

October 20, 2008

Mr. Alistair MacDonald
Environmental Assessment Officer
Mackenzie Valley Environmental Impact Review Board
200 Scotia Centre
Box 938, 5102-50th Ave
Yellowknife, NT X1A 2N7

By email: amacdonald@mveirb.nt.ca

Re: Scoping of Environmental Assessment: Canadian Zinc Corporation – Prairie Creek Mine (EA 0809-002)

Dear Mr. MacDonald:

I am writing on behalf of the Canadian Parks and Wilderness Society (CPAWS) – both the national organization and the Northwest Territories Chapter (CPAWS-NWT). Please accept the following as our written submissions to the Mackenzie Valley Environmental Impact Review Board ('Review Board') for the scoping phase of the environmental assessment ('EA') of Canadian Zinc's (CZN's) proposed Prairie Creek Mine project.

Background

CPAWS is a national non-profit conservation organization dedicated to protecting Canada's wilderness. We have 13 Chapters across Canada, including one in the NWT, plus a national office. CPAWS-NWT Chapter has participated in regulatory and environmental assessment processes regarding the Prairie Creek exploration and mine proposal since 2000. CPAWS nationwide organization has had an interest in protecting the Nahanni watershed since the early 1970s when we were involved in the original efforts to establish Nahanni National Park Reserve and World Heritage Site. More recently, for close to a decade we have been working in collaboration with the Dehcho First Nations and others to protect the entire South Nahanni Watershed in an expanded national park.

As we have consistently expressed in previous regulatory and environmental assessment reviews related to the proposed Prairie Creek mine, CPAWS believes that the entire

South Nahanni watershed should be protected from any potential adverse impacts of industrial development because of the globally significant natural and cultural values of the region, and we remain extremely concerned about the potential impacts of the proposed Prairie Creek mine on these values.

As stated in our submission during the preliminary screening, CPAWS supported sending Canadian Zinc's proposal to operate the Prairie Creek Mine to environmental assessment because the development could result in significant adverse impacts on the environment, because there is significant public concern about this project, and because it has been significantly altered since the early 1980s¹.

Overview of our written scoping submissions

At this scoping phase of the environmental assessment, CPAWS would like to highlight three key points:

1. The project has been significantly altered since it was originally permitted prior to 1984 and has thus been sent to environmental assessment.
2. The environmental assessment of the project should include the whole mine operation, all its components including the winter road, and all activities associated with these components, including mine closure and reclamation. Anything less would constitute project splitting, given that the fundamental project under consideration here is operation of the mine and transport of its product to market. Given that no application for the road is currently before the Review Board, we call upon the Review Board to ensure such an application is submitted forthwith.
3. The project proposal should be assessed in the most rigorous and comprehensive manner possible given the high conservation values of the Nahanni watershed, as illustrated by regional, national and international designations. There is a great deal of public concern locally, nationally and internationally about this project and its potential impact on water, wildlife and wilderness values. We therefore recommend that it be sent to an Environmental Impact Review.

The following provides details on these three points and also provides specific responses to the four questions asked by the Board.

Scoping the entire development to avoid project splitting

When CZN submitted permit and license applications for the project under current consideration there was some confusion about whether the company was requesting that

¹ CPAWS' letter to the Mackenzie Valley Land and Water Board (MVLWB) re: Preliminary Screening of CZN Prairie Creek mine, August 15, 2008. See Public Registry for CZN Prairie Creek mine (EA0809-002) at http://www.mveirb.nt.ca/registry/project_detail.php?project_id=70&doc_stage=1

the permit and license applications be grandfathered under s.157.1 of the *Mackenzie Valley Resource Management Act* (MVRMA). However, on July 21, 2008 the Mackenzie Valley Land and Water Board (MVLWB) distributed a letter clarifying that the company did not apply for an exemption pursuant to s.157.1. The proposal was subsequently sent to environmental assessment.

Given that the company did not apply for the development to be grandfathered under s.157.1 and that it is now subject to environmental assessment, the starting point for scoping that environmental assessment must be the Review Board's Guidelines². We note these Guidelines were produced according to MVRMA s.120³, and that MVRMA s.117(1) makes determination of the scope of the development subject to them.

These Guidelines clearly emphasize the danger and undesirable practice of project splitting and commit the Review Board to ensuring the entire development undergoes assessment:

*Practice has shown that it is both ineffective and inefficient to separately assess the many individual components of a large development, even if developers apply for these components separately. To assess these parts individually risks missing the bigger picture, by failing to recognize impacts related to scale and combined effects of the separate parts. The Review Board avoids this by ensuring that the entire development undergoes environmental assessment.*⁴

Avoiding project splitting has many additional benefits, such as allowing mitigation measures to be designed with the entire development in mind, helping to ensure the assessment is not unduly limited later on (given that the range and scale of impacts are not always obvious at the start of an assessment), and more fundamentally, promoting trust in the environmental assessment process that it has fully considered the proposed project.

CZN is nonetheless arguing for a project splitting approach of a most egregious type. They argue that the EA should only consider components of the project that have been changed since it was originally permitted in the early 1980s, which they claim should limit the assessment to the water storage pond, paste backfill proposal, waste rock pile, water treatment plant, and the two transfer facilities⁵. The company is, in effect, trying to "grandfather through the back door" much of the proposed development through the scoping process. This *de facto* attempt to grandfather much of the project would result in significant project splitting, and runs directly counter to the Review Board's Guidelines.

² Mackenzie Valley Environmental Impact Review Board "Environmental Impact Assessment Guidelines", March 2004 ('Review Board's Guidelines').

³ Review Board's Guidelines, page 1.

⁴ Review Board's Guidelines, page 27

⁵ CZN EA Scoping Position, "A summary of Canadian Zinc's views regarding scope for the environmental assessment of the Prairie Creek mine", dated September 18, 2008.

The company further claims that any components of the development considered during previous environmental assessments of mineral exploration activities should not be scoped into the current EA. However, the current development proposal is for the operation of a mine, not for mineral exploration. It is a new development proposal which, under the Review Board's Guidelines, should be scoped to include the entire development, not just a few component parts. Whether information from previous environmental assessments can be considered in the current assessment so as to avoid unnecessary duplication is a separate question. The key point here is that when scoping, project splitting is to be avoided by including the entire development in the scope.

What constitutes the entire development?

As noted above, the Review Board's Guidelines require the 'entire development' to be scoped and thus undergo assessment. Those Guidelines go on to provide further direction to the Board on how to determine what constitutes the 'entire development':

In scoping the development, the Review Board will consider what is the principal development, and what other physical works or activities are accessory to the principal development.

