Mackenzie Valley Land and Water Board, the Government of the Northwest Territories, Nahanni Butte Dene Band, Liidlii Kué First Nation, and Dehcho First Nations on the panel composition. Members of the panel will be independent and will be approved by the Mackenzie Valley Land and Water Board and Parks Canada.</p>	CanZinc	Measure is not directed to the GNWT.
		<p>5 -1, Part 4: Panel activities and timing</p> <p>The panel will be established prior to detailed design of the road. CanZinc will engage with Parks Canada, the Mackenzie Valley Land and Water Board, the Government of the Northwest Territories, Nahanni Butte Dene Band, Liidlii Kué First Nation, and Dehcho First Nations on the panel activities. CanZinc will provide the panel’s reports to Parks Canada and the Mackenzie Valley Land and Water Board. At a minimum, the panel will complete the activities listed below.</p> <p>i. Prior to detailed design of the road: o review and comment on the Panel’s terms of reference.</p> <p>ii. During detailed design of the road: o work with CanZinc to review updated information, design plans, and detailed design work, including the terrain stability assessments undertaken for the proposed cut and fill slopes, and the developer’s detailed interpretation of the permafrost conditions at the site upon completion of geotechnical site investigation work; and, o provides advice and recommendations for improving road design, following the mandate above, and considering construction, operations and maintenance, closure and reclamation, and temporary closure.</p> <p>iii. Following detailed design of the road: o review the detailed design documents for the road;</p>	CanZinc	The GNWT will work with the panel as required

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		<ul style="list-style-type: none"> o provide a preliminary report to CanZinc on the panel’s findings and conclusions, including any additional or outstanding recommendations; o review CanZinc’s response and justification for any recommendations the developer does not wish to follow; o prepare and submit a final report to CanZinc that includes the panel’s findings and conclusions on the final design. <p>iv. During construction: work with the developer and regulatory authorities to determine the frequency and nature of the panel’s activities during construction (at a minimum, the panel will be consulted and have the opportunity to revise its final report if any material changes to design are made following the panel’s report).</p>		
		<p>5-1, Part 5: Other panel considerations</p> <p>The independent technical review panel will also consider any relevant information on the record from EA1415-01, information gathered as a result of relevant CanZinc commitments, and the requirements and outcomes of Review Board measures. This includes, but is not limited to:</p> <ul style="list-style-type: none"> i. the updated risk assessment (Appendix C, commitment #241); ii. terrain stability assessment reports (Appendix C, commitment #137) and any additional mitigation required to address instability; iii. avalanche related information (Appendix C, commitment #114; Suggestion 5-1); iv. individual detailed borrow site plans and designs (Appendix C, commitment #119); v. geotechnical, geophysical, permafrost, and hydrological investigations (Appendix C, commitments #129, #156, #232, #235; Measure 12-1; Measure 8-1); vi. the Traffic Control Mitigation and Management Plan (Measure 5-2); vii. relevant management plans and proposed mitigations; viii. extreme weather events; ix. climate change; and, x. karst features. 	N/A	Measure is not directed to the GNWT.
	Measure 5-2: Traffic Control Mitigation and Management Plan			
		<p>5-2, Part 1: Introduction</p> <p>In order to prevent significant adverse impacts from the Project on human safety, water quality, and wildlife from accidents and increased harvest along the road, CanZinc will create a Traffic Control Mitigation and Management Plan. The purpose of the plan is to</p>	CanZinc	Measure is not directed to the GNWT.

