

## **Cheviot Coal Mine Project**

### **Concerns Regarding Lack of Mitigation and Compensation**

Submitted by the Ben Gadd and

Sierra Club of Canada

November 4, 2005

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1. Overview .....	1
2. Validity of the Review Panels' Conclusion in Light of the Modified Project.....	2
2.1 Outstanding Issue .....	2
2.2 Status.....	3
3. Lack of Environmental Assessment and Mitigation Plans.....	4
4. Committees Responsible for Overseeing Mitigation & Compensation.....	5
Status: No One at the Helm .....	5
5. Terrain .....	6
6. Water Quality.....	7
7. Fish and Fish Habitat.....	8
Status: No Comprehensive Mitigation and No Compensation Program.....	9
8. Selenium.....	9
Status: Review Panel's Expectation Not Met .....	11
9. Noise & Dust	
Whitehorse Provincial Recreation Area and Wildland Park .....	12
Status: An Outstanding Issue and an Approval Condition Not Met.....	12
10. Wildlife Movement .....	13
Status: Approval Condition Not Met.....	13
11. Migratory Birds.....	13
Status: Nothing Implemented to Protect Migratory Habitat and No Comprehensive Monitoring Occurring.....	14
12. Harlequin Ducks.....	15
Status: No Mitigation Program Implemented.....	16
13. Carnivores.....	17
Status: No Compensation in Place .....	18
14. Grizzly Bears .....	18
Status: Prime Habitat Being Destroyed For a Threatened Species and No Compensation in Place.....	20

# **Cheviot Coal Mine Project Concerns Regarding Lack of Mitigation and Compensation**

Submitted by Ben Gadd & the Sierra Club of Canada

## **1. Overview**

At the outset, we want to draw your attention to the fact that construction of the Cheviot Coal Project was underway by March of 2004 and that the first coal dug from the mine was being shipped out by November of that year. Approvals were based on effective compensation for and mitigation of environmental harm being carried out. Yet, now more than two years from the commencement of construction, the compensation measures (compensation for environmental losses that are not adequately mitigatable) and a number of mitigation measures (steps to lessen adverse impacts), which the provincial and federal governments promised Canadians would be in place, have yet to be implemented. The very government committees committed to in writing as the bodies to oversee implementation of compensation and mitigation, were disbanded years ago by the province and have not been replaced.

Such a situation in the 21<sup>st</sup> century is unacceptable. It has left the region with the worse case scenario: a major development, one which will permanently change the natural landscape spanning an area that is comparable in width to Alberta's capital city, Edmonton (some 23 kilometres), is occurring without the compensation for wildlife losses being in place and without measures effectively reducing other the adverse impacts. As described by one of the expert witnesses at the hearings in 2000, this massive, open-pit coal mine development is akin to a glacier going over the area. A nationally significant wildland<sup>1</sup> is being stripped down to the bedrock and the compensation for those losses, which regarding carnivores, migratory birds and the native trout fishery are conditions of the approvals, is not in place. Added to this is the fact that this development is occurring in one of the most environmentally sensitive and difficult environments in which to mitigate environmental harm; that of high-elevation lands at tree-line in the Rocky Mountains.

If it were not for documents produced through the Federal Court proceedings launched by a set of five conservation organizations<sup>2</sup> and the Albertan Environmental Appeals Board process regarding a private citizen's appeal<sup>3</sup> of the haulroad development approvals, we would not be aware of much of the current state of affairs. That is because (a) the government committees that

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<sup>1</sup> Mine permit is within two contiguous, Environmentally Significant Areas assessed as being nationally significant; Foothills Model Forest 1994 and Alberta Environmental Protection, 1997, Environmentally Significant Areas of Alberta.

<sup>2</sup> Judicial review cases filed Aug. 18 and Nov. 2, 2004 by Pembina Institute for Appropriate Development, Canadian Nature Federation, Sierra Club of Canada, Alberta Wilderness Assoc. and Jasper Environmental Assoc.; heard at Federal Court in Edmonton by Madam Justice Judith Snider, June 14-15, 2005; ruling issued Aug. 17, 2005.

<sup>3</sup> Appeal of Alberta Environment approvals for the haulroad development of the Cheviot Coal Project; launched by Ben Gadd on Dec. 19, 2003, heard by the Alberta Environmental Appeals Board Jan. 24-25, 2005; report and recommendations issued with the Ministerial Order no. 12/2005, Apr. 8, 2005,

were to oversee implementation of mitigation and compensation no longer exist, and (b) the plan the approval holder, Elk Valley Coal Corporation, was to provide to the Director of Alberta Environment by July 1, 2005, regarding how the company would inform the affected public about the mitigative measures has not been forwarded to the affected public, let alone implemented.

In short, from our perspective the record to date regarding many key environmental components (e.g. species listed as Sensitive or At Risk of extirpation in Alberta), amounts to doing the baseline studies, environmental impact assessment and design of mitigation and compensation measures for the damage *while the damage is underway*. All of it is work that should have been completed before the approvals and Federal Responses were issued.

This unacceptable situation becomes inexcusable in the case of the Cheviot mine, as there was ample time, in most respects years, in which to complete the work from the time the recommendations and conditions were issued to when the construction of the project was underway. The approval holder's delay of their original start-date is no excuse. They continued to apply for specific regulatory approvals during their delayed start-up and the provincial and federal departments continued to process those applications. The April 2001 Federal Response was issued with full knowledge of the construction postponement. Nowhere in the provincial approvals or the Federal Responses does it state for any of the conditions or requirements we have addressed below that those would only come into effect after construction was started.

## **2. Validity of the Review Panels' Conclusion in Light of the Modified Project**

This section and the next section, unlike the rest of this paper, do not address specific conditions or requirements of the approvals and Federal Responses. Rather, they are here to set the seriousness of the context within which our concerns that follow are set.

### **2.1 Outstanding Issue**

The provincial approvals and the Federal Response accepting the Joint Review Panel's recommendation that the development be approved were based on the Panel's conclusion that although there would be residual adverse impacts on the environment, the economic benefits of proceeding with the development out-weighed the environmental losses and the associated economic costs.

*“With respect to social benefits and costs, the Panel concludes that the Project, when compared to other potential uses of the area, will generate the greatest economic benefits to the region. The Panel concludes that the regional economic benefits of the Cheviot project significantly outweigh the value of optimizing its current uses for recreation or alternative uses for wildlands protection.”<sup>4</sup>*

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<sup>4</sup> Report of the EUB-CEAA Joint Review Panel, August 2000, p. 4.