*Three criteria will be used to determine whether or not a physical work or activity is an accessory development, and therefore should be included in the development. The first test is **dependence**: that is, if the principal development could not proceed without the undertaking of another physical work or activity, then that work or activity is considered part of the scoped development. The second test is **linkage**: if a decision to undertake the principal development makes the decision to undertake another physical work inevitable, then the linked or interconnected physical work or activity will be considered part of the scoped development. The third test is **proximity**: if the same developer is undertaking two physical works or activities in the same area, then the two may be considered to form one development. [emphasis added]⁶*

With regard to the assessment of Canadian Zinc's present proposal, these tests lead to inclusion in the scope of this assessment the whole mine operation and all its components including the winter road (discussed in detail below) and transfer facilities, and all associated activities including closure and reclamation. Anything less constitutes project splitting. In contrast, CZN argues for a narrow scoping, such as excluding all components already built or assessed by previous EAs, such as the airstrip, mill, tank farm, runoff collection system, etc. However, the principal development (mine operation) is dependent on those other components and activities, they are all linked/interconnected with the principal development, and they all occur in close proximity.

⁶ Review Board's Guidelines, pages 27-28.

In summary, the Review Board's Guidelines mandated by sections 117 and 120 of the MVRMA require the entire development be scoped and thus assessed. Such an approach is necessary to avoid project splitting and to ensure this environmental assessment fully considers the potential impacts from this project.

The winter access road

As noted above, we submit that the winter access road and its use should be included in the scope of this assessment. This raises some difficult questions, given that there is currently no application for a land use permit ('LUP') for the winter access road before the Review Board, and it also raises the question of whether the road is grandfathered.

Firstly, the tests in the Review Board's Guidelines quoted above all lead to inclusion of the road and its use in the scope of this assessment:

- Dependence: operation of the mine depends directly on the winter access road and its use, as well as on the proposed transfer facilities, to supply the operating mine and transport product to market – without these transportation facilities the mine could not operate.
- Linkage: the decision to operate the mine necessitates rehabilitation, maintenance and use of the winter road, as well as the construction of the transfer facilities and their use and eventual closure and reclamation of the road and transfer facilities.
- Proximity: the winter access road runs right to the mine.

The community scoping sessions have already raised concerns related to the road and to its combined effects with the rest of the project, again flagging the need to avoid project splitting which the above three tests are designed to avoid. For example, the summary of issues raised at the Wrigley scoping session includes “soil erosion of the road into the water system”, “winter road – public safety and interference with traditional peoples hunting”, and “effects of mine and road together on wildlife.”⁷ As these concerns point out, impacts from the road combined with impacts from other parts of the project could act collectively on water, wildlife and other ecological and cultural values.

In examining the case of another proposed mine, the DeBeers Gahcho Kue diamond mine (EA 0506-008), we note that the pre-existing winter road and its use was scoped into the environmental assessment. The MVEIRB's Report of Environmental Assessment summarizes the scope of the development and lists the development components as follows:

*The scope of the development at Gahcho Kué includes the principal development and any activities or structures associated with the principal development. Table 2-1 provides a brief overview of the development components.*⁸

⁷ “Draft Meeting Report from the Wrigley Scoping Session”, October 2, 2008.

⁸ MVEIRB, Reasons for Decision and Report of Environmental Assessment for the DeBeers Gahcho Kué Diamond Mine, Kennady Lake, NT, June 28, 2006, EA 0506-008, p. 5.

<http://www.mveirb.nt.ca/registry/index.php>

<i>Phase</i>	<i>Components/Activities</i>
<i>Construction</i>	<i>Construction of mine facilities and associated works;</i>
	<i>Construction of dikes for dewatering of lake and diversion structures to lessen inflows to the watershed;</i>
<i>Mining Operations</i>	<i>Removal of waste rock, kimberlite and mine water from the open pits, including the use of explosives;</i>
	<i>Processing of ore to extract diamonds;</i>
	<i>Storage and handling of processed kimberlite;</i>
	<i>Storage and handling of waste rock;</i>
	<i>Removal of diamonds from mine site;</i>
<i>Water Management</i>	<i>Dewatering of Kennady Lake;</i>
	<i>Handling of mine water;</i>
	<i>Surface water management;</i>
	<i>Removal of water from Kennady Lake for use at the mine site, both by mining personnel and for mining operations, including dust control;</i>
	<i>Water treatment and sewage disposal;</i>
<i>Transport and Surface Structures</i>	<i>Use of the current Tibbitt-Contwoyto winter road;</i>
	<i>Construction of an access road from Tibbitt-Contwoyto winter road to project site;</i>
	<i>Construction/Upgrading of airstrip and air transport activities;</i>
	<i>Solid waste management and containment areas;</i>
	<i>Surface structures, including power plant, sewage and water treatment plants, camp facilities, roads, and ore processing plant;</i>
<i>Closure and Reclamation</i>	<i>Closure and reclamation of the mine site.</i>

Table 2-1 Development Overview⁹

We recommend a similar comprehensive approach to scoping should be followed when scoping CZN's proposed Prairie Creek Mine.

⁹ MVEIRB, Reasons for Decision and Report of Environmental Assessment for the DeBeers Gahcho Kué Diamond Mine, Kennady Lake, NT, June 28, 2006, EA 0506-008, p. 5.
<http://www.mveirb.nt.ca/registry/index.php>

CZN's current winter road land use permit (LUP) MV2003F0028

CZN appears to be moving forward with the current water licence and land use permit applications on the basis that transportation on the winter road to support the activities in these applications (i.e. full-scale mine operations) has already been permitted by LUP MV2003F0028. For example, in the Executive Summary of the Project Description Report filed in support of M2008L2-0002 and MV2008D0014, CZN states the following:

Concentrates and Road Haul. The concentrates will be bagged and stored under cover until they are trucked off-site on flat-deck trailers over the winter road. CZN holds a Type "A" LUP (MV2003F0028) for the use of the winter road from the Prairie Creek Mine to the Liard Highway. This existing road has been determined to be exempt from environmental assessment (Canadian Zinc Corporation vs. MVLWB, NWT Supreme Court, 2004). CZN intends to apply for Type "A" LUP's for transfer facilities approximately mid-point along the winter road and at the junction of the winter road with the Liard Highway.

Similar statements are made elsewhere in CZN's application and supporting materials in which CZN assumes that associated use of the winter road for full-scale mine operations would be covered by MV2003F0028. It is our view that CZN is moving forward on an incorrect assumption.

CPAWS reviewed LUP MV2003F0028 and found the permit to be insufficient on its own in explaining exactly what it permits. For example, the LUP (Part A, s.1) states that it entitles CZN to conduct the following activities:

"Rehabilitation, maintenance, and use of a winter road connecting Prairie Creek Mine site to Liard Highway."

But to understand exactly what use of the road this permits it is necessary to look at the application that was made for it. This is noted in the LUP, which states in Part C for example:

1. The Permittee shall not conduct this land use operation on any lands not designated in the accepted application.

11. The Permittee shall not use any equipment except of the type, size and number that is listed in the accepted application, unless authorized by an Inspector.