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		<p>manage access control mitigations and all traffic on the road, including mine and non-mine traffic. The plan will consider all Project phases (construction, operation, closure [including temporary closure]) as well as seasonal or weather related closure. This plan will replace Section 7.1 of the Road Operations Plan. Prior to construction, the developer will submit this plan to the Mackenzie Valley Land and Water Board and Parks Canada for approval, as a condition of respective land use permits. CanZinc will operate in accordance with the approved plan.</p> <p>5-2, Part 2: Managing traffic on the road</p> <p>CanZinc will include all the mitigations it has identified for controlling non-mine traffic on the road in the Traffic Control Mitigation and Management Plan. The plan will describe roles and responsibilities for non-mine traffic mitigation and monitoring. At a minimum CanZinc will:</p> <ul style="list-style-type: none"> i. exercise its right to control access on the lease parcels at the Liard River to control non-mine traffic; ii. operate a checkpoint when haul trucks are using the road and document all traffic known to be on the road; and iii. install signs indicating that the road is operated as a mine haul road and any public traffic using the road does so entirely at its own risk. <p>In the Traffic Control Mitigation and Management Plan, CanZinc will also address mitigation and management strategies for all traffic on the road, including how this relates to the Journey Management System that CanZinc intends to use for mine traffic. Mitigations to increase safety on the road with both mine and non-mine traffic present should consider:</p> <ul style="list-style-type: none"> a) the independent technical review panel’s conclusions on road design and safety; and, b) data sources that can provide information about high wildlife collision areas and non-mine traffic presence (such as wildlife camera traps [see Measure 6-3] and the harvest monitoring program[see Suggestion 7-1]). <p>CanZinc will monitor non-mine traffic on the road and establish adaptive management, following the guidance in Appendix B of this Report of EA, within the Traffic Control Mitigation and Management Plan.</p>	<p>CanZinc</p>	<p>Measure is not directed to GNWT. However, the GNWT will continue to participate in review processes as required.</p> <p>Data sources on wildlife collisions are linked with measure 6-3. On May 5, 2020 Environment and Natural Resources (ENR) notified CanZinc that four key revisions to the Wildlife Management and Monitoring Plan (WMMP) are required before ENR will consider it for approval, including the requirement that Wildlife Hazard Mitigation Monitoring and Animal-Vehicle Collision Risk Monitoring must be conducted weekly during the construction and operation phases of the Phase 1 winter road project. ENR also noted that the WMMP does not clearly cross-reference the Traffic Control and Management Plan (ENR letter to CanZinc, posted on the MVLWB’s public registry under MV2014L8-0006).</p>
<p>EA14-01: Canadian Zinc Corp., Prairie Creek All Season Road Project</p>	<p>Measure 6-1: Wildlife Management</p>			
		<p>6-1, Part 1: Wildlife baseline information collection, monitoring, mitigation and adaptive management program</p> <p>In order to reduce adverse impacts on wildlife and wildlife habitat so they are no longer significant, the developer will collect additional wildlife baseline information to be</p>	<p>CanZinc</p>	<p>Measure is not directed to GNWT.</p>

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<p>Report of Report o Environmental Assessment</p> <p>Chapter 6. Wildlife and Wildlife Habitat</p>		<p>integrated with mitigation, focused monitoring, and a systematic approach to adaptive management. In order to accomplish this, CanZinc will:</p> <ul style="list-style-type: none"> i. collect baseline data as described in Part 2 of this measure; ii. monitor wildlife and wildlife habitat during construction and operations as described in Part 3; iii. incorporate Traditional Knowledge in developing and implementing a monitoring program; and, iv. develop and implement an adaptive management framework to manage impacts on wildlife. 		
		<p>6-1, Part 2: Collection of baseline wildlife information for caribou, collared pika and bird species at risk that occur in the area</p> <p>The purpose of this baseline information collection is to confirm the presence or absence of listed wildlife species in the Project area, their population size, seasons of use and important habitat for species described below in the All Season Road corridor. In order to support Part 1, the developer will:</p> <ul style="list-style-type: none"> a) submit a baseline survey plan for review and approval to Parks Canada within the NNPR and to GNWT on territorial lands; b) conduct baseline surveys for northern mountain caribou, boreal caribou, collared pika, and bird species at risk; c) use recognized methods and standards approved by Parks Canada within NNPR, by GNWT on territorial lands, and by ECCC for species at risk; d) conduct surveys at the direction and approval of Parks Canada within NNPR and of the GNWT on territorial lands; e) complete surveys prior to road construction; f) share its baseline wildlife information with Aboriginal organizations, including NBDB, LKFN and DFN; and, g) present the results of its baseline information collection with Aboriginal organizations, including NBDB, LKFN and DFN, in a culturally-appropriate way. 	<p>CanZinc</p>	<p>Measure is not directed to GNWT. However, the GNWT will continue to participate in review processes as required.</p> <p>This measure requires CanrZinc to submit a baseline survey plan for review and approval to the GNWT for activities on territorial lands. NCanZinc engaged with ENR on their baseline survey plans for collared pika, northern mountain caribou and boreal caribou.</p> <p>This measure requires surveys to be conducted at the direction of and approval by the GNWT using methods and standards approved by the GNWT. Prior to this reporting year the GNWT has provided advice on the methods and standards to the developer. ENR reviewed and provided feedback on CanZinc’s baseline data collection programs for boreal and mountain woodland caribou, and collared pika through a series of conference calls and e-mails. There were no relevant baseline surveys to comment on during this reporting year.</p>
		<p>6-1, Part 3: Wildlife monitoring programs</p> <p>In order to reduce adverse impacts on wildlife so they are no longer significant, the developer will prepare and implement a systematic monitoring program(s) for wildlife that may be affected by the Project.</p>	<p>CanZinc</p>	<p>Measure is not directed to GNWT. However, the GNWT will continue to participate in review processes as required.</p>

