

**COMPREHENSIVE STUDY ENVIRONMENTAL ASSESSMENT OF
THE PARKS CANADA AGENCY PROPOSAL TO DECOMMISSION
THE GRASS AIRSTRIPS IN BANFF NATIONAL PARK AND
JASPER NATIONAL PARK, ALBERTA**

**A CONSOLIDATION OF THE FINDINGS OF ENVIRONMENTAL
ASSESSMENT STUDIES, AIR SAFETY RISK ASSESSMENT AND
PUBLIC INPUT**

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Executive Summary - Consolidated Findings of the Comprehensive Study of the Proposal to Decommission the Banff and Jasper Airstrips

The Banff and Jasper grass airstrips were unlicensed aerodromes located in Banff and Jasper National Parks along trans-Rockies VFR flight routes. Parks Canada's intentions to close both airstrips are founded in the approved 1987 park management plans. During the development of those plans, environmental groups supported the closure, while local flying clubs and their provincial and national associations opposed any change in use. Following a prolonged period of monitoring, Transport Canada concluded in 1994 the airstrips were not required for emergency or diversionary use. Subsequently the airstrips were legally closed in 1997 pursuant to the *National Parks Aircraft Access Regulations*, and Parks Canada prepared to decommission the airstrips.

Decommissioning pursuant to the *Canadian Aviation Regulations* involves removing all appurtenances that appear to make the aerodrome operational. This includes the windsocks, runway markers, plane tie-downs, and other miscellaneous structures; ceasing snow ploughing and grass cutting; and administrative actions for the necessary notifications. However, before decommissioning could be initiated, airstrip users brought a legal challenge to Parks Canada's decision to close the airstrips. The Federal court (Justice Campbell T-729-97, T-734-97) concluded that although the airstrips were legally closed, decommissioning was a separate undertaking. Further, the court ordered the airstrips could not be decommissioned until a Comprehensive Study pursuant to the Canadian Environmental Assessment Act was conducted.

Following this, Parks Canada was unsuccessful to close the airstrips yet leave them available for emergency landings because defiant landings and takeoffs persisted between 1997 and 2000. Two subsequent court cases reinforced the earlier Federal court position - to achieve their park management goals, Parks Canada must decommission the airstrips, but must undertake a Comprehensive Study for each of Banff and Jasper before taking this action. The Comprehensive Study process began in 2000.

The purpose and need of the project is to decommission the Banff and Jasper grass airstrips in order to fully complete the closure action, in compliance with court direction. At each location the scope of the proposed project involves removal of the airstrip infrastructure as described above, and reclamation of the lands to montane environment. Six workers using light machinery could accomplish this at each location in about five days. The grass airstrips – approximately 1000 m long and 55 m wide, will be left as is – with some native grass species in-seeding with the expectation the strips will revert to natural plant communities. The fuelling facilities, unused since about 1995, will be removed. Although no contamination has been discovered during Phase I Environmental Site Assessments Phase II investigations would be conducted at the time of tank removal, and appropriate clean-up measures, if required, will be employed. Damaged landscapes would be restored to the pre-existing natural environment – montane grassland, based on the recommendations prepared by Wilkinson – an experienced restoration botanist. The progress of restoration would be monitored, with follow-up measures undertaken to ensure satisfactory progress.

