



Mackenzie Valley Environmental Impact Review Board

February 7, 2002

MVEIRB file: EA01-005

The Honourable Robert D. Nault, P.C. M.P.
Minister
Indian and Northern Affairs Canada
MINISTER'S OFFICE
10 Wellington St North Tower
Hull, P.Q., Canada
K1A 0H4

Dear Mr. Nault,

The Mackenzie Valley Environmental Impact Review Board (Review Board) is pleased to convey its *Report of Environmental Assessment on the Patterson Sawmill Timber Harvesting development*, modified on January 31, 2002, after consultations with the Government of the Northwest Territories, Department of Resources, Wildlife and Economic Development. The *Report of Environmental Assessment* constitutes the Review Board's written reasons pursuant to s.121 of the *Mackenzie Valley Resource Management Act* (Act).

As required by ss.128(2) of the Act, the *Report of Environmental Assessment* will be provided to Patterson Sawmill Ltd. and the preliminary screeners.

Sincerely,

A handwritten signature in blue ink that reads "T. Burlingame".

Todd Burlingame
Chair

Attachment: Report of Environmental Assessment

Mackenzie Valley Environmental Impact Review Board

Report of Environmental Assessment On the Patterson Sawmill Ltd. Pine Point Area Timber Harvest Proposal

September 17, 2001

Mackenzie Valley Environmental Impact Review Board
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Mackenzie Valley Environmental Impact Review Board

Executive Summary Report of Environmental Assessment on the Patterson Sawmill Ltd. Pine Point Timber Harvest Proposal

The Review Board has been guided by the principles outlined in sections 114 and 115 of the Mackenzie Valley Resource Management Act (MVRMA or Act) throughout this environmental assessment (EA). These include the need to protect the environment from significant adverse impacts, and to protect the social, cultural and economic well-being of residents and communities in the Mackenzie Valley. Having considered the views and concerns of the participants in this process, and the evidence on the public registry, the Review Board made its decisions according to section 128 of the Mackenzie Valley Resource Management Act.

The Review Board recommends approval of the proposed development subject to section 128(b)(ii) of the Mackenzie Valley Resource Management Act, and considers it necessary to impose the following measures to prevent significant adverse impacts.

- That two-5,000m³ Timber Cutting Permits be granted.
- That RWED will undertake an interim timber supply analysis for the area between the Big Buffalo and Little Buffalo rivers, south of Great Slave Lake. This analysis is to be completed by November 2002. A complete timber supply analysis will be completed for the area in 2008. Applications for either timber cutting permits or licences for commercial purposes in this area, received before the completion of the interim timber supply analysis, will be subject to section 5(1)(d) of the Northwest Territories Forest Management Regulations.

The Review Board has made this decision based on the commitments and undertakings to mitigate environmental impacts made by Patterson Sawmill Ltd., and the analysis provided by independent government experts. If these measures are not implemented, or the analysis provided is not independent, the Review Board's conclusions about impact significance could be affected.

Mackenzie Valley Environmental Impact Review Board
September 17, 2001.

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1 General Information

This section of the Report of Environmental Assessment summarizes the development proposal under consideration, the roles and responsibilities of the Mackenzie Valley Environmental Impact Review Board (Review Board or Board) and the environmental assessment process to which the development proposal was subjected.

Patterson Sawmill Ltd. (Patterson) applied to the Government of the Northwest Territories (GNWT), Department of Resources, Wildlife and Economic Development (RWED) and the Mackenzie Valley Land and Water Board (MVLWB) on July 4 and July 11, 2000 respectively, for a Timber Cutting Licence¹ and a Type 'A' Land Use Permit. During review of the Timber Cutting Licence Application by RWED, Mr. Patterson and RWED agreed to amend the application from a 50,000m³ Timber Cutting Licence to two-5,000m³ Timber Cutting Permits². RWED, in its preliminary screening of the Timber Cutting Permit dated December 14, 2000, notified the Review Board that the GNWT would be issuing two-5,000m³ Timber Cutting Permits to Patterson on December 20, 2000. The Mackenzie Valley Land and Water Board (MVLWB), after completing its preliminary screening of the proposed development, issued Land Use Permit MV2000W0018 on December 15, 2000. The Deninoo Community Council (Fort Resolution Council) in its December 19, 2000, letter to the Review Board requested an environmental assessment (EA) of the Patterson development.

This report constitutes the reasons for decision of the Review Board and the report of environmental assessment and recommendations required by the Act.

2 Referral of the proposed development to the Review Board

As per ss.126(2)(c) of the Act, on December 19, 2000, Mayor Richard Simon, Mayor of the Deninoo Community Council wrote to the Chair of the Review Board asking for an environmental assessment of the Patterson Sawmill Ltd. timber cutting proposal near Pine Point. He indicated that his community was concerned that animals might not come back to the harvest area for many years. He was also concerned about compensation for the local trappers and harvesters. Mayor Richard Simon also noted that Fort Resolution did not want any development of "this nature" until the community had completed its integrated resource management plan.