This conclusion was based on a development for which the proponent had specified there would be 400 mine jobs. With the modified project, that employment number dropped by almost three-quarters to only 120 jobs<sup>5</sup>, a figure that came from the parent company and which was not contested during the cross-examinations associated with the Federal Court case launched by five conservation organizations. The conceptual life of the mine dropped from 400 jobs over 20 years to 120 jobs over 15 years. The amount of clean coal to be produced by the mine dropped to below half that of the original project, from 66 million clean metric tons (CMT) to 9 million CMT, even though a larger permit area is required for the modified mine and has been granted by the Alberta Energy and Utilities Board (EUB).

This calls into question the applicability of the Joint Review Panel's conclusion to the modified development that is actually underway. Fisheries and Oceans Canada confirmed, under cross-examination, that this is also an outstanding issue identified by Environment Canada.<sup>6</sup>

## 2.2 Status

Without an environmental assessment and review of the entire modified project, the applicability of the panel's conclusion to the modified mine underway has not been tested. However, some of the adverse socio-economic impacts are readily visible now.

For example, the hamlet of Cadomin had a population of about 80 residents prior to the commencement of the modified Cheviot Coal project. It was situated in the very locale of the 8,400 km<sup>2</sup> planning region, which through the provincial government's integrated resource planning (IRP) process, was determined to have the highest level of outdoor recreation of all of the planning region and the best potential for tourism and recreation due to the area's natural features and ecological resources. In 2003, without further environmental assessment or a public hearing, the mine permit was expanded to include the McLeod River valley, in which the hamlet is located. The expansion even incorporated a part of the hamlet's land area. This negated the IRP provisions for scenic auto-touring and much of the other nature-based, tourism and recreation potential.

Dust and noise continue to be identified as an outstanding concern by hamlet residents.<sup>7</sup> Industrialization of the narrow McLeod River valley and the wildlands of the Mountain Park area are also ongoing concerns, particularly for the Cadomin Group. As the Alberta Environmental Appeals Board (EAB) found in hearing the appeal of the haulroad development,

*"The approval holder proposed that it would add viewing points to allow visitors to view the mine site, and this would compensate for the loss of access or limited access to wildlands previously accessible to the public. The suggestion that a viewing area of a highly disturbed industrial area could be appropriate compensation for the loss of access to a wildland is untenable. ... it cannot be considered appropriate compensation."*<sup>8</sup>

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<sup>5</sup> Fording Canadian Coal Trust, March 16, 2003 media release.

<sup>6</sup> Transcript of cross-examination of Dorothy Majewski, Feb. 22, 2005, p. 59, lines 2-8.

<sup>7</sup> Cadomin Environmental Protection Assoc., newsletter, July 2005.

<sup>8</sup> Alberta Environmental Appeals Board, Report and Recommendations, Feb. 24, 2005, p. 54, [22].

As of this past summer, Cadomin's population has dropped to half and there are very real concerns about the hamlet's survival now and into the future.<sup>9</sup>

### **3. Lack of Environmental Assessment and Mitigation Plans**

There were major gaps in the environmental impact assessment (EIA) and review of the original development proposal<sup>10</sup> and no EIA of the modified mine project. As a result many definitive mitigation plans to lessen the environmental harm and the compensation plans for the environmental losses were non-existent at the time the approvals were issued.

Baseline studies and mitigation measures that were not completed prior to the issuance of the provincial approvals and the Federal Responses include the following:

1. Pre-development wildlife movement patterns and the minimum conditions necessary to provide for effective wildlife movement corridors.
2. Assessment of riparian habitats and mitigation strategies to reduce adverse impacts on those habitats.
3. Determination of the vital rate for Harlequin ducks and the impact of the project on the viability of the population.
4. Establishment of the minimum instream flow values required to maintain aquatic life in the project affected streams.
5. Detailed geotechnical report on stability of proposed cut and fill zones for haulroad development.
6. Fisheries compensation program.
7. Assessment of cumulative effects on fish and fish habitat.
8. Carnivore compensation program.
9. Mitigation strategies for elk.

These iterative processes, instead of being completed prior to the issuance of approvals, were included as part of the approvals, and in the case of the provincial approvals are referred to as "workplans." We concur with the EAB's concern that mitigative and compensation measures were not required to be in place before the approvals were issued and emphasize that this is a concern for the whole project, not just the haulroad portion that the EAB's review was limited to.

Such deficient approvals are unacceptable. They minimize the developer's and the overseeing agencies' capabilities to assess the risks to the environment, specify appropriate and testable mitigation or compensation, and delineate appropriate, testable monitoring. This, in turn, increases the likelihood of adverse impacts that cannot be effectively mitigated, adding to the list of residual, adverse impacts already identified by the Joint Review Panel: the loss of neotropical songbirds and their habitat, wildland recreation and tourism experiences, soil landscapes, general terrain features and First Nation's traditional uses of the wildlands.

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<sup>9</sup> Cadomin Environmental Protection Assoc., newsletter, July 2005.

<sup>10</sup> For a summary of shortcomings regarding wildlife, see Memorandum from Jeff Kneteman, SRD to Quinn Bottroff, Reclamation Approvals Coordinator, January 17, 2003 and Alberta Environmental Appeals Board, Report & Recommendations, Feb. 24, 2005, p.45 [194] to p. 49 [196].

The risk of additional adverse impacts that cannot be effectively mitigated is already becoming reality. For example, after the provincial approvals and the Federal Responses were issued, it was determined that end-pit lakes are not suitable for replacement for the loss of fish habitat. An iterative process, the determination of whether or not end-pit lakes result in viable fish habitat, was to be carried out after the approvals were issued. Now, with the mine in operation and end-pit lakes no longer a useful mitigation measure, an alternative measure that became part of the regulatory approval is itself an adverse impact. The alternative measure, that being the construction of fish ponds in the riparian habitat of the upper McLeod River, negates a sizable part of the Harlequin duck mitigation measure: the protection of this reach of the McLeod River as undisturbed habitat.