More generally of course a permit issued under the MVRMA is issued in response to an application, and that application forms the basis of consideration and consultation prior to permit approval (see, for example, MVRMA s.63-64, 102-103).

CPAWS therefore reviewed the original LUP application and Project Description Report for MV2003F0028. The summary of the proposed operation was briefly described by CZN in Section 5(a) of the LUP application, in which it stated (after noting "***See Attached Project Description***"):

Rehabilitation, maintenance and use of an existing approximate 165 km long by 5 m wide winter road connecting the Prairie Creek Mine to the Liard Highway near Lindberg Landing to support site clean-up through removal of surplus reagents, equipment and supplies; and supply of planned advanced exploration activity.

The application clearly states that the applied-for use of the winter road is specifically for supporting clean-up operations and advanced exploration activity. There is no suggestion of seeking approval for use of the winter road for the full-scale operation of the mine. As Section 5(a) of the application also refers to the attached project description report, CPAWS reviewed that document as well to obtain a more detailed description of what exactly CZN was requesting be permitted by MV2003F0028. In that report, CZN explained the use of the winter road as follows in the Executive Summary (at pages 3-4):

In order to continue with its site clean-up efforts, Canadian Zinc wishes to re-establish the existing winter road to provide access into the minesite. The road would be established in late December – early January and operated through to the end of March, at the latest, in each year of its use during the term of the Permit.

Road access will allow the Company to proceed with the removal of aging equipment, stockpiled reagents which have outlived their shelf life, and other equipment and supplies which are not expected to be required in future mining operations. Of particular note, this will include removal of the 40 tonnes of cyanide, which has been stored at the minesite since 1982.

As well, re-establishment of the existing winter road will facilitate final clean-up of the “Cat Camp” and “Grainger” fuel cache sites, both of which are located along the existing road alignment. Remaining clean-up entails removal of the bulk storage tanks, of which there are three at each site, each approximately 6.1 m high by 3.7 m in diameter, with a maximum nominal capacity of 64,000 litres each, as well as clean-up of any contaminated soils. Also located at the sites are several trailers, some smaller tanks, barrels, a supply of culverts and other materials belonging to Canadian Zinc.

In addition to the forgoing, re-established road access will also provide a more economical means of transporting equipment and supplies necessary in support of the planned advanced exploration activity to be carried out under the previously noted permit applications. This would include such things as the pilot plant for the metallurgical program and the two-boom air jumbo drill to develop the decline, as well as explosives and other supplies.

The need for re-establishing road access is justified based on the large volume and quantity of material requiring transport. Any single proposed project would likely not justify the road development on its own merits. However, by coordinating the above-noted activities the road access takes on a multi-purpose nature, making it more practical. The only alternative to road transport is air, which would be very difficult logistically and prohibitively expensive given the extent and nature of the materials requiring transport.

CZN summarizes its intended use of the winter road under the LUP when it states the following in the Description of the Development section of the report (at page 6):

Access to the minesite for the purposes of supporting planned advanced exploration activity and general cleanup of the minesite and fuel caches will require rehabilitation of the existing road alignment and re-establishment of winter snow road access into the site.

It is clear that MV2003F0028 does not authorize use of the winter road for full-scale mine operations, but rather is limited to advanced exploration activity and some clean-up activity.

This conclusion is further supported by CZN's 2007 application for Water License MV2007L8-0026 (this water license was for the rehabilitation of the road as there had been substantial washouts at the west end of the road). This application describes the road use at that time in the same way:

Rehabilitation and maintenance of part of an existing approximately 175 km long by 5 m wide winter road connecting the Prairie Creek Mine to the Liard Highway near Lindberg Landing to support re-supply for planned advanced exploration activity and removal of surplus reagents, equipment and supplies. Specifically, to repair eroded segments of the all season road section from the mine to Km 8.3 (see Project Description attached). [emphasis added]¹⁰

We also note that as applied for by CZN, and as noted by the MVLWB in its April 20, 2007 Reasons for Decision, use of the winter road under MV2003F0028 is restricted to the period from December 15th to March 31st. In contrast, use of the winter road under the current applications contemplates using the road earlier with the intention of having the first 84 km from the mine site to the Tetcela Transfer Facility in use by the first of December or possibly earlier each year. Again, LUP MV2003F0028 would not enable the use of the road as contemplated by CZN in the current development proposal.

In conclusion, CZN does not currently hold an existing authorization to use the winter road for the mine operations contemplated in the current environmental assessment before the Review Board.

Road LUP application required before this EA proceeds substantially

As explained above, the developer requires a new permit under part 3 of the MVRMA for the winter access road and its use during the proposed mining operations, but we note that there is currently no application for such a LUP before the Review Board. Without it, the Review Board does not have before it a complete collection of applications for the whole 'undertaking' or 'project' that is being proposed by CZN. This raises the question of whether the road can be considered separately or whether it should be considered part of the whole 'undertaking' or 'project' currently proposed. As discussed above, we submit it should be considered part of the whole 'undertaking' so as to avoid project splitting, and so the road and its use should be included in the scope of the current EA. This necessitates that an application for a road LUP be submitted by CZN before this EA proceeds further on substantial or related matters.

¹⁰ CZN application for Type B water license, <http://www.mvlwb.com/pdf/2007Water/MV2007L8-0026/App/MV07L8-26-WLApp-Jun07.pdf>

CZN has expressed the opinion that the winter road has been deemed exempt from environmental assessment by the Supreme Court of the NWT. The 2005 NWT Supreme Court decision referred to does not clearly lead to such a conclusion, however¹¹.

That court decision noted, for example, at paragraphs 46, 50, 55, that the permit that had been applied for was for the winter access road only and not the larger mining operation. At paragraph 53 the court noted that the ‘undertaking’ under consideration was not solely the physical ‘thing’ (i.e. the winter access road) but included the activity for which the road would be used and the circumstances surrounding its use. And at paragraphs 53,58-59,70, the court held that, because of the restricted activities applied for, the ‘undertaking’ in question was not the whole mining enterprise but rather just operation of the winter access road, and accepted at paragraph 61 that there had been no significant alteration of that operation.

Today the situation is very different, given that the developer is applying to open the entire mining operation, that the road will play an integral part in that operation, and that that operation is now the subject of this EA because of alterations that have been made to it.

Further, and as we already noted in our previous submission to the preliminary screening, there are a number of alterations to the mine operations since the early 1980s, and these will presumably alter the volume, type and timing of use of the road. Further, two transfer facilities have been proposed along the road that physically alter it and alter its use. The combination of all these alterations is relevant to issues such as safety, water quality and wildlife impacts. But without an application for the LUP for the road and its use during mine operations, it is difficult to assess the full significance of such alterations and thus determine what, if anything, might be grandfathered.