Mayor Richard Simon said his council felt the area had gone through enough impact from the Pine Point Mine and past exploration activities. He also said that if environmental assessment clearly showed the timber operation would not adversely affect the area, that the community would consider supporting a logging operation.

¹ A Timber cutting licence provides for a five year planned harvesting of timber subject to RWED regulatory authority.

² A Timber cutting permit provides for a one year timber harvesting program. A permit to authorize the harvest of up to 5,000 m³ subject to RWED regulatory authority. Mr. Patterson would have to get two Timber Cutting Permits.

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2.1 The Mackenzie Valley Environmental Impact Review Board

The Mackenzie Valley Environmental Impact Review Board administers Part 5 of the MVRMA and has decision-making responsibilities in relation to the proposed development. The Board must conduct an environmental assessment of the proposed development in accordance with subsection 117(2) of the Act. The Board is also required to prepare and submit its report of environmental assessment in accordance with ss.128(2), a decision under ss.128(1), and written reasons, required by s.121, to the Federal Minister of the Department of Indian Affairs and Northern Development (INAC).

As part of its environmental assessment, the Review Board considered the following reports:

- Terms and conditions included in and forming part of Timber Cutting Permit #TP001828a & TP001828b.³
- Patterson Sawmill Ltd., Timber Supply Review, Forest Management Application FA001828. Prepared by Rafe Smith, the Silviculture Operations Coordinator, Forest Development Services, RWED.
- Timber Cruise Results, Timber Licence Application – FA001828, South Slave Regional Forest Management, RWED.
- Northwest Territories Timber Harvest Planning and Operating Ground Rules v.1.3, Forest Management Division, RWED, June 2000.
- Timber Cutting Permit #TP001577, Patterson Sawmill Ltd., Terms and Conditions included and forming part of Timber Cutting Permit #TP001576. December 24, 1999.
- Patterson Sawmill Ltd. Environmental Review, Environmental Assessment Report prepared by Patterson Sawmill Ltd. February 13, 2001.

3 General description of the development environment

The following section describes the environment in the proposed timber cutting area. The information presented is referenced to the GNWT, RWED July 6, 2001, Information Response submission.

The “Ecosites of Northern Alberta”⁴ denote the proposed timber cutting area as a “Boreal Mixedwood” ecological area in a “low-bush cranberry” ecosite phase, and “white spruce/feather moss” plant community type. The proposed timber cutting area is dominated by mature and over-mature white spruce. RWED reports that the climax plant community in the area of the proposed timber cutting has developed over time (100-150+ years) on some of the elevated rounded ridges and small plateaus within the area surrounding Pine Point and to the west of the Little Buffalo River. These areas tend to provide deeper, more fully developed, fine textured, better-drained (therefore warmer), more nutrient-rich mineral soils, and have escaped fire - the major natural disturbance event within the region. Patterson, in a letter dated January 4, 2001, notes that the timber in the proposed timber cutting area is located on high, well-drained ground, and that there are no streams, bodies of water or steep terrain in the area.

³ Timber Cutting Permit #TP001828a & TP001828b3 were referred to environmental assessment by the Deninoo Community Council pursuant to section 126(2)(c) of the Mackenzie Valley Resource Management Act. The documents referred to are the Terms and Conditions that formed the basis for the RWED authorizations to Patterson Sawmill Ltd.

⁴ The most relevant ecosite classification field guide currently available to assess the proposed development area.

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Patterson notes that the timber in the proposed timber cutting area is over mature. He adds that there is evidence of a severe infestation of insects including spruce budworm. RWED concludes in its timber cruise⁵ that timber in the proposed cutting area is mature to over mature; that many trees exhibited dead and rotten branches; that some of the trees had rotten cores; some of the stand had suppressed understory at low densities; and, that severe spruce budworm defoliation was evident as was bark beetle damage in some areas. The Department of RWED believes that the merchantable timber of the area is in poor health, beginning to drop out of the stand, and that it should be considered prime for harvest as its value as a timber resource is in decline. RWED also concluded that there are patches of healthy regeneration present, and patches of spruce regeneration of all ages.

The areas of suitable white spruce timber (volume/hectare and quality) within the proposed harvest development area are discontinuous and occur in pockets of a few hectares to, at most, tens of hectares.⁶ Dominant trees species at the landscape level within the area of the proposed development are jackpine, black spruce and white birch. Less dominant are white spruce, aspen, balsam poplar and tamarack. The Department of RWED pre-harvest ecological assessment of the proposed harvest area reported a dominance of white spruce with secondary presence of aspen and, in a letter dated July 10, 2001, RWED confirmed that the proposed timber cutting area is situated in what is largely a "scrub forest" with only sporadic clumps of white spruce.⁷

In general, the proposed harvest development is situated in an area characterized either by black spruce bogs (wet, cold, nutrient poor organic soils - a result of areas of local or regional ground water discharge) or jackpine dominated stands that occur in those areas where soils are thin (close to bedrock), poorly developed, rapidly drained and/or coarse textured.