As stated by the EAB, “waiting for damage to be demonstrated before mitigation measures are implemented” is not appropriate. “It would be inappropriate to identify a problem and then require additional time to strategize about mitigative options” once the development is underway.<sup>11</sup> We extend that view to the entire mine project. Yet, that is precisely the stage that has been set through the lack of environmental impact assessment, the lack of detailed mitigation and compensation measures prior to issuance of the approvals, and the non-existence of the government committees to oversee implementation of mitigation and compensation. Damage is occurring before mitigation and compensation have been designed and implemented, and the risk is increasing that more of this damage cannot be effectively mitigated or compensated for.

#### **4. Committees Responsible for Overseeing Mitigation & Compensation**

In the September 1997 letters appended to the Federal Response issued a month later, the Conservation and Reclamation Committee, which was to oversee on-site environmental issues, and the Northern East Slopes Environmental Committee (NESEC), which was responsible for off-site issues, were committed to as the “key provincial bodies that will administer the province’s responsibilities on the Cheviot project.” That letter assured federal representation from Fisheries and Oceans Canada, Environment Canada and Parks Canada on those committees. It also identified NESEC as providing “the framework for dealing with the Coal Branch Access Management Plan and the Carnivore Compensation Program.” In short, these were the key committees for overseeing the implementation of mitigation and compensation for the adverse environmental effects of the Cheviot mine project, as well as monitoring and reclamation.

##### **Status: No One at the Helm**

The 2000 Federal Response, in part, was based on the existence of those committees and the participation of federal representatives. However, those committees were disbanded years ago by the province. No comparable committees have replaced them, and yet the first part of the project is constructed and the mine is operating.

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<sup>11</sup> Alberta Environmental Appeals Board, Report & Recommendations, Feb. 24, 2005, p. 72 [302].

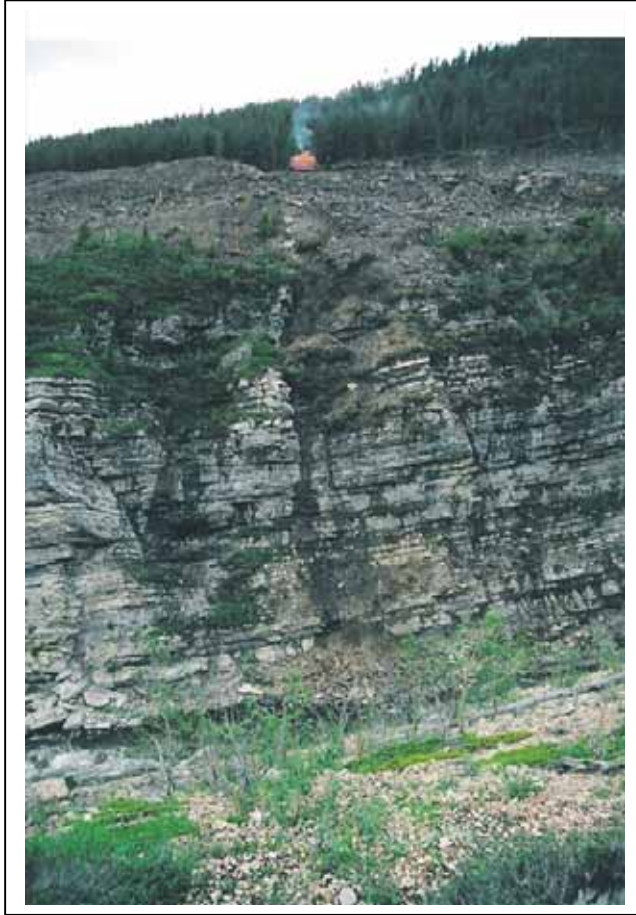
In short, there is no one at the helm overseeing mitigation and compensation. The Joint Review Panel's conclusion that the mine should be approved, and the provincial approvals and Federal Responses were conditional upon effective mitigation and compensation. This deplorable situation is made even worse by the fact that environmental impact assessment, mitigation and compensation planning for a number of valued environmental components has been left to be done after the start-up of mine.

To underscore the seriousness of this situation, we give the following example. In January 2002, more than three years ago, the Alberta Government-appointed Endangered Species Conservation Committee, including its Scientific Subcommittee, determined that the status of grizzly bears in Alberta has sunk to the state of a threatened species. During the federal-provincial review of the mine proposal, all parties agreed that the irreparable (within a century) damage to carnivores and carnivore habitat that would occur as a result of the mine could not be adequately mitigated within the project area (an area of over 7,000 hectares), and that compensation elsewhere in the region is required. Such compensation is a condition of the provincial approvals and a requirement of the Federal Responses. The September 1997 letter that committed to the now non-existent committees included that "one goal will be to restore those landscape conditions that are necessary to ensure the persistence of a regionally connected grizzly bear population;" the population shared with a World Heritage Site. The letter refers to restoration because the only sizable block of contiguous prime grizzly bear habitat left in the whole 8,400 km<sup>2</sup> provincial planning region is that of the McLeod River-Cardinal River headwaters, where the mine is now underway.

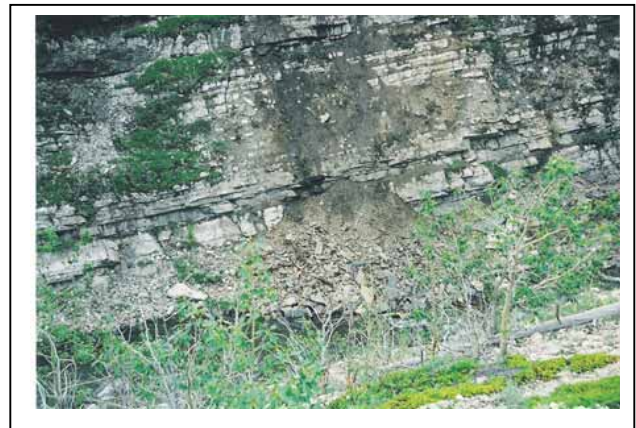
The approval holder and provincial departments had more than six years before commencement of construction of the mine project within which to design and implement the promised carnivore compensation plan. No such restoration has been done. No carnivore compensation plan has been implemented, including for this threatened species, and the irreparable destruction of prime grizzly bear habitat has been underway for more than a year now.

