

Nahanni National Park Reserve  
PO Box 348, Fort Simpson, NT  
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29 September, 2000

Mackenzie Valley Environmental Impact Review Board  
PO Box 938, 5102-50<sup>th</sup> Ave.  
Yellowknife, NT  
X1A 2P6

Attn: Gordon Stewart

**RE: Information Request**  
**ExplorData - Land Use Permit Application**

Dear Mr. Stewart,

In response to your Information Requests of September 6, 2000, please find enclosed a copy of the two submissions from Parks Canada, Nahanni National Park Reserve. The subjects of the responses are:

- 1) Details on Parks Canada's position on potential expansion of Nahanni National Park Reserve, and
- 2) Ecological integrity and buffer zones for protected areas.

We trust that the information is adequate, and will be of assistance to the Review Board. If there are any further questions, please contact our office at (867)695-3151, or (867)695-2446 (Fax).

Sincerely,

*Original signed by:*

Chuck Blyth  
Superintendent, Nahanni National Park Reserve

Prepared by:  
Douglas Tate  
Conservation Biologist  
Nahanni National Park Reserve

## Information Request – 29 September, 2000

### Prepared for:

Mackenzie Valley Environmental Impact Review Board  
Explor Data Ltd., Land Use Permit N1998B0861  
Amendment Seismic Program, Nahanni Butte, NT

### Subject:

Details and clarification of Heritage Canada's [Parks Canada's] position on the possible expansion of the Nahanni National Park Reserve (NNPR).

### Request:

1. a) *Details and clarification of Heritage Canada's [Parks Canada's] position on the possible expansion of the NNPR [Nahanni National Park Reserve]; and*  
b) *An indication of the likelihood of any of these expansion proposals becoming a reality, and what the implications to past and current activities immediately outside the NNPR would be.*

### Background –

Nahanni National Park Reserve was created through an Order in Council to set land aside as a national park reserve in 1972. In 1976, Nahanni National Park Reserve was formally entered into the Canada Gazette as a national park reserve. As is the case in other park reserves, full National Park status is pending the settlement of regional aboriginal land claims.

The primary impetus for creation of a national park on the South Nahanni River was the potential threat of hydro-electric development on the river corridor. The boundaries were established in haste to provide interim protection, with intent to expand the protected area in future.

### Expansion of Nahanni National Park Reserve –

With respect to expansion of Nahanni National Park Reserve, Parks Canada must consider several relevant policy documents. These include the *Park Management Plan*<sup>1</sup> (1987), *Management Plan Amendments*<sup>2</sup> (1994), *National Parks System Plan*<sup>3</sup> (1997), and the *Ecological Integrity Statement for Nahanni National Park Reserve*<sup>4</sup> (2000).

#### *Park Management Plans*

The official position of Parks Canada with respect to expansion of Nahanni National Park Reserve was publicly expressed initially in 1987, in the release of the *Nahanni National Park Reserve Park Management Plan*. At this time, three areas of interest were identified to improve the park's representation of the Mackenzie Mountains natural region. These three areas are the Ragged Range, Tlogotsho Plateau and the Nahanni Karst (Fig. 1).

Interest in these three candidate areas was reaffirmed in 1994 in the *Nahanni National Park Reserve Management Plan Amendments*.

#### **“5.2 BOUNDARY REVIEWS**

*When Nahanni was established in 1972, its boundaries were not based on a systematic evaluation of the area’s resources. At that time, it was understood that as detailed studies of the region became available, the park’s boundaries could be adjusted to take new information into account. However, the reserve status of the park recognizes the pending settlement of Aboriginal land claims, and will not negatively affect any future settlement of these claims.*

*Parks Canada may seek boundary modifications within the claims process which include changes that would give priority to maintaining the park’s ecological and wilderness integrity and its representation of the Mackenzie Mountains natural region. The Ragged Range northwest of the park, the Tlogotsho Plateau south of Deadmen Valley, and the karst area north of First Canyon are the three areas in the surrounding region that remain candidates for boundary adjustment.*

*The management plan will be adjusted to accommodate any changes that are required by legislation arising from negotiated settlements”.*

Additionally, in this same document, Parks Canada put forth a position in support of an ecosystem-based management approach and increased protection for the entire South Nahanni River watershed (described therein as the Greater Nahanni Ecosystem).