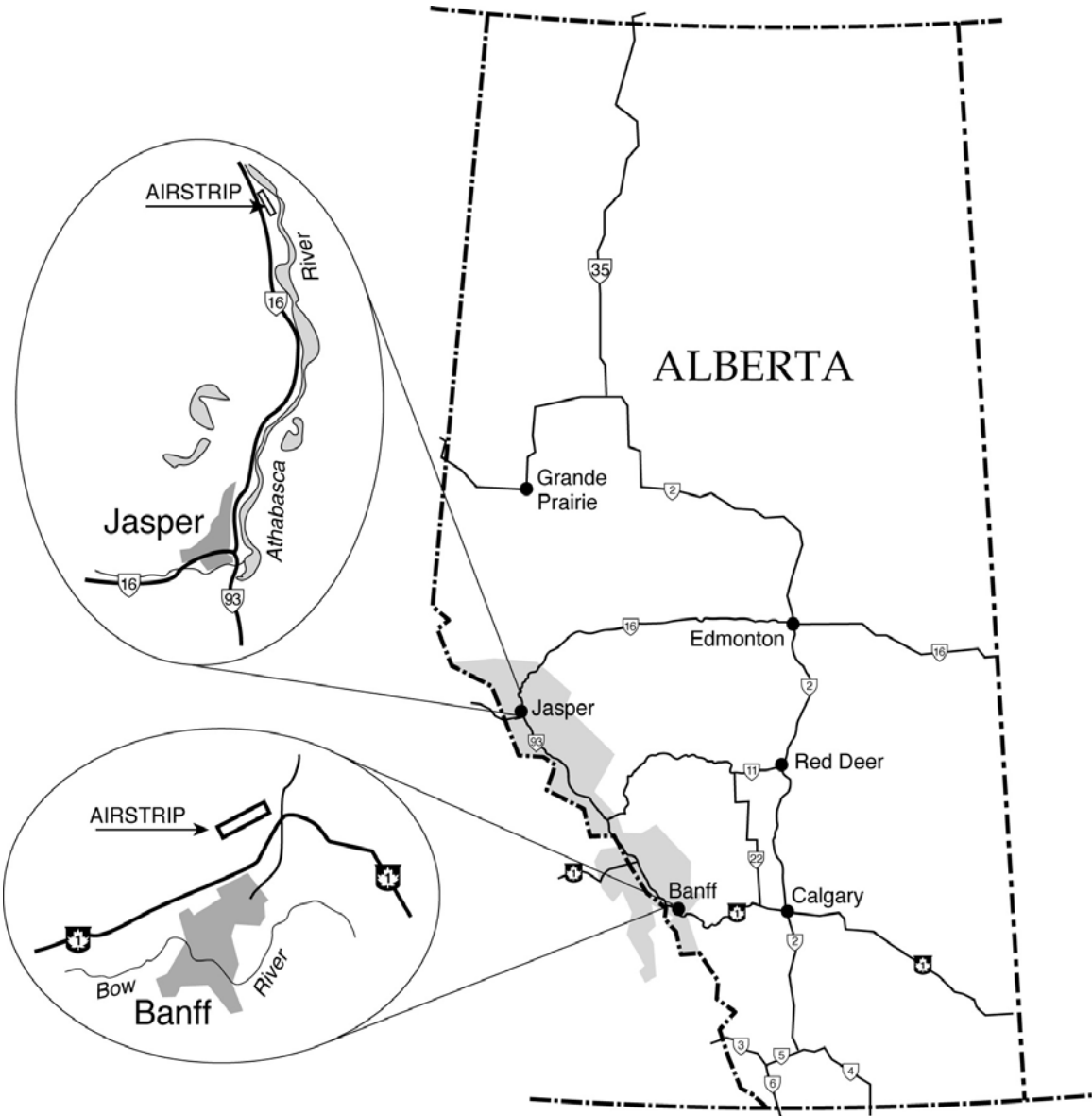
Pursuant to court direction, Parks Canada prepared a separate Terms of Reference for the conduct of a Comprehensive Study at each of the Banff and Jasper airstrips. Ten Federal departments were consulted about the Terms of Reference – Transport Canada and Environment Canada continued to provide advice during the following course of work. In a competitive bid process, Highwood Environmental Management Limited was awarded the contract to conduct the studies and prepare the Comprehensive Study report. Following Highwood's work, an Air Safety Risk Assessment was conducted by Kootenai International Associates to determine the risk consequence of eliminating of the airstrips for emergency landing. Multiple stakeholders, aviation advocates in particular, were intensely engaged in the air safety risk evaluation.

Highwood's work was specifically directed by the considerations presented in Section 16 of the Canadian Environmental Assessment Act – the environmental effects of the project including the effects of malfunctions and accidents. Cumulative environmental effects were a major consideration in view of Parks Canada's overall goals to safeguard the scarce montane ecosystem and improve wildlife habitat. Alternative measures to mitigate potential adverse effects of the project were considered and best management practices proposed. Highwood used the Canadian Environmental Assessment Agency's *Guide to the Preparation of a Comprehensive Study for Proponents and Responsible Authorities, 1997*, and the *Reference Guide: Determining Whether a Project is Likely to Cause Significant Adverse Environmental Effects* to guide their work, analysis and conclusions.

The Comprehensive Study has concluded that positive environmental effects will result from the decommissioning project, in both Banff and Jasper. There are no residual adverse cumulative effects. This relies on the utilization of standard mitigation measures and best management practices. The air safety risk assessment found that air safety would be reduced, although minimally, and mitigation measures are available.

Parks Canada conducted a 60-day public consultation exercise between September and November 2004. The Highwood and Kootenai International documents were made available at numerous locations and in several ways, including a website. Strategy Plus – a company specializing in consultation exercises was engaged to receive, analyze and report on public interest and concern. Vigorous aviator response resulted, with pilots strongly opposed to the decommissioning of the airstrips. There is a begrudging resignation that recreational aviation at Banff and Jasper has come to an end, but there was a strong appeal to maintain an emergency landing capability. There are no aboriginal interests affected by the airstrips decommissioning project.