Finally, even if the new road LUP is grandfathered (and so part 5 of MVRMA does not apply), as discussed above CZN still needs a LUP for the road under MVRMA part 3, and information on the road use will still be needed for inclusion in the cumulative effects assessment of this EA (as required by MVRMA s.117(2)(a)). Thus no matter what the outcome, details on the road and its use are required.

We therefore formally request the Review Board to either:

1. include the winter access road and its use in the scope of this EA and delay related subsequent parts of this EA until the necessary application and details for the road and its use are received, or
2. refrain from making the scoping decision for this EA until after an application for a LUP for the road and its use is applied for and considered.

¹¹ *Can. Zinc Corp. v. Mackenzie Valley Land & Water Bd.*, 2005 NWTSC 48, available at <http://www.canlii.org/en/nt/ntsc/doc/2005/2005nwtsc48/2005nwtsc48.html>.

Significant alterations

In their letter of July 18, 2008 to the MVLWB, CZN claims that the changes being proposed to the Prairie Creek mine project in comparison with the project that was permitted prior to 1984 are “enhancements and improvements”. They list the following “improvements”:

- Paste backfill process
- Using the former tailings pond for temporary water and filtered tailings storage
- Engineered waste rock storage facility

CZN submits that the proposed alterations to the project are improvements that will be environmentally beneficial. As we put forward in our August 15 2008 submission¹², CPAWS believes this is an oversimplification, and that the company has not provided evidence to support this assertion.

For example, the Applicant claims that a paste backfill tailing and waste rock disposal system will be environmentally beneficial in that it will restrict the potential for the ingress of water. Paste backfill is a relatively new technology and there is a great deal of uncertainty about the effectiveness of this approach in mitigating impacts on water quality. For example, a Natural Resources Canada review of the influence of paste backfill on water quality highlights that “*little information on the influence of paste backfill on mine water quality appears to have been developed*”. It also points out that while “*The general theories associated with paste backfill characteristics and geochemical reactivity appear sound, but there does not appear to be much field validation on the actual influence of key parameters.*”¹³

This uncertainty about how paste backfill will work in specific field conditions reinforces the need for a rigorous review of the paste backfill proposal.

CZN further claims that “*all other plans are as before*”.¹⁴ In fact there are other significant alterations to the proposal that CPAWS identified in our August 15th submission to the MVLWB.

These include (but are not limited to):

1. Increased size (5.8 million tonnes inferred and indicated¹⁵ versus 1.6 million “proven, probable and possible” in 1980¹⁶) and different type of ore reserves (stratabound massive sulphides in addition to vein type mineralization¹⁷);
2. Significantly longer proposed life span of the mine (a minimum of 14 years¹⁸ as opposed to approximately 6¹⁹)

at http://www.mveirb.nt.ca/registry/project_detail.php?project_id=70&doc_stage=1

¹³ <http://www.nrcan.gc.ca/mms/canmet-mtb/mmsl-lmsm/mend/reports/exSumm102-e.htm>

¹⁴ July 18, 2008 letter from CZN to Adrian Paradis, MVLWB

¹⁵ CZN Prairie Creek Project Description Report, May, 2008, P. 39

¹⁶ 1980 figures by Kilborn Engineering, as reported in CZN Scoping Study, 2001, p. 26

¹⁷ CZN, Prairie Creek Mine, Northwest Territories, Scoping Study, 2001, p. 26 (CZN Scoping Study)

3. Evidence of contamination of concentrates by “impurities” (including mercury) as identified in CZN’s 2001 Scoping Study²⁰, but not considered in the original environmental evaluation report²¹.
4. Concentrate storage at newly constructed transfer facilities along the winter road allowance²²;

The above changes are significant alterations to the project that could not be considered “*enhancements and improvements (in the interest of superior environmental protection)*”²³. A proposal to operate a mine for 14 years rather than 6 could dramatically increase the scale of impact of the operating mine by, for example, increasing the amount of waste produced, the water used, the scale of underground works, as well as increasing the volume of traffic and overall time period of use of the winter road.

Since the 1980s the body of knowledge relevant to assessing the proposed project and its potential impacts, has changed substantially. New risks have emerged, like climate change and its current and forecasted impacts on permafrost and weather patterns; evidence of high risk of seismic activity (earthquakes) in the area where the mine site is located, evidence of contamination of concentrates by “impurities” including mercury and arsenic as identified in CZN’s 2001 Scoping Study²⁴.

In summary, counter to CZN’s claim, the significant alterations to the project cannot be assumed to be “environmental improvements”; they go beyond the alterations outlined by the company; and an up-to-date environmental assessment of the entire significantly altered project is necessary to ensure that the potential impacts of the entire project, including the winter road and its use, are fully considered using the most current and more comprehensive information now available.

The need for Environmental Impact Review due to Nahanni’s enormous conservation value

The Nahanni watershed is of global, national and regional ecological and cultural significance. The proposed Prairie Creek mine is located 32 km upstream from the Nahanni National Park Reserve and World Heritage Site on the shores of Prairie Creek which flows into the South Nahanni River. The Government of Canada has both national legal requirements and international obligations to protect this National Park and World Heritage Site for future generations. This includes ensuring that the proposed Prairie

¹⁸ CZN Prairie Creek Project Description Report, May, 2008, p. 39.

¹⁹ Environmental Evaluation for Cadillac Explorations Ltd. Prairie Creek Project, NWT, File No. 1561, October 1980, Ker Priestman and Associates.

²⁰ CZN Scoping Study, 2001, p. 70.

²¹ Environmental Evaluation for Cadillac Explorations Ltd. Prairie Creek Project, NWT, File No. 1561, October 1980, Ker Priestman and Associates

²² As described in CZN LUP applications MV2008T0012

²³ July 18, 2008 letter from CZN to Adrian Paradis, MVLWB

²⁴ CZN Scoping Study, 2001, p. 70.

Creek mine does not negatively impact on the ecological integrity of the National Park Reserve and World Heritage Site downstream, now or in the future.

Also important to consider is the plan to expand Nahanni National Park Reserve. There are strong indications that the expanded park will encircle the proposed Prairie Creek mine site and include the road allowance and at least one transfer station, and that the boundary will be as close as 10 km from the mine site in the near future.

Under the Canada National Parks Act, Canada has a legal requirement to ensure the maintenance and restoration of ecological integrity of national parks as the first priority and to protect national parks unimpaired for future generations.²⁵

Nahanni National Park Reserve's status as a UNESCO World Heritage Site also confers an added responsibility on Canada to protect this area. As a signatory to the International Convention on World Heritage, Canada has a responsibility to do all it can to protect the World Heritage on its territory on behalf of the world community. A key principle under this Convention is that World Heritage Sites are considered to belong to "*all the peoples of the world, irrespective of the territory on which they are located*"²⁶.