The only extensive forest information available for the subject harvest is out-of-date and very general. It is based on circa 1950 Government of Canada aerial photography⁸ and more recently preliminary Landsat-based (remote sensing) vegetation classification.⁹ No comprehensive and extensive species-level renewable

⁵ A timber cruise is a measurement of a representative sample of trees on a property to determine the total quantity and quality of standing timber on the property.

⁶ GNWT Department of RWED, Mr. Rafe Smith, Silviculture Operations Coordinator, Forest Development Service completed a Timber Supply Review of the Patterson Sawmill Ltd., Forest Management Application FA0001828 in early November 2000. GNWT Department of RWED concluded based on research data that there is approximately 35,000m³ to 45,000m³ of merchantable sawlogs in the area around Pine Point.

⁷ GNWT Department of RWED, Mr. Rafe Smith, Silviculture Operations Coordinator, Forest Development Service completed a Timber Supply Review of the Patterson Sawmill Ltd., Forest Management Application FA0001828 in early November 2000. GNWT Department of RWED concluded based on its research, that about 40% of the proposed cutting had marginal volumes of timber and would probably prove uneconomical to harvest.

⁸ A 1961 inventory of the Buffalo River is based on older aerial photography. This inventory covered the area near Pine Point but not the Little Buffalo River area.

⁹ As part of RWED's due diligence, Danny Patterson was interviewed and provided oblique aerial photos of the area around Pine Point; a 1961 inventory of the Buffalo River area was reviewed; the Pine Point cutblock layout was

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resource (plants or animals) assessment or survey data is available for the area of the proposed development. The occurrence of rare plant species or communities and wildlife species within the proposed development area is unknown. Species on the COSEWIC list that may be found in the proposed timber cutting area include:

Threatened

- ▶ Woodland Caribou (Woodland Caribou are proposed for the COSEWIC list), Wood Bison, Peregrine Falcon.

Special Concern

- ▶ Yellow Rail, Short-eared Owl and Wolverine.

4 Development description

The Review Board must make a determination regarding the scope of development according to ss.117(1) of the MVRMA. This section describes the Review Board's determination of the scope of the Patterson Sawmill Ltd. timber harvest development.

4.1 *Principal Development*

The development proposes:

- ▶ Cutting 10,000m³ of 20 cm diameter at breast height (DBH) white spruce timber from about a 60-hectare area.

4.2 *Accessory Developments and Activities*

- ▶ 4 Km of winter road construction from Territorial Highway No. 6 to the landings in the timber cutting area;
- ▶ two cabooses for camp purposes;
- ▶ clearing of landings 30 m x 85 m (maximum length);
- ▶ cutting down trees using chainsaws and skidding them to landings;¹⁰
- ▶ use of a two wheel skidder, one cat tractor, one front end loader, one grader, 2 logging trucks for the timber operation;
- ▶ removal of garbage and sewage from the timber cutting site;
- ▶ winter road maintenance;

inspected and a volume cruise was performed to assess the potential of the stand; the Landsat image of the entire application and surrounding area was reviewed to identify additional timber resources in the area; 1:20,000 aerial photography of the Little Buffalo River area and the Pine Point area was analyzed; and, a helicopter was chartered to fly the application areas and to assess the timber and condition of the surrounding forest.

10 The GNWT Department of RWED Timber Cutting Permit #TP001828a and TP001828b Patterson Sawmill Ltd. 2000-2001 Operating Plan, Appendix 1: Harvesting Techniques issued on December 21, 2000 requires that skid trails not exceed 7 metres in width and at least 14 meters apart; that all white spruce 17.8 cm or larger at DBH be harvested from the harvest area; that *clear cut blocks* be limited in size to 15 hectares with no blocks greater than 20 hectares; that all harvest blocks have a maximum site distance of 200 meters; that all advanced growth or regeneration be protected from unnecessary damage; and that a protection buffer be retained along all watercourses and associated riparian areas.

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- ▶ access to Territorial Highway No. 6;
- ▶ removal of brush, trees and overburden as per GNWT logging regulations;
- ▶ use of three mobile fuel containers, one 560 L diesel tank and two 40 L gas tanks;
- ▶ site restoration in accordance with GNWT timber regulations and Federal regulations; and
- ▶ employment.

4.3 Scope of Assessment

In its terms of reference, the Review Board established the scope of assessment for the evaluation of impacts from this proposed development. In doing so, and, consistent with ss.117(2) of the Act, the Review Board also took into account the effect of malfunctions or accidents that may occur in connection with the development; any cumulative effect that was likely to result from the development in combination with other developments; and any public comments.