## **5. Terrain**

In April 2003, the Alberta Energy and Utilities Board added to the mine permit a condition requiring a detailed geotechnical report on the stability of the extensive cut and fill zones proposed for haulroad development. While the report may have addressed safety concerns, we question the extent to which it addressed minimizing the loss of and harm to terrestrial and aquatic environments. Construction of the haulroad development at the downstream entrance to the McLeod River Canyon resulted in rock falls into the river, which is fisheries and Harlequin duck habitat. As well, the road cut and fills continue to slump some nine months after the haulroad went into operation.



Slumping of slope below haulroad. Sept. 2005



Rock fall into McLeod River caused by construction at the canyon, July 2004

Close up of rock fall in river.

## 6. Water Quality

Site visits to the haulroad development along the McLeod River during the construction period (visits on May 22-23 and July 10, 2004) and the operation of the haulroad (visits on July 1-3 and Sept. 17, 2005) recorded and in most cases photographed containment failures at catchment dug-outs or “water management structures” and significant, sediment laden run-off flowing into the river and Prospect Creek as a result of the lack of remedial measures. This causes us to ask where the water quality monitoring reports are for this reach of the McLeod River and the tributaries for the period commencing with the haulroad construction in March 2004. Has remedial work been effective enough to retain the water quality of the Harlequin duck and fisheries habitat?



Containment problem at the forks of Whitehorse Ck. and McLeod River July, 2005



One of the containment problems at the hauroad along the McLeod R. Sept. 2005

## 7. Fish and Fish Habitat

All parties agreed and the Joint Review Panel concluded that there would be permanent losses of fish habitat, in addition to short-term alterations. They concluded compensation would be required.<sup>12</sup> Fish habitat that would be permanently destroyed by the development includes that of native bull trout, a species listed as Sensitive in Alberta. However, a mitigation, enhancement and compensation program was not designed prior to the issuance of the provincial approvals and Federal Responses.

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<sup>12</sup>Report of the EUB-CEAA Joint Review Panel, June 1997, p. 53.

The suitability of end-pit lakes as compensation for destroyed fish habitat was questioned during the review process for the original project. On January 29, 2002, all parties with representatives on the End Pit Lake Working Group were informed of the conclusion that end-pit lakes are not acceptable as adequate compensation for the harmful alteration, disruption or destruction of fish habitat.<sup>13</sup> The Federal Response, since October 1997, has required that an alternative compensation strategy – alternative to that of end-pit lakes – be developed.

The Federal Responses also required that an assessment of the cumulative effect of the project on fish and fish habitat be undertaken.

### **Status: No Comprehensive Mitigation and No Compensation Program**

The approval holder and responsible departments have had more than three and a half years since the determination regarding the suitability of end-pit lakes, in which to design the required alternative compensation strategy. We have seen no comprehensive mitigation and compensation program for the harmful alteration, disruption and destruction of fish habitat entailed with the whole of the modified mine project.

Furthermore, the alternative compensation designed for the first part of the mine development (Haulroad and Cheviot Creek Developments) is in itself an adverse impact on the very upland, riparian and instream habitat that was to be protected as part of the mitigation program for migratory birds, particularly for Harlequin ducks, which are listed as a Species of Special Concern<sup>14</sup> in Alberta. We are specifically referring to the fish habitat compensation ponds in the upper McLeod River and that upper reach of the river. That upper reach of the McLeod River, according to the 1997 Federal Response, was to have been “preserved.” Environment Canada raised the point that this specific fisheries compensation is an adverse impact to migratory birds and their habitat on Oct. 25, 2004.<sup>15</sup> Four months later, there was no other compensation plan in place (as of Feb. 23<sup>rd</sup> cross-examinations) and we are not aware at this date of any other plan having been developed that does not adversely effect migratory bird habitat, particularly that of Harlequin ducks.

We have not seen a completed assessment of the cumulative effects of the project on fish and fish habitat. The approval holder had almost three years between when the requirement for assessment was reiterated in the 2001 Federal Response and when construction began in which to complete that assessment.

## **8. Selenium**

In 1997, it was made known that selenium concentrations in surface waters were exceeding the Canadian Council of Ministers of the Environment (“CCME”) guideline for the protection of aquatic life (1 ppb), for those waters affected by open-pit mining and found within and

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<sup>13</sup> Feb. 4, 2003 Memorandum from D Majewski, Fisheries & Oceans Canada to T. Van Meer, Chairperson of the End Pit Lake Working Group.

<sup>14</sup> Endangered Species Conservation Committee, 2001; legislation to include the Special Concern category in the Alberta Wildlife Act, and hence Harlequin ducks, is in progress.

<sup>15</sup> Affidavit of D Majewski, Fisheries & Oceans Canada, Jan. 17, 2005, [24].

downstream of the approval holder's Gregg River and Luscar Mines. These exceedences continue, together with the development and opening of the Cheviot mine, which is located within the same McLeod River watershed, upstream of the Gregg River and Luscar mines. Alberta Environment surveys from fall 1998 through fall 1999 show these exceedences varying from 2 to 47 times the guideline amount.<sup>16</sup>

During 2001 through 2002, Environment Canada's Prairie and Northern Wildlife Research Centre studied selenium concentrations in coal-mine-affected stream ecosystems downstream from the Luscar mine, as well as reference stream ecosystems.<sup>17</sup> The study included the assessment of selenium concentrations in the eggs of American dippers. Like Harlequin ducks, American dippers depend on riparian ecosystems for the breeding, nesting and brood-rearing period and for their food, which is aquatic invertebrates. Because Harlequin ducks are listed as a Species of Special Concern, American dippers are a reasonable surrogate for such a study.

American dipper eggs collected from coal mine-affected sites had higher selenium concentrations than eggs collected from other unaffected sites in the area. A significant correlation was found between selenium concentrations in eggs and water samples collected at the dipper nest sites. At coal-mine-affected sites, selenium concentrations in dipper eggs were close to the lower end of published adverse-effects thresholds for avian eggs.

The study's authors recommended monitoring selenium levels in American dipper eggs along with the birds' nesting success in order to determine whether selenium mobilization is likely to have a negative impact on birds (including Harlequin ducks) in the areas impacted by the coal mine.

In 2003, the Freshwater Institute of Fisheries and Oceans Canada presented a report on investigations of the effects on rainbow and brook trout of the elevated selenium levels found in Luscar Creek, downstream of the Luscar mine and its end-pit lake.<sup>18</sup> This study identified increased incidence of physical deformities in the offspring of the selenium-exposed fish. It also found that one-quarter of the Brook trout adults had deformities.