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		<p>The developer will:</p> <ul style="list-style-type: none"> a) submit monitoring program(s) for review and approval to Parks Canada within the NNPR and GNWT on territorial lands; b) focus on monitoring of northern mountain caribou, boreal caribou, collared pika, and bird species at risk; c) use recognized methods and standards approved by Parks Canada within NNPR, by GNWT on territorial lands, and by ECCC for species at risk; d) conduct monitoring through all phases of the Project; e) formalize monitoring programs within the Wildlife Management and Mitigation Plan (Measure 6-2); f) provide annual monitoring reports to Parks Canada, GNWT, ECCC, NBDB, LKFN and DFN; g) share its wildlife monitoring data with Aboriginal organizations including NBDB, LKFN and DFN; and, h) present the results of its wildlife monitoring programs to Aboriginal organizations, including NBDB, LKFN and DFN, in a culturally appropriate way. 		<p>On October 27, 2017 ENR notified Canadian Zinc, now CanZinc, that in accordance with the section 95 of the <i>Wildlife Act</i> a WMMP is required for the Prairie Creek All-Season Road (EA1415-01 public registry #578). See discussion of Measure 6-2, Part 1 for details.</p>
<p>EA14-01: Canadian Zinc Corp., Prairie Creek All Season Road Project Report of Report of Environmental Assessment</p> <p>Chapter 6. Wildlife and Wildlife Habitat</p>		<p>Measure 6-2: Wildlife Management Monitoring Plan</p> <p>6-2, Part 1: GNWT to require a WMMP</p> <p>In order to reduce adverse impacts on wildlife and wildlife habitat so they are no longer significant, GNWT will require the developer to prepare and implement a Wildlife Management and Monitoring Plan. The GNWT will :</p> <ul style="list-style-type: none"> a) require that the developer prepare a WMMP under the legal authority of Section 95(1) of the <i>Wildlife Act</i> for portions of the Project in its jurisdiction; and b) include opportunity for public review of and comment on the final WMMP prior to construction and on updates to the WMMP throughout the life of the Project. 	<p>GNWT -ENR</p>	<p>On October 27, 2017 ENR notified Canadian Zinc, now CanZinc, that in accordance with the section 95 of the <i>Wildlife Act</i> a WMMP is required for the Prairie Creek All-Season Road (EA1415-01 public registry #578).</p> <p>As reported on in 2019, ENR and Parks Canada reviewed the WMMP that was submitted post-EA. In late June of 2019 the WMMP underwent a public review. ENR and other parties provided comments via the Mackenzie Valley Land and Water Board’s (MVLWB’s) Online Review System (ORS). Changes to the WMMP were made based on that public review.</p> <p>An updated WMMP, for Phase 1 of the Prairie Creek Mine All-Season Access Road, was submitted by NCanZinc to the Minister of ENR and the Superintendent of Nahanni National Park Reserve on November 12, 2019. On December 10, 2019 Parks Canada and ENR initiated a public review of the updated Phase 1 WMMP and requested that parties submit comments to the MVLWB’s ORS. Comments were submitted by four parties, including Parks Canada. ENR did not provide comments on the WMMP to the ORS but did indicate that comments would be submitted as part of ENR’s decision letter on the WMMP.</p> <p>On May 5, 2020 ENR notified CanZinc that ENR had deferred its decision on whether to approve the WMMP to a later date because CanZinc indicted in a news release on February 4,</p>

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				<p>2020 that it would not be commencing construction of the Phase 1 winter road in the first quarter of 2020 as previously planned. ENR also notified NCanZinc of four key revisions to the WMMP that are required before ENR will consider it for approval. Once ENR receives a final version of the Phase 1 WMMP that addresses comments from both ENR and Parks Canada, ENR will consult Indigenous governments and organizations prior to making a decision on approval. Following the consultation period, ENR will notify CanZinc of its decision on whether or not the WMMP will be approved (ENR letter to CanZinc, posted on the MVLWB's public registry under MV2014L8-0006).</p> <p>Given that construction on Phase 1 of the Winter Road has not started it would be premature to comment on how implementation actions are addressing a likely significant adverse impact on the environment and the effectiveness of the implementation actions. The intent of the measure has been through the requirement of the WMMP and the public review of the WMMP.</p>
		<p>6-2, Part 2: Parks Canada to require a WMMP</p> <p>In order to reduce adverse impacts on wildlife and wildlife habitat so they are no longer significant, Parks Canada will require the developer to prepare and implement a Wildlife Management and Monitoring Plan. Parks Canada will:</p> <p>a) require that the developer prepare a WMMP as a condition of an authorization for the portions of the road in its jurisdiction; and</p> <p>b) include opportunity for public review of and comment on the final WMMP prior to construction and on updates to the WMMP throughout the life of the Project.</p>	<p>Parks -CZ</p>	<p>Measure is not directed to GNWT. However, GNWT is working with Parks Canada to facilitate a consistent WMMP for the entire All-Season Road.</p>
		<p>6-2, Part 3: Developer to prepare and implement a WMMP</p> <p>The developer will:</p> <p>a) update its draft WMMP to include all commitments and mitigations agreed to or recommended by its consultants throughout the EA;</p> <p>b) develop an adaptive management framework that links the results of monitoring with adjustments to mitigations as part of the WMMP that satisfies the requirements set out in Appendix B of this report;</p> <p>c) describe how the monitoring data is linked with adaptive management in the Traffic Control and Management Plan;</p> <p>d) submit its updated WMMP to the wildlife regulators described in Parts 1 and 2 for review and approval prior to construction; and</p> <p>e) prepare and submit an annual report to wildlife regulators on the effectiveness of the WMMP that includes a description of how the adaptive management framework was used to address Project impacts.</p>	<p>CanZinc</p>	<p>Measure is not directed to GNWT. GNWT will continue to participate in review processes as required. See discussion of Measure 6-2, Part 1.</p>