4.3.1 Consideration of the previous environmental assessments

In accordance with s.127 of the MVRMA, the Review Board is required to consider any report made in relation to the development proposal under the Canadian Environmental Assessment Act (CEAA) and the Environmental Assessment and Review Process Guidelines Order (EARPGO) before the proclamation of the MVRMA. There were no such reports to consider on the public registry.

4.3.2 Summary of potential impacts from the Patterson Sawmill Ltd. development proposal

After receiving comments on the Draft Terms of Reference, the Review Board settled on the following as the components of the environment that had to be evaluated for impacts from the proposed developments i.e., scope of assessment:

Alternatives

Impacts of economically and technically feasible alternatives to components of the proposed development

Physical and Biological Environment

Vegetation and Plant Communities

local plant communities

rare or highly valued species

long-term, direct and indirect, habitat loss or alteration

Wildlife and Wildlife Habitat

wildlife

wildlife habitats

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migratory birds

vulnerable or endangered Wildlife in Canada, (COSEWIC) list

Human Environment

Land and Resources Use

Existing land use and occupation

Hunting, trapping

Accidents and Malfunctions

Chance and size of an accident or malfunction

Contingencies in place in the event of an accident and/or malfunction

Cumulative Impacts

Cumulative impacts to vegetation and wildlife resulting from the proposed timber cutting development

4.4 Consultation

This section summarizes the consultation undertaken in the course of this environmental assessment.

On January 16, 2001, the Review Board issued Draft Terms of Reference and a Draft work plan (documents) for consultation. The Draft documents were distributed to the Patterson Sawmill Ltd., the Deninoo Community Council, the Deninu Ku'e First Nation, the Fort Resolution Metis Council, the Deninu Ku'e Environment Working Committee, the Hay River Band (K'atodeeche First Nation), the Hay River Metis government, the Government of the Northwest Territories, the Canadian Parks and Wilderness Society, Ecology North, the Department of Fisheries and Oceans, the Mackenzie Valley Land and Water Board, Environment Canada, Natural Resources Canada and Indian and Northern Affairs Canada. The Review Board staff also contacted the Patterson's to discuss the Draft Terms of Reference and the Draft work plan, and to offer procedural assistance as needed. The documents were also placed on the public registry, and on the Review Board's web site.

4.4.1.1.1 Conclusion

The Review Board accepts the communication and consultation effort undertaken by the proponent in this environmental assessment.

5 Environmental Assessment

This section of the report addresses the environmental assessment processes and the findings of the environmental assessment. The Review Board provides its findings in the conclusion of each section. Where the Review Board finds a likely significant adverse impact on the environment, it can recommend measures it considers necessary to prevent the significant adverse impact, order an environmental impact

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review, or recommend rejection of the proposal. Where the Review Board finds that a development is *likely* to be a cause of significant public concern, it can order an environmental impact review of the development.

5.1 Summary of the environmental assessment process

The public record shows that during the preliminary screening of the proposed timber cutting development the Department of RWED amended the Patterson Sawmill Ltd. Timber Cutting Licence proposal and approved issuing two-5,000 m³ Timber Cutting Permits to Patterson Forestry Ltd., on December 20, 2000, after completing a preliminary screening of the two Timber Cutting Permits. Those permits were for an area near Pine Point otherwise referred to as area one.¹¹

Mr. Patterson of Patterson Sawmill Ltd. wrote to the Honourable Robert Nault Minister of Indian and Northern Affairs on January 17, 2001, and phoned the Review Board's office on the 19th. In his letter, Mr. Patterson indicated that he was long standing member of the northern business community with good working relations with First Nations. Mr. Patterson noted the six months of consultation by the Department of RWED and the Mackenzie Valley Land and Water Board and the approvals provided by all government agencies and the MVLWB.

On January 25, 2001, the Review Board considered submissions on the Draft documents and issued its final Terms of Reference and Work Plan. On May 21, 2001, Mr. Patterson submitted an Environmental Assessment Report. That report did not conform to the Terms of Reference. On April 27, 2001, a request for clarification was issued to Mr. Patterson, and an Information Request (IR¹²) authorized by the Review Board was issued to the Department of RWED. On July 6, 2001, The Department of RWED submitted its IR response. With the information requested, the Review Board closed the conformity on July 12, 2001.

On July 13, 2001 the technical comment period closed, and on July 20, 2001, the public registry was closed.