It is also our understanding that, during the course of other work, blood samples taken from Bighorn sheep using the mined-over areas of the Luscar and Gregg River mines also show elevated levels of selenium.<sup>19</sup>

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<sup>16</sup> Alberta Environment, Feb. 2000, Concentrations of Selenium in Surface Water, Sediment and Fish from the McLeod, Pembina and Smoky Rivers: Results of Surveys from Fall 1998 to Fall 1999, p. 13, Table 2.

<sup>17</sup> Environment Canada. 2003. Assessing the Potential Risk of Coal Mining on Selenium Exposure and Toxicity to Birds in the Alberta Foothills. Prairie & Northern Wildlife Research Centre, Environment Canada, Saskatoon.

<sup>18</sup> Holm, J, V. Palace, et al. 2003. An assessment of the development and survival of wild rainbow trout (*Oncorhynchus mykiss*) and brook trout (*Salvelinus fontinalis*) exposed to elevated selenium in an area of active coal mining. In Proceedings of the 26<sup>th</sup> Annual Larval Fish Conference. Institute of Marine Research, Bergen, Norway.

<sup>19</sup> Jeff Kneteman, Alberta Fish & Wildlife, Hinton, pers. com.

## **Status: Review Panel's Expectation Not Met**

To our knowledge, there is no formalized program for monitoring selenium levels and its effects on ungulates. We have seen no indication that the recommended program has been implemented to monitor the effect of selenium exceedences on American dipppers.

Furthermore, the Joint Review Panel's expectation has not been met regarding the design of mitigation plans by late 2001 or early 2002 to mitigate the selenium exceedences and bring the waters within the water quality guidelines.

*"The Panel accepts as reasonable that within a year to 18 months the selenium working group will be able to identify the sources of selenium and will subsequently be able to deal with the process by which it is released. The Panel will require, as a condition of its provincial approval, that CRC use the information obtained by the selenium working group to adequately manage the adverse effects associated with selenium. Since sequential approvals from the EUB are required, ensuring that this occurs will be straightforward."<sup>20</sup>*

The approval holder and the Selenium Working Group have now had five years in which to accomplish this, considerably more than the expected requirement of 12 to 18 months, and it has not been done. While a couple of studies were commenced to document the adverse effects of the selenium exceedences, the Selenium Working Group has not progressed to the stage where they can recommend changes to mining and reclamation that will control or mitigate the exceedences and ensure water quality remains within the guidelines for aquatic life. In fact, the issue is compounding rather than being resolved.

In the meantime, by mid-2004 another mining end pit, that on Sphinx Creek within the approval holder's Luscar mine, had been left to fill with water and become an end-pit "lake," which now flows into Gregg River and then into the McLeod River. This occurred despite (a) the likelihood of exceeding the water quality guidelines in Sphinx Creek<sup>21</sup> and adding to existing exceedences in the Gregg and McLeod Rivers, (b) at least one fisheries person with the Sustainable Resource Development Department pointing out that a precautionary approach should be used and no additional end-pit lakes approved,<sup>22</sup> and (c) no mitigation plan to bring the selenium levels within the water quality guidelines.

Furthermore, end-pit lakes are still part of the Cheviot mine development plan. This despite the indications that end-pit lakes exacerbate the selenium exceedences and the clear conclusion, since the Panel's reports, that they are not acceptable compensation for damaged or destroyed fish habitat.

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<sup>20</sup> Report of the EUB-CEAA Joint Review Panel, August 2000, p. 68.

<sup>21</sup> D Walker's notes from the June 16, 2004 site visit, Certified Document no. 58 re: conservation groups 2004-05 Federal Court case.

<sup>22</sup> Series of emails, July 22, 2004, Certified Document no. 71 re: conservation groups 2004-05 Federal Court case.

## 9. Noise & Dust

### Whitehorse Provincial Recreation Area and Wildland Park

It was a recommendation of the Review Panel and a condition of the mine permit that, in consultation with the EUB, the mine plan be refined “with the goal of establishing a suitable buffer between the mine disturbance and the Whitehorse Wildland Park.”<sup>23</sup>

The Whitehorse Provincial Recreation Area (PRA) includes a campground and staging area for backcountry use in Whitehorse Wildland Park and Jasper National Park. The EAB found that visitor’s enjoyment of the PRA is likely to be impaired. It also pointed out that Alberta Community Development, the provincial department responsible for the PRA and Wildland Park, has found it necessary to consider moving the campground.<sup>24</sup>

In January 2003, prior to commencement of construction of the mine project, Community Development identified that mitigation must be immediate regarding adverse impacts on the Provincial Recreation Area and recommended that a “definitive mitigation plan be developed so that solutions can be implemented immediately.” In relation to this, they felt it “would be proactive to consider an alternative site for camping/staging in the Whitehorse Creek area”<sup>25</sup>

Like Community Development, the EAB “believes steps may be necessary to mitigate the impacts of noise by moving the campground.”<sup>26</sup>

#### **Status: An Outstanding Issue and an Approval Condition Not Met**

There is no effective buffer between the expanded portion of the mine site (expansion encompasses the haulroad development), and the Wildland Park and associated Provincial Recreation Area.

No mitigation plan was in place prior to commencement of the development, nor even two years later at the time of the EAB hearing and after the haulroad portion of the mine project was constructed and in use. We have yet to see a mitigation plan. We maintain that the full cost of implementing the mitigation plan, including the cost of altering or providing another Provincial Recreation Area to replace the overnight experiences lost, should be borne by the approval holder as a cost of their mine development.

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<sup>23</sup> Alberta Energy & Utilities Board, Permit No. C 2003-4, condition 5 (g) (i)

<sup>24</sup> Alberta Environmental Appeals Board, Report & Recommendations, Feb. 24, 2005, p. 66 [280] and [282].

<sup>25</sup> Jan. 10 and 17, 2003, memos from Kyle Clifford, Area Manager, West Central Area, Community Development to Quinn Bottroff, Regional Approvals Coordinator, Central Region, Alberta Environment regarding adequacy of CRC’s response to outstanding concerns of the department following the approval holder’s Supplementary Information document, Dec. 2002.

<sup>26</sup> Alberta Environmental Appeals Board, Report & Recommendations, Feb. 24, 2005, p.75 [310].