#### **“3.1 GREATER NAHANNI ECOSYSTEM**

*Nahanni National Park occupies one-seventh of the South Nahanni watershed [Fig. 2]. This watershed drains an area of 35,000 square kilometres, which then enters the Mackenzie River drainage basin via the Liard River. To date, the relative isolation and wilderness of the watershed has served to protect the park. However, existing and possible future adjacent land uses such as mining, big game hunting, tourism development and uncontrolled access have the potential to affect the park’s ecological and wilderness integrity. Within the context of an ecosystem-based approach to management, the South Nahanni River watershed is the extent of the park’s immediate concern.”*

These positions have been endorsed through public consultation and approval of the Park Management Plan in parliament.

#### *National Parks System Plan*

The *National Parks System Plan* (1997) is a public statement of Parks Canada’s commitment to protect our natural heritage, approved by the Minister of Canadian Heritage. It is a program to complete the task of setting aside representative areas of

Canada's natural heritage. The plan restates Parks Canada's interest in the three candidate areas, and also incorporates the organization's policy on protection of ecological integrity set out in the amended *National Parks Act*. In reference to Nahanni National Park Reserve, the plan states that:

*“Expansion of present boundaries should be considered in the future to improve natural theme representation, encompass additional visitor opportunities, and to help protect the ecological integrity of the park reserve”.*

### Ecological Integrity Policy –

Since the establishment of Nahanni National Park Reserve, the *National Parks Act*<sup>5</sup> has been amended (1988), clearly stating that the protection of ecological integrity is the primary mandate of national parks. Parks Canada's working definition of ecological integrity is the following:

*“Ecological Integrity is the condition of an ecosystem where:*

- *the structure and function are unimpaired by human-caused stresses; and*
- *the ecosystem biological diversity and supporting processes are likely to persist.”*<sup>6</sup>

Parks Canada's *Guiding Principles and Operational Policies*<sup>7</sup> (1994) reiterates this commitment to ecological integrity as the organization's first Guiding Principle. There is a specific mention of its priority in acquiring lands:

*“Protecting ecological integrity and ensuring commemorative integrity take precedence in acquiring, managing, and administering heritage places and programs. In every application of policy, this guiding principle is paramount. The integrity of natural and cultural heritage is maintained by striving to ensure that management decisions affecting these special places are made on sound cultural resource management and ecosystem-based management practices.”*

This primary mandate of ecological integrity protection was confirmed by the *Panel on Ecological Integrity of Canada's National Parks*<sup>8</sup>, commissioned by the Minister of Canadian Heritage. Boundary revision is a recommended approach to meet this mandate.

In order to set priorities and goals for the protection of ecological integrity, National Parks across Canada are required to develop Ecological Integrity Statements (EIS). In January 2000, Parks Canada held a public workshop in Fort Simpson to develop an EIS for Nahanni National Park Reserve. First Nations leaders and elders, government biologists, research scientists, regional land managers and other interested stakeholders participated in the workshop. An over-riding theme came out of the process, indicating that protection of the entire South Nahanni watershed met most tests of ecological integrity. This is reflected in the draft Ecological Integrity Statement<sup>4</sup>.

## Likelihood of Expansion of Nahanni National Park Reserve -

Expansion of Nahanni National Park Reserve to incorporate the aforementioned three areas of interest, or any other lands, has not yet occurred primarily because land claim negotiations in the region have not been settled. Out of respect for the ongoing land claims process, Parks Canada temporarily postponed negotiating transfer of any of this land, pending the outcome of the Deh Cho Process.