¹¹ Mr. Patterson originally applied for a 5-year timber license in June 2000 for area 1 (Pine Point) and area 2 (Little Buffalo River). The Department of RWED offered Mr. Patterson two Timber Cutting Permits in area 1, each for 5,000 m³ for one year. The Department of RWED facilitated negotiations between Mr. Patterson and representatives of the Deninu Ku' First Nation on June 20, 2000. According to Patterson Sawmill Ltd., there appeared to be an agreement. In that agreement, as per correspondence dated June 21, 2001, Patterson would provide \$2 for each 1m³ of timber cut, \$5,000 for each trapper directly impacted, negotiate falling, skidding etc. with Fort Resolution companies whenever possible, and hire Fort Resolution workers for available jobs in logging and milling, excluding jobs held by Patterson family members. Mr. Patterson thought there was an agreement in place. Representatives of Fort Resolution thought there was no agreement in place.

¹² Information requests are an interrogatory in the form of written questions and answers.

5.2 Findings: Temporal and Spatial Boundaries

5.2.1 Spatial Boundaries

The terms of reference specified scoping of spatial boundaries based on the zone of influence of the proposed development on wildlife and, resulting impacts to wildlife harvesters living in Fort Resolution.

5.2.2 Temporal Boundaries

The terms of reference specified scoping the temporal boundaries to include all phases of the proposed development including site preparation, harvesting, closure and site rehabilitation. That is, all the positive and negative impacts on wildlife and wildlife harvesters from Fort Resolution from the start-up to the closing down and restoring of the proposed development are included in the environmental assessment.

5.2.2.1.1 Conclusion

The Review Board concluded that the spatial and temporal scope of the assessment enabled a reasonable and realistic reporting of environmental impacts resulting from the proposed development.

5.3 Findings: Definitions of Significance

It is the responsibility of the Review Board to decide when an effect, or change in the environment, that is caused by the development, or the development in combination with other developments is significant. Section 128 of the MVRMA requires the Review Board to decide whether the Patterson Sawmill Ltd. development proposal will, in its opinion, likely have a significant adverse impact on the environment or be a cause for significant public concern, and report to the Minister of Indian and Northern Affairs Canada.

To facilitate the process, the Review Board considered the residual impact of the proposed development in terms of the following attributes as applicable:

- magnitude
- geographic extent
- timing
- duration
- frequency
- irreversibility of impacts; and
- probability of occurrence and confidence level.

5.3.1.1.1 Conclusion

The Review Board would like to comment on the matter of significance determination. The Board prefers to have an EAR emphasize the reporting of residual impacts using acceptable reporting attributes such as those in section 5.3, and refrain from drawing significance conclusions. The MVRMA requires that the Review Board decide if a development will likely have a significant adverse impact or cause a significant

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public concern based on the evidence provided on the public registry. The Review Board notes that its instructions were adhered to, and that it has reached its significance findings based on the information included in the public registry.

5.4 Alternatives to the proposed development

The Terms of Reference requested Patterson Sawmill Ltd. to provide a description of the alternatives to the principle and accessory development and to provide the risks associated with each alternative.

5.4.1 Alternative to the Principle Development

The Patterson Sawmill Ltd. indicated there were no viable alternatives to the practice of clear-cutting the area and selectively keeping specific timber based on size, and quality characteristics as established, authorized, and regulated by the Department of RWED. Patterson Sawmill Ltd. further indicated that 37 years of timber harvesting experience provided a sound basis for determining the most adapted and practical method for the harvest of timber in an environmentally responsible manner.

5.4.1.1.1 Conclusion

The Review Board accepts Patterson Sawmill Ltd.'s assertion that there are no viable alternatives to the principle and accessory development.

5.5 Analysis of Environmental Effects

The following section contains the Review Board's conclusions and recommendations for the environmental, and cumulative environmental effects of the proposed development. Environmental effects analyses are based on information contained in the Patterson Sawmill Ltd. environmental assessment report, augmented with information from Information Requests and documentation on the Public Registry.

For each environmental effect, the Patterson Sawmill Ltd. position, reviewer's comments, and the Board's conclusion and recommendation are presented.

5.5.1 Physical and Biological Environment

This section of the report includes vegetation, plant communities, wildlife, wildlife habitat, land and resource use and cumulative impacts. The Review Board did not discuss all Terms of Reference matters listed. Instead, this Report of Environmental Assessment focuses on those matters that the Review Board feels warrant discussion. For any other matters, the Review Board was satisfied with the Environmental Assessment Report and supporting documentation filed by Patterson and government reviewers, and expects all commitments will be fulfilled.

5.5.1.1.1 Effects on Vegetation and Plant Communities

Patterson Sawmill Ltd. asserts that the impact of the proposed development on vegetation and plant communities is insignificant, and that damage to the environment, if any, is temporary, since new forest

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will reappear.¹³ Patterson notes the intensive fieldwork, aerial reconnaissance, boundary marking, wildlife corridor identification, and other Department of RWED requirements before completing his application for a timber cutting permit. Patterson also notes that the MVLWB includes regulatory measures in addition to those of the Department of RWED, and that combined, there is assurance that significant environmental impacts are avoided or mitigated. Patterson adds that the proposed timber cutting would amount to less than 0.008% of the land mass of the Pine Point/Little Buffalo area and that the timber is in need of cutting as it is infested, old and losing its economic value.