## 10. Wildlife Movement

Wildlife movement affected by the mine project includes that of carnivores (grizzly bear, cougar, lynx and wolf) and ungulates (elk, moose, mule deer, whitetail deer and bighorn sheep).

The Joint Review Panel made the following recommendation, which has also been a condition of the mine permit since August 1997.

*“CRC shall carry out studies needed, in consultation with the EUB, AEP, and Parks Canada, to examine current wildlife movement patterns across the mine site and to establish the likely minimum conditions (e.g. width, degree of cover) necessary for wildlife corridors to be effective, and to establish how such corridors might be accommodated within the mine plan. Ongoing monitoring to identify mineral licks is also required.”<sup>27</sup>*

### **Status: Approval Condition Not Met**

Such studies, which are baseline in nature and provide information needed to assess environmental impacts and design mitigation, have not been done, with the exception of grizzly bear movement information collected by the Foothills Model Forest studies for that species. Minimum conditions necessary for wildlife corridors to be effective have not been established, nor has the mine plan been amended to accommodate these, including for grizzly bears. Indeed, the haulroad portion of the mine development is on top of what was a relatively intact wildlife movement corridor (particularly during the winter and spring months).

The approval holder had more than six years to complete these studies and amend development plans to accommodate wildlife movement, before the commencement of construction for the first part of the mine site. This condition was not met at that time (March 2004) and still has not been met.

## 11. Migratory Birds

Dr. Geoff Holroyd, witness for Environment Canada, gave evidence during the Joint Review Panel hearings that for songbirds, “both the species diversity and the species richness in the development area [of the Cheviot Mine Project] are as high as they get in North America.”<sup>28</sup> The most important habitats for these birds are riparian shrub-wetlands and upland shrub, which have the highest and second-highest density of breeding birds respectively.<sup>29</sup>

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<sup>27</sup> EUB Permit No. C 97-14 and C2003-4, condition 5 (j) and Report of the EUB-CEAA Joint Review Panel, June 1997, p. 159.

<sup>28</sup> Federal-provincial review, public hearing transcripts, Feb. 17, 1997, p. 3681, lines 2-5.

<sup>29</sup> Dr. Geoff Holroyd, text of power-point presentation to federal-provincial review, public hearing, 1997, Exhibit #174.

The Joint Review Panel accepted Environment Canada's view that the diversity of bird species within the area of the Cheviot mine permit is high relative to other regions. It further concluded that the impacts to neotropical songbirds resulting from the mine project "will be significant."<sup>30</sup>

Regarding mitigation of the loss of neotropical and other breeding bird habitat, the Federal Response states,

*"The Government of Canada agrees with the Panel that further loss of habitat should be avoided and that restoration of habitat diversity to its predevelopment state be a key component of the mine's reclamation plans. To meet these ends, the Government of Canada recommends that minimization of habitat loss be considered first, especially through overburden placement, and that habitat for priority species be maintained, particularly in forest/shrub/riparian habitats."*

The Federal Response also states that the approval holder is expected to develop and implement, "to the satisfaction of the Government of Canada, a comprehensive long-term migratory bird monitoring program" to assess cumulative impacts of the Cheviot project in conjunction with all other developments in the region. It also requires the implementation of mitigation and/or compensation for losses should monitoring reveal additional unforeseen impacts to migratory birds or that mitigation is unsuccessful.

The Federal Response then stipulates that, "conditions that Environment Canada considers necessary to address these concerns will be included in relevant authorizations issued pursuant to the *Fisheries Act*."

### **Status: Nothing Implemented to Protect Migratory Habitat and No Comprehensive Monitoring Occurring**

To our knowledge, and certainly with the first part of the mine development (Haulroad and Cheviot Creek Developments), the mine plan has not been amended to leave even one additional reach of forest/shrub/riparian habitat intact. Not a single, specific condition, provision or protection regarding migratory bird habitat was included in the authorization for the first part of the mine development.

Likewise, there is no comprehensive long-term migratory bird monitoring program, designed to the satisfaction of Environment Canada, in place to monitor the cumulative impacts and the project specific impacts on migratory birds, with the exception of the monitoring of site-specific impacts on Harlequin ducks.

The Federal Responses contained significant restrictions and requirements in order to protect migratory birds. These requirements were contained as conditions within the first of the authorizations issued for the mine project, the August 17, 1998 Access Corridor Authorization issued by Fisheries and Oceans Canada.<sup>31</sup> In particular, the authorization provided for no

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<sup>30</sup> Report of the EUB-CEAA Joint Review Panel, June 1997, pp. 114, 157.

<sup>31</sup> That authorization was subsequently set aside by the Court, and then not reapplied for after the 2000 Federal Response, as the access corridor was replaced with the extension of the mine site and the haulroad development.

construction activities within 70 metres of the McLeod River and its tributaries between May 1 and August 31, except in accordance with the recommendations and timing windows described in the Harlequin Duck Mitigation Plan.

For example, the Red timing window, designated as “Avoid construction – critical window” extended between July 10 and August 31 for Zones B, C and D of the Harlequin duck habitat (habitat zones extending along the McLeod River valley from just below the mouth of Cheviot Creek downstream to just above the mouth of Whitehorse Creek). The authorization also required minimal vegetation clearance between May 1 and July 31, to minimize effects on all migratory birds.

Despite the emphasis placed on these mitigation measures by the Joint Review Panel, construction of the haulroad development occurred within the restricted zones and during the Red timing window.<sup>32</sup>

## 12. Harlequin Ducks

For breeding and the rearing of their young, Harlequin ducks depend on riparian habitats associated with undisturbed, mature and old-growth forest habitat and streams with healthy invertebrate populations. They are considered good indicators of pristine, wilderness ecosystems.<sup>33</sup>

The Cheviot project area is habitat for the largest breeding population of Harlequin ducks in Alberta, next to that of the Bow River population protected within Banff National Park.

The 1997 Federal Response provides for the following regarding this provincially significant Harlequin duck population:

*“Specifically for Harlequin ducks, the Government of Canada maintains that the proponent should make use of every possible measurer that would ensure the continued protection of the existing McLeod River Harlequin duck population.”*

*“The Government of Canada... recommends using its Harlequin duck expertise to establish, with AEP, programs to ensure that impacts are avoided and/or mitigated to the greatest extent possible.”*

The Federal Response required the maximizing of set-backs from streams and their tributaries as a part of the mitigation. One of Environment Canada’s recommendations submitted to the federal-provincial review was “that at a minimum, the tributaries most important to Harlequin ducks in the Upper McLeod River not be developed so that 100 metre disturbance free zones (Cassierer et al. 1995) buffer each side of the creeks.”<sup>34</sup>

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<sup>32</sup> Affidavit of Dianne Pachal, September 2004, [131].