Recent events have indicated that the expansion of Nahanni National Park Reserve is very likely to occur in the foreseeable future. Through the Deh Cho Process, the Deh Cho First Nations (DCFN) have expressed a desire to protect the entire South Nahanni watershed, in both public interviews and at the negotiations table, and have proposed that the South Nahanni watershed be part of an interim land withdrawal. The Nahʔą Dehé First Nation (Nahanni Butte) has passed a Band Council Resolution<sup>9</sup> calling for protection of the South Nahanni watershed.

Parks Canada has now entered into an initial stage of cooperative management of Nahanni National Park Reserve with the local First Nations, as per the Deh Cho Process Interim Measures Agreement<sup>10</sup>. With the endorsement of Mr. Tom Lee, Chief Executive Officer (CEO) of Parks Canada, a consensus team of DCFN and Parks Canada representatives has been formed, which is responsible for finalizing the Ecological Integrity Statement for the park reserve and revising the Park Management Plan, through a public review process.

Parks Canada is interested in exploring options to create a national park that will meet Canada's and DCFN's goals of ecological integrity, conservation, representation and co-operation. To this end, Parks Canada would view favourably an interim withdrawal of the South Nahanni River watershed if proposed by DCFN as a result of the interim measures agreement now under consideration.

Considering that the DCFN are proponents of expansion of the park to encompass much, if not all of the South Nahanni watershed, and that the DCFN are now partners in park management, this expansion is a very real possibility in the near future.

## Implications to Past and Current Activities Immediately Outside the Park Reserve -

In light of the real possibility of interim withdrawal of lands in the South Nahanni watershed, Parks Canada is of the opinion that the issuance of land use permits for the area should be suspended until these lands have been clearly identified. An interim withdrawal of lands would affect land uses as set out in the Interim Measures Agreement<sup>10</sup>. For expert advice on this topic, we suggest the Review Board refers questions to the chief federal negotiator, Mr. Robin Aitken. The development of additional third party interests in the area may fetter the Deh Cho negotiations process, and delay the production of a clear, comprehensive land-use management plan for the entire region. Such a plan would benefit all parties involved.

New applicants for land use permits may incur substantial costs in the interim in anticipation of developments which may or may not eventually proceed. These costs may or may not be eligible for any form of compensation once a final agreement has been reached, and applicants should be aware of that possibility. Details on terms and conditions of compensation will be addressed in a Final Agreement; interim information can best be provided by the chief federal negotiator.

In any lands which eventually become part of a National Park, resource extraction activities such as seismic exploration and oil & gas development would not be permitted, as outlined in the National Parks Act<sup>5</sup>.

#### References -

1. Environment Canada, Parks. 1987. Nahanni National Park Reserve Park Management Plan. 60 pp.
2. Canadian Heritage, Parks Canada. 1994. Nahanni National Park Reserve Management Plan Amendments. 20 pp.
3. Parks Canada. 1997. National Parks System Plan. 3<sup>rd</sup> Edition. Ottawa, ON. (p. 28).
4. Nah7ą Dehé Consensus Team. 2000. Draft Ecological Integrity Statement for Nahanni National Park Reserve (Nah7ą Dehé).
5. National Parks Act. 1988. C.14.
6. Parks Canada. 1998. State of the Parks 1997 Report.
7. Parks Canada. 1994. Guiding Principles and Operational Policies. 125 pp.
8. Parks Canada Agency. 2000. "Unimpaired for Future Generations"? Protecting Ecological Integrity with Canada's National Parks. Vol. I "A Call to Action." Vol. II "Setting a New Direction for Canada's National Parks." Report of the Panel on Ecological Integrity of Canada's National Parks. Ottawa, ON
9. Nahanni Butte Dene Band. Band Council Resolution of 18 May, 2000.
10. Deh Cho First Nations, Government of Canada and Government of the Northwest Territories. The Deh Cho First Nations Interim Measures Agreement. Draft under review. September 25, 2000. 13 pp. + Appendices.