The Department of RWED asserts, based on site observations, analysis of the Landsat data, and the 1994 aerial photo series, that the main body of concentrated merchantable white spruce covers about 600-ha.. The estimates of the main body of the wood range from 70,000m³ to 100,000m³. The Department of RWED's analysis,¹⁴ based on research data suggests there are approximately 35,000m³ to 45,000m³ of merchantable sawlogs in the vicinity of the proposed development. The Department of RWED provided additional information regarding the apparent discrepancy between the reported white spruce timber volumes. The Department of RWED indicated the larger reported volumes (70,000m³ to 100,000m³) represents a review of timber supply to confirm the capacity of the forest resource to supply the merchantable volumes of timber for the proposed development, the lower reported volumes (35,000m³ to 45,000m³) are a review of the numerical results on a landscape basis in the area of the proposal. The Department of RWED notes that the lower reported volumes, while arriving at a lower estimate of volume per hectare of forest, do not disagree significantly with the merchantable volume analysis. RWED does however emphasize that "harvesting of merchantable volumes should be restricted to ensure that environmental integrity is maintained." RWED also adds that the harvest areas of the proposed development represent a significant percentage (the total estimated area is 60-70 hectares out of an estimate of +/- 250 hectares in the one area) of the forest stands.

An operational cruise of Timber Licence Application – FA001828 prepared by the RWED, South Slave Regional Forest Management Division notes that there is no adequate mapping or survey information for the subject timber cutting area. The report adds that any long-term disposition of forest resources would certainly not be within any estimate of a sustainable Annual Allowable Cut (AAC) value.

In a letter dated July 10, 2000, the RWED Regional Forester notes the areas noted for timber cutting near Pine Point are very large, and from the airphotos, seem to be largely scrub forest with sporadic clumps of white spruce, and that more specific harvest locations would be needed on any harvesting authorization. The Regional Forester also indicates that actual merchantable timber stands are spread across a wide area and are found in small and sporadic clumps. Further, the Regional Forester notes that areas near the highway have significant understories that would be unfortunately damaged "just to remove a small percentage of merchantable white spruce" and references a similar "near highway" area request by Long

¹³ Patterson Sawmill Ltd. letter dated January 4, 2001 to the Acting executive director of the Mackenzie Valley Environmental Impact Review Board.

¹⁴ GNWT Department of RWED, Mr. Rafe Smith, Silviculture Operations Coordinator, Forest Development Service completed a Timber Supply Review of the Patterson Sawmill Ltd., Forest Management Application FA0001828 in early November 2000.

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Island Logging of Fort Resolution that was turned down based on concerns pertaining to damage to residual growth. He also indicated that by correspondence dated July 10, 2001, that previous RWED work suggested that the AAC for the North Slave in the 10,000m³ to 15,000m³ range for white spruce and that the proposed development proposal would consume most of what had been traditionally allocated to the firms of Fort Resolution.

The Department of RWED concluded that ecologically “there are no special considerations that apply to the stands in the area, and regeneration efforts will be standard fare.” RWED adds that: harvesting the area will be easily accomplished by application of the GNWT *Timber Harvesting Guidelines*, there is more timber available in the application area that has not been identified in detail; there are also considerable juvenile spruce resources in the area that will continue to add to the existing timber supply with time. RWED conclusion is that the forest resource in the Pine Point and Little Buffalo River area indicates that there is sufficient timber volume available to sustain a small 10,000m³ harvesting operation for 10 to 14 years.

RWED compiled a list of plant species present in the NWT, with notes, among others, on the number of occurrences and habitat. This list is preliminary and was derived almost entirely from McJannet CL, Argus GW and Cody WJ. The list does not constitute an official list of rare plants in the NWT. The existence of any rare plant species or communities within the proposed development area is unknown. RWED recommends that to address this concern further would require an extensive and intensive botanical resource survey and assessment of the area by a professional botanist.

5.5.1.1.1 Conclusion

The Review Board finds that the effects on vegetation and plant communities will likely cause a significant adverse environmental effect. The Review notes that based on the information available on its record a policy decision to allow a one-time 10,000m³ timber cutting development of old growth white spruce using two Timber Cutting Permits appeared justifiable and insignificant. However, the Review Board in arriving at its decision took into consideration that a previous timber cutting application was disallowed by RWED based on understory growth issue and that RWED had not established a sustainable AAC for white spruce in the area. The Review Board is also concerned that the proposed development could reduce the inferred standing white spruce volume anywhere from 10% to 25%, not including understory growth, and what is otherwise termed scrub bush.