<sup>33</sup> Submission of Environment Canada, Jan. 1997, p. 8 [2.24].

<sup>34</sup> Submission of Environment Canada, Jan. 1997, p. 12 [2.44].

The Federal Response also committed to including conditions within the federal authorizations issued for the mine for the purpose of mitigating impacts on Harlequin duck habitat. Yet, none were included for the first part of the Cheviot mine, which is now developed and operating (Haulroad and Cheviot Creek Developments).



Haulroad development: clearance of riparian habitat along McLeod R., a Harlequin duck breeding stream.

### **Status: No Mitigation Program Implemented**

There has been no evidence provided to indicate that construction timing windows laid out in the federal authorization for the development of the previous access corridor<sup>35</sup> were implemented and followed. Furthermore, clearing of native vegetation in places has removed the riparian vegetation right to the water's edge along breeding streams, such as under the hydro-line right-of-way along reaches of the McLeod River. With the exception of replacing culverts with bridges (a measure insisted upon from the outset in 1996 by Environment Canada and SRD), no amendments have been made to the mine plan for the purpose of avoiding or mitigating the harmful disturbance and destruction of Harlequin duck habitat. The Federal Response emphasized that avoidance of habitat loss was to be the first consideration, particularly for forest/shrub/riparian habitats.

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<sup>35</sup> With the modified project, the previous access corridor which was a public road access to the mine, has become a part of the mine site, which includes a massive haulroad development and many dug-outs to capture run-off for the industrial road and its cuts and fills.

The Joint Review Panel's reports, provincial approvals and the Federal Responses required collection of base-line information and on-going monitoring of the Harlequin duck population. Seven years of data on the Harlequin ducks have now been collected by the approval holder, but the determination of the vital rates for the McLeod River population has yet to be completed by Elk Valley Coal. This has happened despite persistent requests by the Sustainable Resource Development Department for that information. Completion of that work is necessary for timely prediction of the impact of the project and the design of measures to avoid or mitigate impacts.

Substantial amounts of habitat could be retained, including habitat for other migratory birds, if the riparian habitat were not buried under the mine over-burden and the flow in breeding streams was not terminated ("dewatered"). However, to our knowledge, and certainly regarding the first part of the mine development (Haulroad and Cheviot Creek Developments), the mine plan has not been amended to leave even one additional reach of a breeding stream and its tributaries intact.

### 13. Carnivores

The Joint Review Panel had serious concerns about the impact of the original mine project on carnivores, including the likelihood that the loss of carnivore habitat could not be effectively mitigated within the project area.

*"In general, the Panel agrees that the available site specific mitigation strategies for carnivores, including corridors are, without major and costly changes to CRC's conceptual mine plan, unlikely to be successful in reducing the impacts on carnivore populations significantly. Therefore, the Panel is prepared to consider CRC's proposal to compensate for lost carnivore habitat in areas outside of the Cheviot Coal Project as a reasonable option."<sup>36</sup>*

Thus, the Panel recommended that the loss of carnivore habitat be compensated for by the restoration and protection of habitat elsewhere in the region through the development and implementation of a Carnivore Compensation Program and the protection of the headwaters of the Cardinal River.

The Panel expected that the compensation strategy would be comprehensive for carnivores and not focussed solely on grizzly bears and their habitat. They expected the strategy would be in place by the end of 2003.

*"It is suggested, however, that a more comprehensive carnivore compensation strategy also be considered to account for other species such as fisher or lynx. The Panel expects that this program can be developed as one component of the other regional plans under way, again preferably within the next three years."*

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<sup>36</sup> Report of the EUB-CEAA Joint Review Panel, June 1997, p. 89.

## **Status: No Compensation in Place**

No comprehensive compensation strategy for carnivores has been designed and implemented, including one that addresses lynx or fisher, in addition to grizzly bears. As noted at the outset of this paper, the committees responsible for this were disbanded and not replaced.

## **14. Grizzly Bears**

Not only has the province's Endangered Species Conservation Committee determined that grizzly bears are a Threatened species in Alberta, is likely that the population adversely impacted by the Cheviot mine is not sustainable over the long-term, due to the present level of development and human activities in the region, including the associated fragmentation of habitat and human caused mortalities.

During the EAB hearing (January 24-25, 2005) on the haulroad portion of the mine project, the expert witness for Alberta Environment indicated that,

*“Our current understanding of the grizzly bear population in the Cheviot area is that it may not be sustainable due to current rates of human caused mortality.”*

That expert witness and the witness for the approval holder agreed that even one death of a female grizzly bear could have significant adverse consequences for that population.<sup>37</sup>

Without the formal protection of more grizzly bear habitat and the implementation of mitigation measures, such as the reduction of road densities, to lessen the cumulative adverse impacts of the current levels of development, it is expected that within 30 years no secure sources of habitat will remain for adult female grizzly bears.<sup>38</sup>

The Strategic Framework for Grizzly Bear Conservation in the Alberta Yellowhead Ecosystem sets out the process for the design and implementation of the required Carnivore Compensation Program. The Joint Review Panel noted that it has tied the mine's approval to the successful implementation of the Strategic Framework.<sup>39</sup>

Furthermore the Review Panel stated:

*“The Panel also notes that the success of the Strategic Framework is considered critical to achieving a healthy grizzly bear population .... If the Strategic Framework is not successful, CRC's own consultants anticipate that the regional grizzly bear population will decline. The Panel therefore confirms its original conclusion that without mitigation the Cheviot Coal Project will result in significant adverse effects on grizzly bears. The*

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<sup>37</sup> Alberta Environmental Appeals Board, Report & Recommendations, Feb. 24, 2005, pp. 40 [179] and 42 [185].

<sup>38</sup> Scott Nielsen, 2005, Habitat Ecology, conservation and Projected Population Viability of Grizzly Bears (*Ursus arctos* L.) in West-Central Alberta. University of Alberta, p. 258-260.

<sup>39</sup> Report of the EUB-CEAA Review Panel, August 2000, p. 105.