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<p>EA14-01: Canadian Zinc Corp., Prairie Creek All Season Road Project Report of Report of Environmental Assessment</p> <p>Chapter 6. Wildlife and Wildlife Habitat</p>	6-3 Reducing the risk of vehicle collisions with wildlife			
		<p>Measure 6-3: Reducing the risk of vehicle collisions with wildlife</p> <p>In order to reduce the likelihood of significant impacts on wildlife from collisions with vehicles along the road, the developer will identify and communicate wildlife caution zones to road users. The details of this approach will be incorporated into the developer’s WMMP (referred to in Measure 6-2) and will include:</p> <p>a) a description of how wildlife information from drivers will be collected and recorded to inform the selection of wildlife crossing areas;</p> <p>b) a detailed system for identifying wildlife (specifically big game as defined in the Wildlife Act) caution zones and marking them along the road (such as where sightings or collisions have occurred or where Traditional Knowledge identifies trails);</p> <p>c) use of a remote camera trap system to identify wildlife road crossing areas and identify non-mine related traffic;</p> <p>d) annual reporting of wildlife sightings by drivers that includes vehicle collisions with wildlife, locations of signage for wildlife caution zones and whether they were modified based on operational experience;</p> <p>e) annual reporting to regulators of remote camera log results, locations of primary wildlife crossings and how wildlife caution zones were modified based on monitoring results (if applicable); and,</p> <p>f) annual reporting to regulators on road use by non-mine vehicles using data from remote camera logs.</p> <p>The GNWT will regulate this measure on territorial lands and Parks Canada will regulate this measure within the NNPR. Reporting will be included in the WMMP annual report.</p>	<p>CanZinc</p>	<p>Measure is not primarily directed to GNWT. However, the GNWT will continue to participate in review processes as required.</p> <p>Implementation of this measure will be included in the WMMP.</p>
<p>EA14-01: Canadian Zinc Corp., Prairie Creek All Season Road Project Report of Report of Environmental Assessment</p>	Measure 8-1: Water baseline data, mitigation, monitoring, and adaptive management			
		<p>8-1, Part 1: Introduction</p> <p>To ensure that the road and crossings are designed to an appropriate standard, and constructed and operated in a manner that will be protective of the environment, CanZinc will:</p>	<p>CanZinc</p>	<p>Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.</p>

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<p>Chapter 8. Water quality and quantity</p>		<p>i. collect additional baseline data;</p> <p>ii. identify and implement appropriate mitigation to prevent significant adverse impacts;</p> <p>iii. combine monitoring programs and plans to coordinate water monitoring efforts; and</p> <p>iv. incorporate principles of adaptive management into road and crossing design and monitoring.</p> <p>Parks Canada, Fisheries and Oceans Canada, and the Mackenzie Valley Land and Water Board will (within their respective jurisdictions) review and approve CanZinc’s actions to ensure the requirements of this measure are satisfied.</p>		
		<p>8-1, Part 2: Baseline data</p> <p>CanZinc will collect baseline data necessary to enable the design, construction, and maintenance of watercourse crossings that are protective of the environment and inform future monitoring. CanZinc will install hydrometric stations and use the resulting data in its road and crossing designs. These stations will measure continuous streamflow data during the open water season and instantaneous flow measurements during the ice-covered period for a minimum of one year prior to construction of watercourse crossings. The stations will be established to:</p> <p>i. characterize spatial variability;</p> <p>ii. characterize variability in watershed size;</p> <p>iii. measure conditions at Sundog Creek and other key locations (to be determined in consultation with regulators); and,</p> <p>iv. provide locations for ongoing monitoring during operations.</p> <p>A minimum of one year of this data will be collected prior to the start of activities related to construction of watercourse crossings, and data collection will continue into construction (see Measure 8-1 part 4). CanZinc will work with Parks Canada, Fisheries and Oceans Canada, and the Mackenzie Valley Land and Water Board to determine what, if any, other water baseline data is required prior to construction to inform mitigation, future monitoring, and adaptive management.</p>	<p>CanZinc</p>	<p>Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.</p>
		<p>8-1, Part 3: Mitigate impacts on water quality</p> <p>CanZinc will use the baseline data collected, as well as any other relevant information and best management practices, to determine appropriate mitigation prior to construction and to revise detailed design plans for watercourse crossings. The developer will share the baseline data with all relevant regulatory authorities and the independent panel (Measure 5-1) to facilitate Project review, permitting, and licensing.</p>	<p>CanZinc</p>	<p>Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.</p>