Parks Canada has determined that taking into consideration mitigation measures proposed, decommissioning the Banff and Jasper airstrips is not likely to cause significant adverse environmental effects. The two main undertakings now proposed in the modified project are to remove all features indicative of an operational aerodrome and to restore the natural montane environment. However, as a safety mitigation the former airstrip lands will be maintained in a natural grassland condition free of trees and shrubs. Parks Canada reaffirms that aviators in distress can perform an emergency landing anywhere in a Canadian national park, including at the former Banff and Jasper airstrips.



Site Map Showing Location of Banff and Jasper Airstrips

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A CONSOLIDATION OF THE FINDINGS OF ENVIRONMENTAL ASSESSMENT STUDIES, AIR SAFETY RISK ASSESSMENT AND PUBLIC INPUT

INTRODUCTION

Parks Canada has undertaken environmental and air safety studies, and public consultation regarding the proposal to decommission the Banff and Jasper airstrips. This document is a consolidation of several reports prepared independent of Parks Canada pursuant to the Comprehensive Study expectations of the *Canadian Environmental Assessment Act* (CEAA) 1995 (this study was begun before 30 October 2003). These studies and their reports are:

1. Jasper Airstrip Decommissioning Comprehensive Study, 2005. Highwood Environmental Management Limited
2. Banff Airstrip Decommissioning Comprehensive Study, 2005. Highwood Environmental Management Limited
3. Parks Canada Air Safety Risk Assessment Decommissioning the Banff and Jasper Airstrips Final Report, 2003. Kootenai International Associates
4. Analysis of Public Input on the Comprehensive Studies for Decommissioning of the Airstrips in Banff & Jasper National Parks of Canada, Alberta, 2005. Strategy Plus.

The environmental studies for each of Jasper and Banff will be summarized separately in this document because they were undertaken and reported separately. The Air Safety Risk Assessment study and the Analysis of Public Input will be a combined summary for Jasper and Banff because each was conducted as a joint study.

At the start it is important to understand that this Comprehensive Study is not about closing the Banff and Jasper airstrips. Closure occurred in 1997, and was subsequently confirmed by the Federal Court to have been undertaken fairly and in full compliance with applicable Acts and Regulations. Closure of both strips has been in place for eight years. The question now focuses on the review process and procedures for decommissioning.

BACKGROUND

The background for each of the proposals to decommission the Jasper and Banff airstrips is so similar they will be presented together in this section.

Banff Airstrip

The Banff airstrip is a 915 m long, unlicensed, grass strip located near the community of Banff in Banff National Park. The airstrip elevation is 1438 m ASL, with close-by mountain peaks – e.g. Cascade Mountain, reaching 2,988 m ASL. The airstrip has been located at its present site since 1933, with minor infrastructure added over time. The local Banff Flying Club installed above ground fuel tanks, a pay telephone, an outhouse, a registration box and built two open-front airplane shelters. Most of these facilities are now abandoned or in dilapidated condition. Other elements include runway markers, two windsocks, plane tie downs, an access road and a vehicle parking area. Parks Canada normally mows the grass and ploughs the snow when the grass height or snow depth exceeds 150 mm.

The Banff airstrip (CYBA) is located along the designated visual flight route (VFR) between Calgary, and Golden or Cranbrook, B.C. A modern, all-season airport with a paved runway is located outside Banff National Park at the Springbank airport, approximately 75 kilometres east of Banff

Parks Canada's intentions to close and decommission the Banff airstrip are founded in the 1988 Banff National Park Management Plan. During the preparation of that plan, environmental groups supported airstrip closure, while local flying clubs and their provincial and national associations opposed any change in use. A main point of objection to closure was that the airstrip was a reliable emergency or diversionary landing site in the event of aviator distress. The Banff National Park Management Plan, approved in 1988, ultimately indicated that a final decision regarding airstrip closure would be made at the end of a program to monitor the incidence of emergency and diversionary landings.

Jasper Airstrip

The Jasper airstrip is a 1,216 metre long, unlicensed, grass facility located in the Athabasca Valley of Jasper National Park, 15 km north of the community of Jasper. The local elevation is 1021 m ASL, with nearby mountain peaks reaching 2,744 m ASL. The airstrip has been located at its present site since 1922, with minor additions made over time. Parks Canada records suggest the original grass strip received minimal maintenance until 1979 when it was graded, seeded, and fertilized. In 1980, the local flying club installed a buried fuel tank for their own use, followed by a buried power line in 1985. Other elements include runway markers, a landing button, a wind-sock, tie downs, a

registration shelter, two outhouses and a vehicle parking area. Grass mowing or snow ploughing is seldom required at the Jasper airstrip.