## Information Request – 29 September, 2000

### Prepared for:

Mackenzie Valley Environmental Impact Review Board  
Explor Data Ltd., Land Use Permit N1998B0861  
Amendment Seismic Program, Nahanni Butte, NT

### Prepared by:

Nahanni National Park Reserve

### Subject:

Ecological Integrity [Buffer Zones]

### Request:

2.
  - a) *Information on the role that “buffer zones” surrounding NNPR or a potentially larger protected area have in maintaining the ecological integrity of the existing NNPR or larger protected area.*
  - b) *Indicate the size and extent of the buffer zone necessary to protect NNPR and maintain ecological integrity. Please provide a map with accurate representation and coordinates of the NNPR buffer zone and proposed expansion areas with resulting buffer zones.*
  - c) *Provide details with supporting evidence and rationale on NNPR concern with an increase in non-aboriginal hunting pressure resulting from this development going ahead, and the effects of this on ecological integrity*

### *Buffer Zone Definitions –*

The concept of buffer zones is becoming more commonly used in the discipline of conservation biology, management of protected areas, and land use management in general. In its broadest sense, a buffer is an intermediate zone between two areas of different uses – be it a strip of vegetation between a river and farmland or a greenspace between industrial and residential parts of a city – which serves to provide some degree of separation between the activities in one area and activities in the other.

Parks Canada’s definition of a buffer zone is:

*“A part of the land that serves to alleviate the adverse effects of the use of one area upon another.”<sup>1</sup>*

A more detailed explanation of the buffer zone concept, given in the context of biosphere reserves but equally applicable to national parks, is as follows.

*“The three zones are: a “core” area of minimally disturbed and strictly protected ecosystems characteristic of a terrestrial or coastal/marine region; a “buffer zone” around the core that helps protect it, although certain kinds of resource use occur there; and, a “transition area” extending outwards from it in all directions, but with no fixed boundary, within which the full range of human uses of resources occurs”<sup>2</sup>*

In the context of Nahanni National Park Reserve, the park itself would be the ‘core’ protected area. A ‘buffer zone’ might include some or all of the lower impact uses which already occur in the South Nahanni River watershed. Some of these present uses include outfitted big-game hunting, resident hunting, motorized vehicle access (all-terrain vehicles, oversnow vehicles and watercraft), aircraft access, and other recreational activities. Intensive resource extraction and large-scale developments would not occur in this buffer zone. The ‘transition area’, as suggested in the definition above, might include the full range of human uses of resources.

### Role of Buffer Zones in Protected Areas Management –

The role of buffer zones, or more generally the integration of parks and protected areas management into regional land use planning, is to prevent parks from becoming ‘islands of green in a sea of development’. In 1998, in response to concern about environmental degradation of national parks, the Minister of Canadian Heritage commissioned an independent panel of experts to report on the ecological status of national parks across the country. The Panel on Ecological Integrity of Canada’s National Parks (the Panel) found that:

*“In much of Canada, protected areas have become ecological islands, disconnected from other areas of remaining natural habitat. Increasingly, national parks and other conservation lands are surrounded by urban development, agriculture, industrial forestry, or other land uses that affect the viability of park ecosystems. To maintain ecological integrity, the network of national parks and other protected lands needs to be managed as part of greater ecosystems”.*<sup>3</sup>

The most striking examples of this are in southern Canada. Pt. Pelee National Park, on Lake Erie in southern Ontario, is profiled in the Panel report, and is shown to have agricultural and residential/commercial development right to the park boundaries. Since its inception in 1918, 23 animal species have been extirpated from Pt. Pelee National Park, and 247 exotic flora and fauna species have been identified<sup>4</sup>. On a general level, the Panel found that:

*“Research on the status of parks and wilderness areas suggests that species were [are] being extirpated inside of protected areas in spite of their supposed ‘protection’.”*<sup>3</sup>

Northern parks have not yet experienced the scale of development seen in southern Canada, but some effects are already being noticed. In Nahanni National Park Reserve, 26 exotic species have been identified. With increasing interests in developing the north, ecological integrity on a landscape scale must be addressed.