The Review Board is also concerned that the GNWT does not maintain a current list of rare plants in the NWT, and that in the absence of such information significant impacts to rare plants is possible at a localized scale or by small terrestrial disturbances.

5.5.1.1.2 Recommendation

The Review Board appreciates the independent professional judgment exercised by RWED and its staff, and the importance of stewarding renewable resources and the ecological functions and processes that support those resources, in a sustainable manner. The Review Board is also sensitive to the economic needs of Mr. Patterson, his family and employees, and of the residents of the Mackenzie Valley and has carefully considered the measures it considers necessary to prevent the significant adverse impacts. The Review Board therefore recommends limiting the proposed development to two-5,000m³ Timber Cutting Permit and that RWED undertake an interim timber supply analysis for the area between the Big

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Buffalo and Little Buffalo rivers, south of Great Slave Lake. This analysis is to be completed by November 2002. A complete timber supply analysis will be completed for the area in 2008. Applications for either timber cutting permits or licences for commercial purposes in this area, received before the completion of the interim timber supply analysis, will be subject to section 5(1)(d) of the Northwest Territories Forest Management Regulations.

5.5.1.1.2 Effects on Wildlife and Wildlife Habitat

Patterson Sawmill Ltd. concludes that the impact of the development proposal to wildlife and wildlife habitat is positive. Patterson notes that timber cutting creates alternative viable habitat that attracts fur bearing animals and moose, and that there is no evidence to suggest there will be a loss of trapping should the development proposal proceed. Patterson cites tracks of foxes, wolves and coyotes inside harvested areas as evidence that areas are used by wildlife after the timber is harvested. Patterson adds that logging residue left on the land enhances rodent habitat and that given a wintertime logging operation the impact on wildlife is further reduced.

The GNWT Department of RWED indicates that the short-term impact on plant communities brought about by the proposed timber cutting, such as new plant growth, would attract and benefit e.g., snowshoe hare, lynx, moose, ruffed grouse, sharp-tailed grouse, deer mice, meadow voles. RWED also cites that the harvesting activity could negatively impact wildlife that favour old growth white spruce stands e.g., marten, red squirrel, woodland caribou, red-backed voles. RWED notes that the greatest single impact on wildlife would result from improved access for hunting and trapping. Wildlife species such as the threatened Woodland Caribou would be particularly vulnerable to increased access and hunting pressure that could result because of the proposed development. Woodland caribou are known to occur in the area of the proposed development. However, the level of populations and the importance of this area as critical habitat are unknown at this time.

RWED also concluded that the removal of old growth stands such as the white spruce targeted for harvest could impact animals such as woodland caribou that *may* need "thermal cover." RWED notes that scientist do not agree about the value of old growth white spruce stands as thermal cover, or on the importance of thermal cover for survival. However, scientists do agree that animals e.g., caribou, that are subjected to continual harassment or disturbance will often seek out dense forest cover for "hiding cover." The Department of RWED Regional Forester sums up the issue by noting in previous correspondence that "small scattered stands of mature white spruce may represent wildlife support function important to the area."

RWED concludes that the proposed development could result in increased harvest pressures on moose, woodland caribou, and other species in the area. On the other hand, RWED notes, the proposed development will change the old growth forest into a new growth forest and support wildlife species such as moose, lynx, and hares. RWED considers that the proposed timber cutting area represents a small percentage of the known area of the forest type in the region and is therefore not considered a significant impact.

5.5.1.1.2.1 Conclusion

The Review Board concludes, based on the evidence provided, that the effect of the proposed development

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is not likely to have a significant adverse impact on wildlife and wildlife habitat and will likely not be a cause for significant public concern.

5.5.1.1.2.2 Recommendation

No recommendations made.

5.5.2 Human environment

This portion of the report of environmental assessment covers land and resource use. The Review Board does not discuss all Terms of Reference matters listed. Instead, this report of environmental assessment focuses on those matters that the Review Board feels warrants discussion. For any other matters, the Review Board was satisfied with the Environmental Assessment Report and supporting documentation filed by Patterson and government experts.

5.5.2.1.1 Land and Resources Use

Patterson Sawmill Ltd. concludes that the impact of the proposed development on the use of land for wildlife harvesting purposes is negligible, and that any possible impacts are more than offset by the employment and income created.¹⁵

The Department of RWED concluded that the proposed development would likely be beneficial for harvesters. This conclusion is supported by the view that improved access into hunting and trapping areas improves hunting opportunities, and that harvesting old growth white spruce will result in more new plant growth and attract wildlife that like new growth such as grouse, snowshoe hare, lynx moose - species that are actively sought after by local resource harvesters.