In a 2006 decision specific to Nahanni National Park Reserve, the international UNESCO World Heritage Committee expressed concern "*that the various mining, mineral, oil and gas exploration activities around the property could have major adverse cumulative impacts on the integrity of the property*" and recommended that the park be expanded to protect the entire South Nahanni Watershed.²⁷ It also requested to be kept apprised of mining developments surrounding the Nahanni and the state of its conservation.

In the regional context, the entire South Nahanni Watershed is identified as a conservation zone in the draft Dehcho Land Use Plan. This zoning illustrates the high ecological and cultural value placed on the Nahanni watershed by residents of the Dehcho region, and reinforces the need to protect the area from long term negative impacts of the Prairie Creek mine.

As one of Canada's most treasured wilderness areas, Canadians from sea to sea to sea care deeply about the future protection of the South Nahanni watershed. As outlined in CPAWS August 15th submission to the MVLWB (attached), thousands of Canadians have expressed strong concerns over many years about the impacts of the proposed Prairie Creek Mine and their desire to see the watershed protected.

Given the potential for the proposed Prairie Creek mine to cause significant and potentially long term adverse environmental impacts on the Nahanni National Park Reserve and World Heritage Site downstream, and given the strong public concern about this development proposal, CPAWS formally requests that the Review Board ensure the most rigorous and comprehensive environmental assessment is conducted. We believe

²⁵ Canada National Parks Act, s.8 and 39

²⁶ <http://whc.unesco.org/en/about/>

²⁷ 30th Session of the World Heritage Committee, Decision 30 COM 7B.22, 2006.

that this development warrants referral to an Environmental Impact Review based on these factors.

We propose that this referral to EIR can be done relatively soon, and we note the Review Board sent the *DeBeers Gahcho Kué Diamond Mine, Kennady Lake* project to EIR shortly after the scoping hearings. As noted in the Review Board's report for that project at page 1: “

“Following scoping workshops in Yellowknife, Dettah, Lutsel K'e, Fort Resolution, and Behchoko, as well as scoping hearings in Yellowknife during March and April of 2006, the Review Board determined that the proposed development is likely to be a cause of significant public concern. Consequently the Review Board ordered an environmental impact review (EIR) of the proposed Gahcho Kué project pursuant to MVRMA section 128(1)(c) on June 8, 2006.”

The Review Board explained at page 7 of that report:

“Similar to the approach taken in the environmental assessment of the Mackenzie Gas Project (EA03-007), the Review Board indicated in its work plan that if it were to find that the project is likely to be cause of significant public concern it would order an Environmental Impact Review (EIR) pursuant to MVRMA section 128(1)(c) without concluding all planned phases of the EA, subject to having received sufficient evidence to satisfy the MVRMA's requirement for an EA, namely the factors listed in s. 117(2).”

CPAWS suggests a similar approach is appropriate with the current project proposed by CZN.

The MVEIRB's EIA guidelines provide criteria for estimating the likelihood of public concern over a proposed development. The guidelines list six criteria for public concern which are:

- development scale,
- proximity to communities,
- new technology,
- severity of worst case scenario,
- proximity to protected or sensitive areas, and
- areas known for harvesting.

We note that the scale of this development is an operating mine including an access road, at a similar scale to the De Beers proposal; it proposes to use paste backfill, which is a relatively new technology as will be discussed later in this submission; the risks of natural hazards, including earthquakes is high, which could lead to catastrophic scenarios, particularly in relation to water impacts, and it is upstream from a national park and World Heritage Site, which is the highest level of conservation designation possible in the world and denotes its extremely high ecological values. We believe that this proposed development meets a number of the criteria listed, and, along with evidence presented as part of CPAWS' submission to the preliminary screening, and the large

number of letters submitted to the Review Board as part of this scoping exercise, there is already significant public concern that would warrant the referral of the development to an EIR.

Our submission to date has focused on answering the Review Board's 2nd question, and on addressing the high conservation values of the region. We will now move on to respond to the remaining three questions posed by the Review Board.

Scoping the Issues: What biophysical, socio-economic and cultural issues merit consideration during the environmental assessment and why?

Mining activity has the potential to result in significant and long term adverse impacts on the environment, particularly on water quality. There are many examples of mines that have caused long term and significant damage to the environment²⁸.

CPAWS submission to the preliminary screening process²⁹ included a list of potential issues that should be considered during the environmental assessment. In this submission we will further elaborate on these and other issues that need to be examined as part of the environmental assessment.

1. Water quality issues

One of the biggest environmental risks associated with mining activity is its potential to cause long term negative impacts to surface and groundwater.

The following issues related to protecting surface and groundwater quality should be included in the environmental assessment:

1. Acid Mine Drainage and Metal Leaching -- The risks of acid mine drainage and metal leaching during the operation of the mine and after its closure, including downstream effects and ecosystem impacts;
2. Sedimentation and contamination -- The risk of sedimentation and contamination of surface water from activities at the mine site as well as from the winter road and its use, including from dust and erosion and from accidents and spills;
3. Chemical contamination -- The risk of surface and groundwater contamination from chemicals including hydrocarbons, explosives, reagents and other substances at the site (including the risk from accidents and spills);
4. Seismic risk -- The risk to long term water quality from earthquake activity combined with mining activities, including uncertainty related to long term

²⁸ See, for example, "The Boreal Below: Mining Issues and Activities in Canada's Boreal Forest", May 2008, Northwatch and MiningWatch Canada.

²⁹ CPAWS' letter to the Mackenzie Valley Land and Water Board (MVLWB) re: Preliminary Screening of CZN Prairie Creek mine, August 15, 2008. See Public Registry for CZN Prairie Creek mine (EA0809-002) at http://www.mveirb.nt.ca/registry/project_detail.php?project_id=70&doc_stage=1

- groundwater flow patterns and the ability to control mine drainage, as well as the integrity of the mine infrastructure;
5. Paste backfill -- The risk associated with the paste backfill proposal in the specific context of the Prairie Creek mine, including its use in northern climates, its use in areas of high seismic risk, and its link to long term climate change impacts, including permafrost melting;
 6. Water treatment -- The effectiveness of the proposed water treatment and waste rock management systems in preventing surface or groundwater contamination in perpetuity, including post closure.
 7. Interaction of ground and surface water -- The risk of contamination related to groundwater flow patterns in the mine and their interaction with surface water;
 8. Karst and risk of water contamination -- How the karst landscape features of the region influence the potential risk of groundwater and surface water contamination from the mine, its activities and the use of the winter road, including the risk from accidents and spills;
 9. Downstream effects -- The downstream effects of the mine on the water quality of the national park and world heritage site over the long term;
 10. Road -- The impact of the winter road and its use on water bodies and groundwater along the route, including the risk of spills and accidents;
 11. Transfer stations -- Impact of the transfer stations and their use (storage of concentrates and other materials), including the risk of accidents and spills;
 12. System capacity and back up -- An assessment of the quantity of water that will require treatment, and the capacity of the systems to treat peak flows over the long term, including back up plans;
 13. Natural hazards -- The implications and risks to water of operating a mine in a region of landscape instability, including natural hazards such as earthquakes, landslides, floods, their interaction with climate change and potential permafrost melting, and including downstream effects over the long term.