The Panel’s report identified seven categories of stresses most significantly affecting National Parks, including habitat loss, habitat fragmentation, losses of large carnivores,

air pollution, pesticides, alien species, and over-use. Buffer zones, which allow a lower level intensity type of activities, can help to alleviate potential impacts of many of these stresses. Maintaining integrity of habitats and wildlife movement corridors are among the major functions of buffer zones. For a river oriented park such as Nahanni National Park Reserve, a buffer zone to alleviate potential impacts of upstream developments on water quality is also critical.

In northern ecosystems, where species such as grizzly bears and woodland caribou need large home ranges, these functions are particularly important. Dr. Stephen Herrero, a grizzly bear biologist at University of Calgary, wrote the following comment regarding ecological integrity of Nahanni National Park Reserve: *“The shape of the park, long and narrow, is very challenging for the park to be able to maintain large, mobile species such as grizzly bears, caribou, wolves, etc. No doubt such species move extensively in and out of the park. In order to meet park ecological integrity objectives planning must identify movement zones and key areas and their use outside the park.”*<sup>5</sup>

The integration of parks and protected areas into broader landscape level land management is the driving force behind the Yellowstone to Yukon Conservation Initiative (Y2Y)<sup>6</sup>. The Y2Y is a binational (Canada & USA) network of conservation organizations and individuals striving to conserve *“the beauty, the health and the natural diversity”* of the western cordillera of North America. Buffer zones and corridors between protected areas are promoted as essential management tools to work towards this goal. Nahanni National Park Reserve is considered one of the major ‘core’ protected areas in the northern region of this initiative.

### Size and Extent of Buffer Zone –

As a major step towards ecosystem based management, the *Nahanni National Park Reserve Management Plan Amendments*<sup>7</sup> (1994) put forth the concept of the Greater Nahanni Ecosystem (defined therein as the South Nahanni River watershed). The concept recognized the need to integrate park planning with land use planning in the broader regional area, and addressed the potential for ecological impacts on the park from activities occurring outside.

#### **“3.1 GREATER NAHANNI ECOSYSTEM**

*Nahanni National Park occupies one-seventh of the South Nahanni watershed (Fig. 2). This watershed drains an area of 35,000 square kilometres, which then enters the Mackenzie River drainage basin via the Liard River. To date, the relative isolation and wilderness of the watershed has served to protect the park. However, existing and possible future adjacent land uses such as mining, big game hunting, tourism development and uncontrolled access have the potential to affect the park’s ecological and wilderness integrity. Within the context of an ecosystem-based approach to management, the South Nahanni River watershed is the extent of the park’s immediate concern.”*

This position has been endorsed through public consultation and approval of the *Management Plan Amendments* in parliament.

To develop an ecological vision for Nahanni National Park Reserve, and to set priorities and goals for the protection of ecological integrity, Parks Canada held a public workshop in Fort Simpson in January, 2000. First Nations leaders and elders, government biologists, research scientists, regional land managers and other interested stakeholders participated in the workshop. An over-riding theme came out of the process, indicating that protection of the entire South Nahanni watershed met most tests of ecological integrity. This is reflected in the draft Ecological Integrity Statement<sup>8</sup>.

Among the most obvious examples of the importance of watershed protection to the ecological integrity of Nahanni National Park Reserve are water quality and woodland caribou. As the park covers only one-seventh of the South Nahanni watershed, the majority of the waters flowing through the park originate outside its borders, and any upstream activities do have the potential to impact water quality in the park.

In 1995, with the cooperation of Łíídlı́ı́ Kúé First Nation and the Yukon Territorial Government, Parks Canada began a large scale research project on woodland caribou, a species listed as vulnerable by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). This project has found that Nahanni National Park Reserve does not provide adequate protection for the South Nahanni Woodland Caribou Herd<sup>9</sup>. Although the park does protect significant wintering areas, most of the calving, summering and rutting grounds are outside the park. However, the seasonal movements of caribou do roughly correspond with the South Nahanni watershed, and watershed protection likely would adequately protect the habitat of this caribou herd.