Patterson believes one trapper is directly impacted and another possibly indirectly affected by the proposed development. Patterson in a letter of clarification dated April 27, 2001, indicated that the fieldwork for the timber applications revealed no traps, but that there was evidence of traps placed along the cut line leading to the proposed timber cutting area. On further inquiry, he found that they belonged to a Mr. Lawrence Fabian. Patterson also noted that Mr. Eddie Lafferty trapped in the vicinity (some 20 or 30 Km) east of the proposed timber cutting area and that because hunting is unrestricted, and that anyone with a licence can hunt in the area, that hunters would benefit by having improved access and more wildlife move into the newly cut areas such as moose.

RWED notes that the proposed timber cutting area is part of the hunting and trapping area for the people of Fort Resolution, and that four trappers from the community of Fort Resolution: Eddy Lafferty, Sonny Edward Balsillie, Greg Balsillie, and Lawrence Fabian harvest fur resources from the area. RWED provided reported fur harvest information to support its investigation. RWED's Regional Forester notes in his correspondence dated July 10, 2001, that the "needs of Fort Resolution must receive proper priority

¹⁵ Patterson cites the offer to the community of Fort Resolution of \$2.00 per m³ of timber harvested and the offer of \$5,000 for each trapper affected in compliance with GNWT compensation agreement for trappers.

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consideration.”¹⁶The Fort Resolution Metis Council in its letter dated July 5, 2001, expressed concern that more than four trappers are impacted by the proposed development and that the area has historically been used to “pick berries, hunt small and big game, as well as gathering medicinal plants”...and that “harvesting is done on an “as needed” basis...”

5.5.2.1.1.1 Conclusion

The Review Board concludes based on the evidence provided, that the effects of the proposed development on land and resource use will not cause a significant adverse environmental effect, but, *may* cause significant public concern. The Review Board in arriving at its conclusion noted the inconclusive information provided by RWED and Patterson in their response to the ToR, and RWED’s acknowledged consideration of Fort Resolution’s needs before taking its decision. The correspondence provided by the Fort Resolution Metis Council, the Deninu Kue First Nation and notes to file regarding on-going negotiations between the First Nation and the government of Canada suggest there may be significant public concern regarding the political dimensions of the development proposal.

5.5.2.1.1.2 Recommendation

No recommendations made.

5.5.3 Cumulative Effects

Patterson Sawmill Ltd. concluded that the cumulative effects of the proposed development would not cause a significant adverse environmental effect. The Department of RWED concurred with Patterson. RWED cited that other development activities near the proposed development are the abandoned Pine Point town site, and associated mining developments. The Pine Point Mine is closed and RWED anticipated no further impacts from the activity on vegetation or wildlife. RWED also noted that the proposed development would be using previously established access routes from the mining activity as part of the access to the harvest areas. In correspondence dated July 5, 2001, the Fort Resolution Metis Council noted that the people were forced to move off their ancestral lands, that traplines were bulldozed, compensation non-existent, and restoration of the environment to its pre-use condition especially slow, and that any additional consumptive use of the land without their consent was unacceptable.

5.5.3.1.1.1 Conclusion

The Review Board concludes, based on the evidence provided, that the cumulative effects of the proposed development will not cause a significant adverse environmental effect, nor be a cause for significant public concern. The Review Board in making its decision appreciated the concerns expressed by the Fort Resolution Metis Council, the Deninu Kue First Nation and the Deninoo Community Council. The Review considered impacts on the environment as defined in the Act. In so doing, the Review Board acknowledged outstanding concerns and past social and cultural impacts associated with use of the environment, and recognized that any additional use of those resources may be a cause for public concern, but that the proposed development would not cumulatively contribute to, or be cause of, a significant adverse environmental effect

¹⁶ Letter dated July 10, 2000 to Mr. P. Johnston, Manager of Forest Resources, RWED, from Christopher R. Carlisle, Regional Forester, South Slave Region.

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5.5.3.1.1.2 Recommendation

No recommendations made.

6 Review Board Environmental Assessment Decision

The Review Board concludes based on the analysis provided, that the development is likely in its opinion to have a significant adverse impact on the environment and *may* be a cause of significant public concern. The Review Board considers it necessary to impose the following measures to prevent the significant adverse impacts per section 128(b)(ii) of the Act. The development may proceed subject to the following remedial measures.

- ▶ That two-5,000m³ Timber Cutting Permits be granted.
- ▶ That RWED will undertake an interim timber supply analysis for the area between the Big Buffalo and Little Buffalo rivers, south of Great Slave Lake. This analysis is to be completed by November 2002. A complete timber supply analysis will be completed for the area in 2008. Applications for either timber cutting permits or licences for commercial purposes in this area, received before the completion of the interim timber supply analysis, will be subject to section 5(1)(d) of the Northwest Territories Forest Management Regulations.

The Review Board fully expects Patterson Sawmill Ltd. to discharge all the commitments and undertakings given in its environmental assessment report and supporting documentation as well as the conditions imposed by the Review Board.