Acid mine drainage (AMD) and metal leaching

Acid mine drainage has been identified as the biggest environmental liability facing the Canadian mining industry.³⁰ AMD and neutral pH metal leaching can cause physical, chemical and biological degradation of freshwater habitat. There are many documented cases of fish kills and other significant adverse effects on aquatic ecosystems caused by acid mine drainage and metal leaching.³¹

Natural Resources Canada notes that in North America, metal leaching and acid mine drainage have led to significant ecological damage, contaminated rivers, loss of aquatic life and multi-million dollar clean-up costs for industry and government.³²

³⁰ http://www.nrcan.gc.ca/mms/canmet-mtb/mmsl-lmsm/mend/default_e.htm

³¹ Reclamation Research Group (2008) Acid Mine Drainage and effects on fish health and ecology: A review. http://reclamationresearch.net/publications/Final_Lit_Review_AMD.pdf

³² http://www.nrcan-rncan.gc.ca/sd-dd/pubs/h2o/3-4_e.html

Metal leaching can occur as a result of acid mine drainage, but can also occur in neutral drainage conditions. Metal leaching and acid mine drainage can continue for extremely long periods after mining activity has finished, resulting in extremely long term impacts that are difficult to mitigate. In fact, there are old mines in Europe that date from Roman times, more than 2000 years ago, that continue to generate acid mine drainage today.³³

One of the biggest challenges associated with AMD and metal leaching is that it is very difficult to predict where and when it will occur, and to what degree. A 2006 study by Kuipers et al examined the success of predicting AMD at a number of hard rock mine sites in North America.³⁴ The authors compared the predictions of AMD and metal leaching documented in Environmental Impact Statements (EISs) to the actual water quality issues experienced during mine operations. The results were stark. Nearly all of the EIS's predicted acceptable water quality (concentrations lower than standards) after mitigation measures were implemented, but few of them met that prediction. Sixty percent of the 25 case study mines exceeded surface quality standards due to mining activities. Seventy-seven percent (10/13) of the mines that predicted low groundwater quality impacts in their EISs ended up with actual results above the water quality standards.

Of the 25 case study mines, 18 predicted low potential for acid mine drainage, and yet 9 of these mines – a full 50% -- developed acid mine drainage on site.

The stark results of this study suggest that predicting AMD and metal leaching is a highly inaccurate process, even in cases when environmental impact statements are prepared.

This documented inaccuracy reinforces the need for the most rigorous environmental assessment process possible, with the best experts engaged to review the potential for AMD and metal leaching.

Potential for AMD and Metal Leaching at Prairie Creek

Canadian Zinc has provided a geochemical characterization report for the Prairie Creek project.³⁵ The report examines the potential for acid mine drainage and metal leaching in the host rock, ore, DMS coarse rock reject, tailings and concentrates. In general, the report concludes that the ore and concentrates are potentially acid generating, while the host rock and DMS rock reject are not. It also concludes that there is the potential for metal leaching in most materials, with the primary parameters of concern including cadmium, copper, mercury, lead, selenium, zinc and antimony in all components.³⁶ The report also notes that the cold conditions at the mine site could influence the rate of

³³ Reclamation Research Group (2008) Acid Mine Drainage and effects on fish health and ecology: A review. http://reclamationresearch.net/publications/Final_Lit_Review_AMD.pdf

³⁴ Kuipers, J. R., A.S. Maest, K.A. MacHardy, and G. Lawson (2006). "Comparison of Predicted and Actual Water Quality at Hardrock Mines: The reliability of predictions in Environmental Impact Statements." Kuipers & Associates, PO Box 641, Butte, MT USA 59703

³⁵ MESH Environmental, Geochemical Characterization Report for the Prairie Creek Project, NWT, April 2008. (Geochemical report)

³⁶ Geochemical report, page 50.

solubility of the carbonate rocks, in fact causing higher rates of dissolution.³⁷ This reinforces the need to further examine the risk of AMD and metal leaching in the specific context of the Prairie Creek mine site.

A 2008 report on acid mine drainage by Reclamation Research Group sums up the challenge posed by AMD (metal leaching) as follows:

*The mining industry has spent large amounts of money to prevent, mitigate, control and otherwise stop the release of AMD using the best available technologies, yet AMD remains as one the greatest environmental liabilities associated with mining, especially in pristine environments with economically and ecologically valuable natural resources.*³⁸

Given the enormous potential implications of metal leaching and AMD on long term water quality including risks to the national park and world heritage site downstream; the risk of AMD and metal leaching identified in the geochemical report on the Prairie Creek mine, and the evidence of the challenges in accurately predicting AMD and metal leaching, we conclude that this issue warrants further examination through the most rigorous and comprehensive environmental assessment possible.

Paste backfill

Canadian Zinc claims that a paste backfill tailing and waste rock disposal system will mitigate the risks of adverse environmental impacts of metal leaching and AMD after operations of the mine are complete, likely negating the need for long term water treatment.

As noted already in this submission, paste backfill is a relatively new technology and there is a great deal of uncertainty about the effectiveness of this approach in mitigating negative impacts of mining on water quality.

Summary of water issues:

Long term protection of ground and surface water quality is one of the key issues facing the proposed Prairie Creek mine. The mine site's location upstream from a national park and world heritage site adds to Canada's responsibility to prevent adverse environmental impacts downstream. At the same time, the accuracy of prediction of potential adverse effects appears to be low which further complicates the issue. As a starting point to address this issue, the most rigorous possible environmental impact review is necessary to ensure the best possible information is available to decision makers at the end of the assessment process.

2. Wildlife Issues

³⁷ Geochemical report, page 51.

³⁸ Reclamation Research Group (2008) Acid Mine Drainage and effects on fish health and ecology: A review. http://reclamationresearch.net/publications/Final_Lit_Review_AMD.pdf

The assessment of potential impacts on wildlife should include the following considerations:

1. Potential increased hunting pressure related to enhanced access
2. Road kill
3. Human/wildlife interactions and attraction
4. Habitat loss and fragmentation
5. Noise/sensory impacts from blasting, transportation and other sources
6. Potential exposure to contaminants via air, water or ecosystem effects (ie. contamination of food sources)
7. Disruption of wildlife movements, including the impact on predator/prey relationships
8. Cumulative impacts of this and other developments in the South Nahanni Watershed on populations of wide-ranging species
9. Impact of air traffic disturbance
10. Impact of winter road activities, including stream crossings, construction and maintenance, trucking of materials, dust and sedimentation, and the risk of spills and traffic accidents.