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		<p>8-1, Part 4: Monitoring CanZinc has identified many different plans, programs, and commitments for monitoring Project effects on water during construction and operation. CanZinc will amalgamate these plans, programs, and commitments, to the extent feasible and practical, so that water monitoring is consolidated and coordinated. The Review Board understands that for operational purposes, CanZinc may wish to keep certain aspects of water monitoring separate. The Review Board encourages the developer to consolidate where it can, in order to simplify the number of plans to create and report on. The Review Board considers that this may be relevant to the following commitments (Appendix C): #55, #93, #94, #211, #212, #217, #218, and #239, among others.</p> <p>Regarding ongoing monitoring at hydrometric stations, Parks Canada and the Mackenzie Valley Land and Water Board will review and approve monitoring plans, through the water licenses, and determine if and when ongoing monitoring can be phased out.</p>	CanZinc	Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.
		<p>8-1, Part 5: Adaptive management As part of the water monitoring program(s), CanZinc will establish and implement an adaptive management framework that satisfies the requirements of Appendix B. This will include thresholds and actions that will be developed and adapted using all available baseline information, effects monitoring results, and Traditional Knowledge and will consider ways to coordinate or compliment Aboriginal monitoring initiatives (see Measure 15-4).</p>	CanZinc	Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.
<p>EA14-01: Canadian Zinc Corp., Prairie Creek All Season Road Project Report of Report o Environmental Assessment</p> <p>Chapter 9. Fish and Fish Habitat</p>		Measure 9-1: Effects mitigation, baseline data, management for the Sundog Creek diversion		
		<p>9-1 Part 1: Introduction</p> <p>In order to prevent significant adverse impacts on fish and fish habitat, CanZinc will design, construct and operate the Sundog Creek diversion channel in a way that is protective of fish and fish habitat and ensures the ecological and hydraulic effectiveness of the diversion. Toward this end, CanZinc will develop a Sundog Creek Diversion Plan to:</p> <p>a) Mitigate and minimize potential adverse effects on fish and fish habitat from the Sundog Creek diversion through appropriate and protective channel design, and by using all available best practices during construction and operation of the channel.</p> <p>b) Collect baseline data necessary to design, construct and maintain the diversion channel in a way that is protective of fish and fish habitat throughout the life of the Project. c) Monitor for project-related effects on physical and biological characteristics relevant to the maintenance of effective fish habitat and ecological integrity and to ensure that mitigations are operational and effective.</p> <p>d) Develop and implement an adaptive management framework for Project effects on fish and fish habitat and ecological integrity.</p> <p>Parks Canada and DFO must review and approve this plan prior to the start of construction.</p>	CanZinc	Measure is not directed to GNWT.
		<p>9-1 Part 2: Collect baseline information</p>	CanZinc	Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.

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Discipline	Measure	Text of Measure	Party Responsible – Level of Involvement	2020 detail on measure progress for measures assigned in whole or in part to the GNWT. GNWT responses are separated into sections of Measure 14-3.
		<p>CanZinc will collect baseline data necessary to design, construct and operate the Sundog Creek diversion so that fish and fish habitat are protected through the life of the Project. This baseline information will also be used to verify EA predictions and inform adaptive management. Prior to commencement of construction of the Sundog Creek diversion, CanZinc will collect a minimum of one year of baseline data for both hydrological and ecological characteristics, including at a minimum, information on:</p> <ul style="list-style-type: none"> i. benthic invertebrates; ii. aquatic vegetation; iii. fish use and occupancy; iv. channel morphology; v. flow characteristics; vi. water quality; vii. hydrology (as described in Measure 8-1); and viii. any other variables of concern as deemed appropriate by DFO or Parks Canada. 		
		<p>9-1 Part 3: Mitigate or minimize potential adverse effects</p> <p>CanZinc will use all available best management practices and all available baseline data (including data requirements in measure 8-1 and 9-1) to design and construct the Sundog Creek diversion channel to avoid and mitigate adverse effects on fish and fish habitat, including both ecological and hydrological considerations.</p>	CanZinc	Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.
		<p>9-1 Part 4: Monitor Project effects</p> <p>CanZinc will develop and implement a monitoring plan to detect project-related effects on fish and fish habitat from the Sundog Creek diversion. Monitoring must consider both hydrological and ecological characteristics including, at a minimum:</p> <ul style="list-style-type: none"> i. benthic invertebrates; ii. aquatic vegetation; iii. fish use and occupancy; iv. channel morphology; v. flow characteristics; vi. water quality; vii. hydrology ; and viii. any other variables of concern as deemed appropriate by DFO or Parks Canada. <p>Monitoring will consider both short and long-term effects of the diversion, and will incorporate appropriate flexibility such that monitoring requirements can be adjusted to reflect the Project stage, past monitoring results, and likely effects.</p>	CanZinc	Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.
		<p>9-1, Part 5: Adaptive management of Project effects</p> <p>CanZinc will develop and implement an adaptive management framework for effects on fish and fish habitat from the Sundog Creek diversion that satisfies the requirements of Appendix B.</p>	CanZinc	Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.