As stated in the above quote from the management Plan Amendments, “*the South Nahanni River watershed is the extent of the park’s immediate concern*”, and the watershed would be considered an adequate buffer zone to protect ecological integrity of the park. In the event that Nahanni National Park Reserve was expanded to include the entire watershed, it is our position that the park would then be of adequate size and configuration that designation of a buffer zone would not be required. Regardless of size, Parks Canada would still be interested in cooperating with adjacent land management agencies to promote sustainable economic opportunities throughout the region.

#### Concerns Regarding Access and Non-Aboriginal Hunting Pressure –

The network of seismic lines, roads, and other types of access associated with resource extraction activities serve to increase ease of access for many other activities, including sport hunting. As an example, the old winter road from Liard River to Grainger Pass is commonly used as an all-terrain vehicle access to big-game hunting areas by non-local NWT residents and an increasing number of non-resident hunters, according to local

residents. The same may be true for the Liard River valley between Fort Liard and Nahanni Butte, where hydrocarbon exploration has been much more extensive.

Since the knowledge of the level of harvest on many big-game species in the area is limited, Parks Canada supports using the precautionary principle (*i.e.* err on the side of caution) when information is lacking. Ease of access has a direct relationship with amount of harvest. The cumulative effect of access and habitat alterations on wildlife populations along the Liard River valley is poorly known.

With regards to the application in question, use of the Navpak system, and brushing only a walking trail as opposed to an open outline as described by the proponent, does alleviate most of the concerns regarding access and increased harvest put forward by Nahanni National Park Reserve. However, there is still potential impact of these types of projects which needs to be considered.

Recent research in northern Alberta has shown that woodland caribou are affected by such exploration projects. In one study, GPS collared caribou avoided habitat near roads, seismic lines and well sites<sup>10</sup>. Although they did sometimes occur near such features, there was statistically significant avoidance of these areas, and the avoidance occurred at all seasons of the year, and even included old and unused lines.

#### References –

1. Parks Canada Terminology Bulletin 236.
2. Francis, G. 1993. Parks in a Regional Land Use Context: Some Issues of Organizational Arrangements. In: Poser, S.F., W.J. Crins and T.J. Beechey (eds.). Size and integrity standards for Natural Heritage areas in Ontario. Parks and Natural Heritage Policy Branch, Ontario Ministry of Natural Resources, Huntsville, Ontario.
3. Parks Canada Agency. 2000. “Unimpaired for Future Generations”? Protecting Ecological Integrity with Canada’s National Parks. Vol. I “A Call to Action.” Vol. II “Setting a New Direction for Canada’s National Parks.” Report of the Panel on Ecological Integrity of Canada’s National Parks. Ottawa, ON
4. Parks Canada. 1998. State of the Parks 1997 Report. Ottawa, ON
5. Herrero, S. Personal communication with D. Tate. 13 December 1999.
6. Wilcox, L., B. Robinson and A. Harvey. 1998. A Sense of Place: An Atlas of Issues, Attitudes and Resources in the Yellowstone to Yukon Ecoregion. Yellowstone to Yukon Conservation Initiative. Canmore, AB.
7. Canadian Heritage, Parks Canada. 1994. Nahanni National Park Reserve Management Plan Amendments. 20 pp.
8. Nahñ Dehé Consensus Team. 2000. Draft Ecological Integrity Statement for Nahanni National Park Reserve (Nahñ Dehé)
9. Gullickson D. and M. Manseau. 2000. South Nahanni Woodland Caribou Herd Seasonal Range Use and Demography. Draft Report.

10. Dyer, S.J. 1999. Movement and distribution of woodland caribou (*Rangifer tarandus caribou*) in response to industrial development in northeastern Alberta. M.Sc. Thesis. University of Alberta. Edmonton, AB