Species at risk

Species at risk known in the area of the proposed Prairie Creek mine and winter road include grizzly bears, woodland caribou, peregrine falcons, wood bison, wolverine. The environmental assessment process should include a thorough analysis of the short and long term impacts of the operating mine, including the winter road and its use on species at risk.

Grizzly bears are a species of particular concern for this development.³⁹ The mine site and road are known to be an area of concentration of grizzly bear activity. Grizzlies are a species that possess little resiliency to human impacts and require large secure areas to sustain viable populations. In a February 2005 letter to the Review Board, Dr. John Weaver, who has conducted extensive studies on grizzly bears in the Nahanni region, reported that during his study, four grizzly bears visited 5 sites within 10 km of the mine, and all 10 sites visited by grizzly bears were within 20km of the mine. Six different grizzly bears visited 3 sites along the access road.⁴⁰ Dr. Weaver recommends that any additional mining activity in the Prairie Creek area warrants a detailed environmental assessment and identifies road access as an issue of special concern.

Woodland caribou are also a species that is vulnerable to human disturbance, including the loss and fragmentation of key habitats and excessive mortality from predation,

³⁹ John L. Weaver, Big Animals and Small Parks: Implications of Wildlife Distribution and Movements for Expansion of Nahanni National Park Reserve, Wildlife Conservation Society - Canada Conservation Report No. 1 July, 2006

⁴⁰ February 4, 2005 letter from Dr. John Weaver, Wildlife Conservation Society-Canada to Martin Haefele, Environmental Assessment Officer, MVEIRB.

hunting and poaching⁴¹. Assessing the impact of the operating mine, including the winter road, on woodland caribou is essential, including collecting additional information where necessary.

Wolverine have been sighted in the area of the mine, but little appears to be known about their occurrence. Further information may be needed to assess the impact of the operating mine including the winter road on wolverine.

Other wildlife species of concern:

Dall's sheep -- Dall's sheep inhabit the area of the mine site as well as specialized habitats in the Nahanni North karst. Dall's sheep are habitat specialists that use alpine tundra habitat near cliffs to allow them to escape from predators. This reliance on specialized habitat makes them vulnerable to human disturbance. In the Nahanni North karst, Dr. Weaver recently discovered a unique relationship between Dall's sheep and their karst cave habitat. In this region, the sheep use caves, and the lush carpet of grasses and forbs at their entrance, to provide both security and food for ewe-lamb pairs. This appears to be a unique relationship in North America.⁴² The environmental assessment of the operating mine needs to examine the impact of the mine site operations, as well as the use of the winter road on Dall's sheep.

Fish -- The impact on the mine of all fish species in the Prairie Creek watershed should be thoroughly assessed, including bull trout, arctic grayling and sculpin.⁴³ Of particular concern because of its vulnerability to disturbance and its status as a species of concern is Bull trout.

Bull trout is listed as threatened in the United States, sensitive in Alberta, BC and the Yukon, and is considered a species that could be at risk of extinction or extirpation in the NWT, and as such a candidate for detailed risk assessment.⁴⁴ Fragmentation and isolation of populations and habitat disturbances, including from mining, have been among the impacts contributing to the decline of bull trout populations. Bull trout have been found in Funeral Creek and Prairie Creek, as well as Galena Creek. Funeral Creek has been identified as spawning and rearing habitat. The location and use of the all-season portion of the winter road along Funeral Creek is of particular concern as sedimentation, flow alteration, additional contaminants, and alteration of natural flow are all impacts that can negatively effect bull trout populations, with sedimentation identified as the most profound impact, particularly in spawning habitat.⁴⁵ Fragmentation of habitat, separating small isolated populations of bull trout from each other can impact regional meta-populations. Thus it is important to consider both site specific impacts and

⁴¹ John L. Weaver, Big Animals and Small Parks

⁴² John L. Weaver, Big Animals and Small Parks. p. 5

⁴³ N.J. Mochnacz, Interim Report: Fisheries Survey of Prairie Creek Watershed, August, 2001

⁴⁴ N.J. Mochnacz et al, 2004. Biological and Habitat Data for Bull Trout (*Salvelinus confluentus*) and associated species from stream surveys conducted in the southern and central Mackenzie River Valley, Northwest Territories, 2000-2001. Canadian Data Report of Fisheries and Aquatic Sciences 1131.

⁴⁵ Mochnacz, N.J. Interim Report: Fisheries Survey of Prairie Creek Watershed, August, 2001.

regional meta-population dynamics in assessing the impact of operating the Prairie Creek mine, including the road, on bull trout.⁴⁶

Impacts on other wildlife species found in the area should also be considered including birds (including waterfowl and raptors) and other mammals (including moose, wolves, black bears).

3. Geophysical and climate change issues

Karst features:

The Nahanni North karst has been identified by leading karst expert Dr. Derek Ford as the “*most accentuated and important example of arctic/subarctic karst that is known anywhere on the planet at the present time*”.⁴⁷ The Nahanni North karst has been identified as important to protect in an expanded Nahanni National Park Reserve. Karst features are sensitive to physical damage and groundwater systems in karst landscapes are particularly vulnerable to contamination as the water flows through underground passages very quickly and over large distances. The winter road runs very close to many of the special karst features that have been identified in the Nahanni North karst. Dr. Ford has identified that part of the Nahanni North karst drains into the South Nahanni River in the national park reserve. Assessing the potential environmental impacts of using the winter road and transfer facilities for mine operations on this globally unique karst landscape, along with the associated risk of spills and water contamination should be included in the environmental assessment.

Earthquake Hazard:

The earthquake hazard in the Mackenzie Mountains is much better understood now than it was in 1982, when the mine was first permitted.

In 1985, two major earthquakes shook the Nahanni region of the Mackenzie Mountains in the NWT, followed by a series of aftershocks. On October 5, 1985 a magnitude 6.6 earthquake shook the region, followed by a magnitude 6.9 quake in December of the same year.⁴⁸ Prior to October, 1985, the Nahanni Range was thought to be a relatively quiet earthquake zone. Two more significant events (magnitude 6.2 and 5.5) occurred in 1988.⁴⁹

Scientists found that there had been strong ground movements associated with the quakes, resulting in large landslides and rock falls. The biggest slide was a rock

⁴⁶ Mochnacz, N.J 2001

⁴⁷ July 8, 2005 Letter from Dr. Derek Ford to Kishore Rao, Deputy Director, World Heritage Centre. <http://www.cpaws.org/files/nahanni-fordletter.pdf>

⁴⁸ Horner, R.B., Lamontagne, M. and Wetmiller, R.J. Rock and Roll in the NWT: The 1985 Nahanni Earthquakes. Geos, Vol. 16, no 2, Spring 1987. Available online at: http://www.seismo.nrcan.gc.ca/nahanni/nahanni85_e.html

⁴⁹ Ali O. Öncel, 2002. Earthquake-induced static stress of the 1985 Nahanni earthquakes, Northwest Territories, Canada. Natural Resources Canada. <http://www.seismo.nrcan.gc.ca/research/oncelagu2002.php>

avalanche that was triggered by the October quake. This Nahanni rock avalanche was one of the largest ever to be recorded in Canada, and the first known to have been caused by an earthquake. It resulted in a 70 metre vertical scarp on the side of a mountain, with an estimated 5 to 7 million cubic metres of rock crashing 1.6 km down from the crest to the toe of the slide.⁵⁰

After the October, 1985 shock, seismologists moved instruments into the region to collect seismological data. These instruments recorded the ground acceleration of the December 1985 quake – documenting the strongest earthquake induced ground acceleration ever recorded anywhere -- in excess of 2 g.⁵¹

A recent review of seismic hazard in northwestern Canada concluded that the earthquake hazard in the Mackenzie Mountains is high.⁵² The authors also note that there may be significant secondary effects from earthquakes in the region including landslides, slope failures and sediment liquefaction.