Implementation of the NorZinc Ltd. (CanZinc) Development Project Measures– GNWT 2020 Annual Report

Discipline	Measure	Text of Measure	Party Responsible – Level of Involvement	2020 detail on measure progress for measures assigned in whole or in part to the GNWT. GNWT responses are separated into sections of Measure 14-3.
EA14-01: Canadian Zinc Corp., Prairie Creek All Season Road Project Report of Report of Environmental Assessment Chapter 10. Culture and Heritage	Measure 10-1: Traditional Knowledge			
		<p>Measure 10-1: Traditional Knowledge</p> <p>In order to prevent significant adverse impacts on heritage resources, and to support Traditional Knowledge requirements in other measures in this Report of EA, the developer will:</p> <ul style="list-style-type: none"> i. engage with potentially-affected Aboriginal groups, including Nahanni Butte Dene Band, Liidlii Kué First Nation, and Dehcho First Nations, about ways to avoid impacts from the Project, including impacts on heritage resources; ii. conduct this engagement prior to the Archaeological Impact Assessment (AIA), so that the resulting information can inform the AIA (see Measure 10-2); iii. thoroughly consider and, where applicable, incorporate Traditional Knowledge into Project design, mitigations, monitoring, and adaptive management; and iv. submit an updated engagement record and plan in accordance with Mackenzie Valley Land and Water Board (MVLWB) Engagement Guidelines for review and approval by Parks Canada and the MVLWB. <p>The developer will do this in a culturally-appropriate way that respects applicable Traditional Knowledge policies and protocols.</p>	CanZinc	Measure is not directed to GNWT.
	10-2: Archaeological Impact Assessment			
	<p>Measure 10-2: Archaeological Impact Assessment</p> <p>In order to prevent significant adverse impacts on heritage resources, the developer will conduct an Archaeological Impact Assessment to the specifications detailed in commitments #215 and #216 in Appendix C of this Report. The Archaeological Impact Assessment will also:</p> <ul style="list-style-type: none"> i. be developed in consultation with Parks Canada, the Government of the Northwest Territories, Nahanni Butte Dene Band, Liidlii Kué First Nation, and Dehcho First Nations; ii. incorporate all evidence of place names, traditional land use, Traditional Knowledge, cultural and spiritual use, and harvesting in the vicinity of the Project; iii. be conducted along the final alignment of the All Season Road, at borrow site locations, and other areas where ground disturbance is proposed; and iv. be completed prior to any new ground disturbance. 	CanZinc	<p>Measure is not directed to GNWT. However, the GNWT will continue to participate in review processes as required.</p> <p>ECE's review of the AIA of the geotechnical program for the ASR (conducted in 2018) resulted in a recommendation for further archaeological work in advance of geotechnical testing.</p> <p>This additional work was conducted in 2019 and reporting on the 2018 and 2019 work was compiled into a single final report. ECE has reviewed the final report and anticipates accepting the report once some final edits have been received from the developer's archaeology consultant.</p> <p>The full AIA of the all-season road, borrow site locations, and other areas of proposed ground disturbance, as per Measure 10-2 of EA14-01, has not yet been completed.</p>	
Measure 11-1: Rare plant and rare plant assemblage baseline surveys and management in the Nahanni National Park Reserve				

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Discipline	Measure	Text of Measure	Party Responsible – Level of Involvement	2020 detail on measure progress for measures assigned in whole or in part to the GNWT. GNWT responses are separated into sections of Measure 14-3.
<p>EA14-01: Canadian Zinc Corp., Prairie Creek All Season Road Project Report of Report o Environmental Assessment</p> <p>Chapter 11. Rare plant assemblages, and harvested species</p>		<p>11-1, Part 1: Baseline surveys</p> <p>In order to inform effective mitigations, adaptive management, and reclamation and to prevent significant adverse impacts on vegetation within Nahanni National Park Reserve, the developer will complete vegetation field surveys focused on the presence of rare plants and rare plant assemblages prior to ground disturbance or clearing within Nahanni National Park Reserve. Parks Canada will approve the details of these surveys, including timing, seasonality, and methods. CanZinc will use the results of the baseline surveys to inform the following:</p> <ul style="list-style-type: none"> i. understanding impacts on rare plants and rare plant assemblages; ii. identifying appropriate mitigation to prevent significant adverse impacts; iii. monitoring and adaptive management; and iv. closure and reclamation. <p>The results of the baseline surveys will be submitted to Parks Canada.</p>	CanZinc	Measure is not directed to GNWT.
		<p>11-1, Part 2: Rare Plant Management Plan</p> <p>In order to prevent significant adverse impacts on rare plants as a result of construction and operation, CanZinc will develop a Rare Plant Management Plan prior to construction. This plan will include mitigation, monitoring, and adaptive management for rare plants.</p> <ul style="list-style-type: none"> • Mitigation: CanZinc will use the information gathered in the surveys required by Measure 11-1 part 1, as well as any other relevant information, to identify appropriate mitigation within the plan to minimize significant adverse impacts on rare plants or rare plant assemblages. • Effects monitoring: The plan will include details on how rare plants will be identified and monitored during construction and operations activities. The plan will include effects monitoring for any identified rare plants or rare plant assemblages. • Adaptive management: The plan will include the principles of adaptive management outlined in Appendix B. This will include identifying the actions that will be taken if rare plants are identified at any time during construction and operation of the Project. <p>The Rare Plant Management Plan will be reviewed and approved by Parks Canada prior to construction. The developer will operate in accordance with the approved plan.</p>	CanZinc	Measure is not directed to GNWT.
	Measure 11-2: Invasive Species Management			