The Jasper airstrip (CYJA) is located along the designated Yellowhead Pass VFR corridor. The modern, all-season Jasper-Hinton airport with a paved runway is located nearby, outside of Jasper National Park, approximately 40 kilometres northeast from the Jasper airstrip.

Parks Canada's intentions to close and decommission the Jasper airstrip are founded in the 1988 Jasper National Park Management Plan. During the development of that plan, environmental groups supported airstrip closure, while local flying clubs and their provincial and national associations opposed any change in use. The approved 1988 Jasper National Park Management Plan ultimately indicated that a final decision regarding airstrips closure would be made at the end of a program to monitor the incidence of emergency and diversionary landings.

Parks Canada's Plans, Policies and Regulations

As indicated above, Parks Canada first made notice of their intention to close both the Banff and Jasper airstrips at the time of preparation of the 1988 Park Management Plans. Objections arising from aviation advocates, particularly about a concern for loss of an emergency landing location, gave rise to a 3-year emergency/diversionary landing needs monitoring study. Transport Canada, with Parks Canada's participation, conducted the study, beginning in June 1989. In February 1992, the Minister of the Environment – responsible for Parks Canada at that time, deferred an airstrips closure decision to coincide with the planned five-year review of the Park Management Plans, thus providing another opportunity for full public review of the impending closure. Subsequently, the airstrips monitoring program was extended to 1994 to gather as much information as possible. Note – Transport Canada and the Canadian Aviation Regulations refer to the grass airstrips at Banff and Jasper as “aerodromes”.

Transport Canada reported their findings in November 1995 – “... the aerodromes do not play a significant role in ensuring aviation safety in their vicinities”; concluding - “... we have not found a demonstrable need for these airstrips for emergency or diversionary use”.

The previous year Parks Canada's *Guiding Principles and Operational Policies* (1994), confirmed that access by private aircraft within any of Canada's national parks would not be allowed, except to remote areas where reasonable travel alternatives were not available, or where authorized through the management planning process and specified by regulation. Later Parks Canada was challenged that authority to close the Banff and Jasper airstrips was not vested in the *National Parks Act*.

By 1996 the Banff Bow Valley study was completed and reported habitat fragmentation as a serious threat to ecological integrity in the sensitive montane environment of Banff's Bow Valley. The Banff-Bow Valley Task Force recommended the airstrip and all flight

operations be closed by June 1997, and the site be reclaimed to its natural state within one year. The Parks Canada Minister responded that the airstrip, buffalo paddock and cadet camp would be closed and removed. Key Action 6.2.2 of the updated and revised Banff National Park Management Plan approved by the Minister and cabinet in April 1997, confirmed the airstrip “will be closed and returned to its natural state”. The buffalo paddock, and horse barns and corrals were closed and removed in fall 1997. The cadet camp was removed from Banff National Park by 2001, leaving only the airstrip in this sensitive montane grassland and wildlife travel route called the “Cascade corridor”.

In March 1997 regulatory changes to the *National Parks Act* were proclaimed by Order-in-Council, with the result that recreational and discretionary aircraft operations at both the Banff and Jasper airstrips were prohibited by the *National Parks Aircraft Access Regulations* (SOR/97-150). That same year two separate environmental screenings were conducted under the *Canadian Environmental Assessment Act* (CEAA) to examine the environmental impact of the proposal to close and decommission the Jasper and Banff airstrips. Both concluded there would not likely be a significant adverse environmental effect resulting from closure of the Banff and Jasper airstrips. To the contrary, positive environmental effects were forecast, and the respective Superintendents of Banff and Jasper National Parks approved the airstrips decommissioning.

Legal Proceedings Pertinent to the Proposal to Decommission the Banff and Jasper Airstrips

Before decommissioning could be initiated in 1997, airstrip users brought an application before the Federal Court of Canada to dispute the validity of Parks Canada’s authority to close the airstrips, and to challenge the fairness of the process used in reaching the decision to close the airstrips. Justice D.R. Campbell found the Banff airstrip was closed legally, and the process used was fair. However, although Justice Campbell concluded the airstrip had been closed legally and fairly, he decided the subsequent and final act to decommission the airstrip was contrary to the Banff National Park Management Plan (1988). Therefore, Justice Campbell (1997) determined a Comprehensive Study (a detailed environmental impact assessment of the decommissioning actions) must be conducted under the CEAA before making a decision to decommission the airstrip. (Although Justice Campbell primarily addressed his findings to the Banff National Park setting, he indicated the Court Order applied equally to the Jasper National Park situation). At that point, Parks Canada was blocked to take any action to take the airstrips out of commission.