The high earthquake hazard needs to be built into any assessment of the risk of significant environmental impacts in the long term, and yet little attention has been paid to the seismic record and evidence of risk to date. We recommend that this is integrated into the current EA process.

Climate change, permafrost and landslides:

With northern Canada feeling the greatest effects of climate change, including the risks associated with the impacts of climate change into the assessment is important, particularly given the need to ensure long term environmental protection. The winter road and mine site are both identified as being in areas of discontinuous permafrost. Melting permafrost could result in slumping and landscape instability. The Nahanni region is already an area of great landscape instability, and permafrost melting could exacerbate this instability.

Climate change is also predicted to result in more extreme weather events, changing water supplies, as well as a potential for increased avalanche risk, erosion etc. Taking a long term view of the potential impacts of the Prairie Creek mine necessitates consideration of the implications of a changing climate in its assessment.

The Prairie Creek mine is also going to burn large quantities of fossil fuels. CZN predicts it will be using 6.5 million litres of diesel fuel per year. The impact of this fuel consumption on the NWT's GHG emissions should be considered in the environmental assessment.

⁵⁰ Horner et al. Ibid.

⁵¹ Horner et al Ibid.

⁵² Hyndman, R.D, Cassidy, J.F., Adams, J, Rogers, G.C., and Mazzotti, S. Earthquakes and Seismic Hazard in the Yukon, Beaufort, Mackenzie. CSEG Recorder, Geological Survey of Canada, May, 2005.

Socio-economic issues

There have been many socio economic issues identified with mining activities. While we will not include comments on most of these areas, we support a strong socio economic assessment that considers a broad range of issues.

Wilderness character:

Of particular relevance to CPAWS' work are the extremely high wilderness values of the Nahanni, as illustrated by the various conservation designations in the region (World Heritage Site, National Park Reserve, Canadian Heritage River, Conservation Zone, proposed National Park Reserve expansion). Protecting these wilderness values has been at the core of CPAWS' long engagement in efforts to permanently protect the South Nahanni Watershed. We believe that it is critical to include an assessment of the impacts of the operation of the Prairie Creek mine, including the winter road on these wilderness values.

This should include assessing the impact of the development on other users of the region whose experience relies on its wilderness character, including visitors to the park and associated tourism businesses. The wilderness values of the Nahanni region not only have inherent value, but also constitute the resource base upon which the ecotourism sector of the regional economy is based.

Temporal and geographic scopes of assessment

Given the long term nature of the potential impacts of the development, and Canada's long term responsibility to protect Nahanni National Park Reserve and World Heritage Site, CPAWS believes that the EA should consider a correspondingly long time frame in examining the impacts of the development proposal. Mining is known to have the potential for extremely long term significant environmental impacts. At the same time, national parks are managed by law to remain "unimpaired for future generations"⁵³.

In the forward to the Nahanni National Park Reserve Management Plan, then Minister of Environment, David Anderson, reinforces the importance of the need for long term thinking:

*Together we hold our national parks, national historic sites and national marine conservation areas in trust for the benefit of this and future generations. To achieve this, practical action grounded in long term thinking is needed.*⁵⁴

This EA should reflect this need for long term thinking.

⁵³ Canada National Parks Act

⁵⁴ Parks Canada Agency, Nahanni National Park Reserve of Canada Management Plan, April 2004 (park management plan)

Given the importance of managing on an ecosystem basis, the geographic scope of the assessment also needs to be large in scale. Negative impacts on water quality have the potential to affect downstream aquatic ecosystems and broad terrestrial areas as contaminants move through the ecosystem. Roads can impact on wide ranging wildlife populations at a regional level.

These potential ecosystem scale impacts reinforce the need for environmental assessments conducted at a large geographic scale.

Also, land use in the Dehcho region will be managed through the implementation of a regional land use plan.⁵⁵ Assessing the potential impacts of a proposed development within the regional context is important, particularly when examining alternatives and cumulative effects.

The Nahanni National Park Reserve Management Plan identifies the area of immediate concern within the context of an ecosystem-based approach to management as the South Nahanni River watershed.⁵⁶ They identify the South Nahanni River watershed as the area that they must focus on to manage for ecological integrity.⁵⁷

Given these factors, CPAWS recommends that the EA of CZN's Prairie Creek mine proposal (EA 0809-002) focus on the South Nahanni Watershed and Nahanni North karst as its primary geographic area of consideration when assessing ecological impacts, with a consideration of the broader context of the entire Dehcho region and the NWT, particularly when considering cumulative effects and socio-economic factors.

Conclusion

In conclusion we reiterate the following points:

1. The environmental assessment of the project should include the whole mine operation, all its components including the winter road, and all activities associated with these components, including mine closure and reclamation. Anything less would constitute project splitting, given that the fundamental project under consideration here is operation of the mine and transport of its product to market. Given that no application for the road is currently before the Review Board, we call upon the Review Board to ensure such an application is submitted forthwith.
2. The project proposal should be assessed in the most rigorous and comprehensive manner possible given the high conservation values of the Nahanni watershed, as illustrated by regional, national and international designations. There is a great deal of public concern locally, nationally and internationally about this project

⁵⁵ http://www.dehcholands.org/docs_final_draft_dehcho_land_use_plan_june_02_06.htm

⁵⁶ Park Management Plan


⁵⁷ Park Management Plan, p. 6-7

and its potential impact on water, wildlife and wilderness values. We therefore recommend that it be sent to an Environmental Impact Review.

In addition we request that the EA process consider the biophysical and socio-economic issues outlined in our submission.

We trust you already have all of the documents referred to in this submission, but if you do not please let me know and I will promptly forward them to you. You can reach me at awoodley@cpaws.org, or by telephone at (613) 569-7226 ext 227). Please do not hesitate to contact me should you have any questions.

Sincerely,

A handwritten signature in cursive script that reads "Alison Woodley".

Alison Woodley
Manager, National Protected Areas Program