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Discipline	Measure	Text of Measure	Party Responsible – Level of Involvement	2020 detail on measure progress for measures assigned in whole or in part to the GNWT. GNWT responses are separated into sections of Measure 14-3.
		<p>11-2, Part 1: Introduction</p> <p>In order to reduce the likelihood of significant impacts on vegetation through the introduction or spread of invasive species, the developer will survey the right-of-way, mitigate the spread of invasive species, monitor for the presence of invasive species, and incorporate adaptive management, as described in the rest of this measure.</p>	CanZinc	Measure is not directed to GNWT.
		<p>11-2, Part 2: Baseline</p> <p>CanZinc will survey the entire right-of-way for the presence of invasive species, prior to ground disturbance during construction, focusing on areas with higher likelihood for the establishment of invasive species. CanZinc will use the results of the surveys to inform Parts 3 and 4 of this measure.</p>	CanZinc	Measure is not directed to GNWT.
		<p>11-2, Part 3: Mitigation</p> <p>CanZinc will mitigate the potential spread of invasive species by implementing the mitigations it has already identified (e.g., the wheel-wash station). CanZinc will work with the Government of Northwest Territories and Parks Canada to identify additional mitigation that will prevent the spread of invasive species.</p>	CanZinc	Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.
		<p>11-2, Part 4: Invasive Species Management Plan</p> <p>CanZinc will revise the invasive species management framework and create an Invasive Species Management Plan prior to construction, considering off-site as well as on-site prevention and control. CanZinc will include the adaptive management principles set out in Appendix B within the invasive species management framework, the Invasive Species Management Plan, and any individual weed control plans, if or as they are developed.</p> <p>Prior to the commencement of construction, the Invasive Species Management Plan will be reviewed and approved by Parks Canada and the Mackenzie Valley Land and Water Board, with input from the Government of Northwest Territories where appropriate, as conditions in their respective land use permits. The developer will implement the approved plan(s).</p>	CanZinc	Measure is not directed to GNWT. However, the GNWT will continue to participate in review processes and provide input through the MVLWB Online Review System as required. The GNWT provided comments on CanZinc's Rare Plant Management Plan v.2 via the ORS on January 28, 2020.
<p>EA14-01: Canadian Zinc Corp., Prairie Creek All Season Road Project Report of Report of Environmental Assessment</p> <p>Chapter 12. Permafrost</p>	Measure 12-1: Permafrost Management			
		<p>12-1, Part 1: Introduction</p> <p>In order to avoid permafrost degradation and prevent associated significant adverse impacts on the environment from the Project during construction, operations, closure, and post-closure, the developer will conduct additional permafrost investigations to inform design and construction of the Project and will develop and implement a permafrost management plan.</p>	CanZinc	Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.
		<p>12-1, Part 2: Permafrost investigations</p> <p>The developer will investigate permafrost and collect baseline permafrost data for the road alignment and borrow pits, provide the data and results to the independent technical review panel and to regulators, and use the information and results to inform detailed and final design.</p>	CanZinc	Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.

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Discipline	Measure	Text of Measure	Party Responsible – Level of Involvement	2020 detail on measure progress for measures assigned in whole or in part to the GNWT. GNWT responses are separated into sections of Measure 14-3.
		<p>12-1, Part 3: Design and construction of the Project</p> <p>CanZinc will design and construct the road, borrow pits, and other infrastructure in a way that anticipates and avoids permafrost degradation and associated impacts on the surrounding environment during all phases of the Project, including post-closure.</p>	<p>CanZinc</p>	<p>Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.</p>
		<p>12-1, Part 4: Permafrost Management Plan</p> <p>The developer will establish and implement a Permafrost Management Plan that includes permafrost monitoring and adaptive management. The Permafrost Management Plan must include:</p> <ul style="list-style-type: none"> • monitoring to measure the effects of the Project on permafrost (with an emphasis on early detection of any changes in permafrost) and evaluate the effectiveness of Project design and mitigations in preventing or minimizing permafrost degradation; and, • an adaptive management framework that satisfies the requirements of Appendix B. <p>The Permafrost Management Plan will be for review and approval by the Mackenzie Valley Land and Water Board and Parks Canada.</p>	<p>CanZinc</p>	<p>Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.</p>
<p>Report of EA14-01: Canadian Zinc Corp., Prairie Creek All Season Road Project Report of Environmental Assessment</p> <p>Chapter 15. Follow -up</p>		<p>Measure 15-1: Monitoring by the Developer</p>		
		<p>15-1, Part 1: Objectives</p> <p>In order to ensure that the measures the developer is responsible for are fully and effectively implemented and to inform adaptive management throughout all phases of the development, the developer will establish and implement monitoring programs that fulfill the following objectives:</p> <ol style="list-style-type: none"> i. to measure the effects of the Project on the environment; ii. to assess the implementation and effectiveness of the measures in this Report of EA for preventing or minimizing impacts on the environment; iii. to inform the implementation of the adaptive management frameworks required by measures in this Report of EA, so that mitigation can be adjusted to ensure significant adverse impacts do not occur; iv. to assess the accuracy of the developer’s predictions made during the environmental assessment, regarding the impacts of the Project on the environment; and v. where applicable, to provide relevant data and information to support other monitoring initiatives (such as Aboriginal monitoring initiatives and government monitoring). <p>These objectives must be incorporated into all monitoring programs that are identified in measures in this Report of EA, either by revising existing programs or creating new programs.</p>	<p>CanZinc</p>	<p>Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.</p>