*Panel also concludes that without mitigation there is a significant risk of regional adverse cumulative effects with or without the project.”<sup>40</sup>*

The requirement of compensation for carnivore habitat destroyed by the mine project, along with timelines for reporting on progress and deadlines for implementation of the compensation program were written into both the provincial approvals and the Federal Authorizations.

A condition, which has been in place since August 1997 as part of the mine permit, is that the approval holder,

*“shall advise the EUB on an annual basis regarding the status of the Carnivore Compensation Program and, within three years of receiving approval for the project and before unmitigable impacts have occurred, shall provide evidence that regional planning initiatives have adequately addressed predicted impacts on grizzly bears.”*[Emphasis added]<sup>41</sup>

The 1997 Federal Response underscores the importance of achieving effective compensation.

*“The Government of Canada’s objectives for ecological integrity for Jasper National Park, a World Heritage Site, must be safeguarded, as the potential remains for the proposed mine to adversely impact the Park. Cumulative effects of the proposed mine remain a threat to the viability of indicator species such as grizzly bears.”*

The 2001 Federal Response includes the commitment that the Strategic Framework will achieve the establishment of threshold landscape conditions to protect grizzly bear habitat and limit road densities in the region by February 2003.

As well, regarding habitat protection for grizzly bears, the 2001 Federal Response stated that:

*“Since the 1997 Panel report, Alberta has established a Whitehorse Wildland Park and implemented a management plan, which restricts motorized use of grizzly bear habitat. The Panel, rightly, recommends that this protection be extended to the Cardinal River headwaters adjacent Jasper National Park boundaries.”*

While the loss of carnivore habitat cannot be adequately mitigated within the 7,455 hectare area of the mine permit, and thus compensation is required within the region, this does not negate or lessen the requirement for project-specific mitigation within the mine permit area. Hence, since December 2000, it has been a condition of the mine permit that the approval holder,

*“shall, in consultation with the EUB, continue to refine the details of its mine plan to minimize the impact of the mine on grizzly bears. Specifically, the Permittee will review and address the effects of upcoming management plans for the Whitehorse Wildland Park; threshold values for landscape indicators; the development of the Strategic Framework; regional access management plans, and the response of the provincial*

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<sup>40</sup> Report of the EUB-CEAA Joint Review Panel, August 2000, p. 103.

<sup>41</sup> Alberta Energy & Utilities Board, Permit No. C 97-4 and C 2003-4.

*government to the Panel's recommendation for further protection of the Cardinal headwaters.*"<sup>42</sup>

### **Status: Prime Habitat Being Destroyed For a Threatened Species and No Compensation in Place**

Despite there being more than three years available from when mine permit condition 6 (d) was issued to commencement of construction, to our knowledge there is no detailed grizzly bear mitigation plan for the area of the mine permit. Furthermore, since the issuance of the condition, rather than the mine plan being refined to minimize its impact on grizzly bears and the prime habitat located there, the converse has been done. The McLeod River valley between the original Luscar and Cheviot mine areas, which is grizzly bear habitat and one of their main movement corridors, has been turned into an industrial site with 24-7 activity every day of the year.

The approach of the approval holder to date regarding grizzly bear mitigation and compensation can be characterized as one of reacting to damage once it has occurred, rather than a proactive approach of implementing the required mitigation and compensation. In the view of the EAB, "the Approval Holder should be taking a proactive approach to minimizing environmental effects rather than a reactive approach to damage that has already occurred."<sup>43</sup>

The Cheviot mine project first received provincial approval August 1997 with the issuance of the mine permit by the Alberta Energy and Utilities Board, and Federal approval October 1997 with the issuance of the Federal Response. The first regulatory approvals were issued August and September 1998, with the Fisheries and Oceans authorizations for the mine's access corridor and industrial complex, and the same months with the Alberta Environment approvals for the same phases of the development. Evidence that regional planning initiatives had adequately addressed predicted impacts on grizzly bears was to have been provided by September 2001. No such evidence was provided, because, even through to the current date, no Carnivore Compensation Program has been completed and implemented.

The approval holder and provincial departments had an additional 2.5 years within which to complete this work, on top of the stipulated three-year timeframe, before construction of the mine development commenced. And still, no Carnivore Compensation Program has been completed and implemented.

Furthermore, the Joint Review Panel recommended that the headwaters of the Cardinal River be protected. The Federal Response included the implementation of that recommendation as part of the basis upon which it accepted the Panel's recommendation that the mine be approved. The area has not been added to the Whitehorse Wildland Park, nor has it been protected in any other like manner.

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<sup>42</sup> Alberta Energy & Utilities Board, Permit No. C 2000-37 and No. C 2003-4, 6 (d).

<sup>43</sup> Alberta Environmental Appeals Board, Report & Recommendations, Feb. 24, 2005, p [183].

This lack of a Carnivore Compensation Program was made known, in writing, in a November 14, 2002 letter by the Superintendent of Jasper National Park to Alberta Environment and specifically the department's Regulatory Approvals Centre's Director for the Central Region.

*"...there has been little tangible progress in advancing the Grizzly Bear Strategic Framework's landscape goals. The dissolution of the Northern East Slopes Environmental Resources Committee raises serious questions about accountability for implementing the framework. It is our view that without effective landscape-scale mitigation of potential effects on grizzly bears, the approval conditions for the Cheviot proposal will not be met.*

*We continue to hold the view, which was supported by the Joint Review Panel, that a comprehensive mitigation program for grizzly bears must be developed and administrative mechanisms put in place to ensure security of habitat use and movement before irreversible land use changes are made."*

A Carnivore Compensation Program has not materialized since that November 2002 letter. Nor has the committee responsible for its implementation.

The Joint Review Panel provided the following intent to revisit its approval of the Cheviot project, should evidence of effective mitigation not be in place within three years of the project approval. It provided that:

*"First, the Panel concluded that it will be possible to mitigate, on a regional basis, the impacts to bear populations. Second, should these mitigation programs not be in place within three years after receipt by CRC of the necessary licences and permits, the Panel is prepared to revisit its approval at that time, on the assumption that any impacts to bears in particular would still be reversible."*<sup>44</sup>

We now expect the Joint Review Panel to revisit its approval of the Cheviot mine.

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<sup>44</sup> Report of the EUB-CEAA Joint Review Panel, August 2000, p.135.