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Discipline	Measure	Text of Measure	Party Responsible – Level of Involvement	2020 detail on measure progress for measures assigned in whole or in part to the GNWT. GNWT responses are separated into sections of Measure 14-3.	
		<p>15-1, Part 2: Traditional knowledge and inclusion of Aboriginal groups</p> <p>The developer will engage and consider the advice of Nahanni Butte Dene Band, Liidlii Kué First Nation, and Dehcho First Nations, and consider all available Traditional Knowledge when developing its monitoring programs. To the extent possible, the developer will involve potentially-affected Aboriginal groups, including Nahanni Butte Dene Band, Liidlii Kué First Nation, and Dehcho First Nations, in the implementation of the developer’s monitoring programs.</p>	CanZinc	Measure is not directed to GNWT. GNWT will continue to participate in review processes as required.	
	15-2 Annual reporting from the developer				
		<p>Measure 15-2: Annual reporting from the developer</p> <p>In order to demonstrate how measures are being implemented and to evaluate the effectiveness of the developer’s efforts to prevent or minimize impacts on the environment, the developer will, throughout all phases of the development, prepare an annual Report on the Implementation of Measures. The Report will address the measures that the developer is responsible for and will:</p> <ul style="list-style-type: none"> i. Describe the actions, including actions implemented through adaptive management, being undertaken to implement the measures. ii. Evaluate how effective the implementation actions are in controlling, reducing, or eliminating the impact (considering the results of monitoring programs and adaptive management frameworks). Where applicable, provide references to further information contained in other management plans or monitoring reports. <p>The developer will provide a copy of this annual report to the Review Board by June 30 of each year, following the commencement of construction of the Project. The developer will also report in person annually, in a culturally appropriate way, to Nahanni Butte Dene Band, Liidlii Kué First Nation, and Dehcho First Nations.</p>	CanZinc	Measure is not directed to GNWT.	
	15-3 Annual reporting from government and regulatory authorities				
	<p>Measure 15-3: Annual reporting from government and regulatory authorities</p> <p>In order to evaluate the effectiveness of mitigation measures for the protection of the environment, each regulatory authority or government that is wholly or partly responsible for implementation of any measure in this Report of EA will prepare an annual Report on Implementation of Measures. The Report will:</p> <ul style="list-style-type: none"> a) describe the actions being undertaken to implement the measures or the part(s) of the measures for which the regulatory authority or government is responsible; and b) explain how these actions, including those implemented through adaptive management, fulfill the intent of the EA measures, including consideration of the following questions: <ul style="list-style-type: none"> i. How are implementation actions addressing a likely significant adverse impact on the environment? 	GNWT	As represented in this table		

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Discipline	Measure	Text of Measure	Party Responsible – Level of Involvement	2020 detail on measure progress for measures assigned in whole or in part to the GNWT. GNWT responses are separated into sections of Measure 14-3.
		ii. How effective are implementation actions at reducing, controlling, or eliminating the impact or its likelihood? Government and regulators will provide a copy of this annual report to the Review Board by June 30 of each year.		
15-4 Support Aboriginal monitoring initiatives				
		Measure 15-4: Support Aboriginal monitoring initiatives To help prevent significant adverse impacts on the environment and on Aboriginal rights, the developer will support, to the greatest extent practicable, independent monitoring of the Project area through monitoring initiatives undertaken by Nahanni Butte Dene Band, Liidlii Kué First Nation, and Dehcho First Nations. The developer will provide access to the All Season Road for these Aboriginal groups to conduct their monitoring activities throughout all phases of the Project, whenever it is safe to do so. The developer will also provide in-kind support for independent community monitors to conduct their monitoring activities (e.g., accommodations, meals, transportation and appropriate safety training to operate on the road).	CanZinc & IGO Monitors	Measure is not directed to GNWT.