With the *National Parks Aircraft Access Regulations* now in force, the airstrips legally closed, notifications properly posted and landing/takeoff allowed by permit only, Parks Canada decided to leave the grass strips in place in both Banff and Jasper for the purposes of emergency landings only. Recreational use of the airstrips was now clearly illegal. Removal of ancillary facilities was to begin in 1998. This strategy was unsuccessful as numerous defiant landings and take-offs ensued. Parks Canada charged a pilot who contravened the *Regulations*, and prosecution was brought before the Court of Queen’s Bench of Alberta. Judge D.C.Norheim (1999) dismissed the charge, expressing

his view that Parks Canada could not maintain a successful prosecution unless the airstrips were fully decommissioned. Additionally, Judge Norheim reaffirmed an obligation for Parks Canada to undertake the Comprehensive Study environmental assessment before decommissioning. Parks Canada appealed that ruling, but Justice M.T. Moreau in the Court of Queen's Bench of Alberta dismissed this appeal in October 2000. At this point it was clear the strategy to leave the airstrips in a condition suitable for emergency and diversionary landing and take-off purposes was unworkable. Parks Canada did not and would not have the courts support to enforce the legal closure. Further, Parks Canada had not had and did not expect to secure voluntary cooperation from the local flying clubs, aviators and national aviation advocacy associations to respect Parks Canada's air access regulations. Thus, Parks Canada was compelled to advance to full decommissioning of the airstrips.

Parks Canada initiated the Comprehensive Studies in late 2000 with the preparation of a decommissioning "Preliminary Scoping" document. In view of the concern for air safety, Justice Campbell's 1997 findings indicated "a liberal interpretation" be given to the consideration of "health and socio-economic conditions" in the Comprehensive Studies. Those expectations were addressed in the terms of reference and the proposed scope of environmental assessment. Parks Canada consulted with stakeholders, other federal departments and interested public before finalizing the Terms of Reference for the Comprehensive Study. The Terms of Reference are included in the Comprehensive Study reports and were posted on the CEA Agency website. Highwood Environmental Management Ltd. – a Calgary based consulting firm was engaged to prepare separate Comprehensive Study reports for the Parks Canada proposal to decommission the Banff and Jasper airstrips. Subsequently, Kootenai International Associates conducted an independent and more detailed Air Safety Risk Assessment analysis and prepared a report.

THE PROJECT

Decommissioning the Banff and Jasper airstrips includes removing the physical appurtenances and activities that make the airstrips function, and appear to function, pursuant to the provisions for permanent closure as specified in the *Canadian Aviation Regulations*.

In the case of decommissioning the Banff airstrip this involves:

- remove the three or four privately owned aircraft that are routinely parked there by local flying club members
- remove the windsocks
- remove the runway marker cones and boards
- remove the two makeshift airplane shelters
- remove the concrete tie-downs and ropes
- remove the pit privy
- remove the gravelled access road and metal gate
- remove miscellaneous signs, notice boards, and scrap materials

- remove the unused, abandoned, above-ground fuel tanks
- conduct a contaminated site investigation and remove any contaminated soils
- reclaim damaged landscapes – e.g. the gravelled access road and airplane shelter sites
- cease and desist to mow the grass and plough the snow
- undertake administrative actions for the specified closure and abandonment notices in the appropriate places
- monitor the progress of the reclamation and take follow-up action as necessary
- undertake enforcement action against defiance of the *National Parks Aircraft Access Regulations*

In Jasper, decommissioning the airstrip requires:

- remove the two or three privately owned aircraft that are regularly parked at the airstrip
- remove the registration shelter and telephone
- remove the two pit privies
- remove the auto vehicle parking area
- remove the landing button
- remove the plane tie-down blocks, ropes and miscellaneous scrap materials
- remove the unused, abandoned, buried fuel tank(s) and concrete fuelling pad
- conduct a contaminated site investigation and remove any contaminated soils
- reclaim all damaged landscapes
- cease and desist to undertake any runway maintenance – e.g. grass mowing
- undertake administrative actions for the specified closure and abandonment notices in the appropriate places
- monitor the progress of the reclamation and take follow-up action as necessary
- undertake enforcement action against defiance of the *National Parks Aircraft Access Regulations*

IMPORTANT NOTE – the decommissioning project described in the 1997 Parks Canada environmental screening reports, in the Highwood Environmental Management Ltd. Decommissioning Comprehensive Study reports, and the Kootenai International Associates Air Safety Risk Assessment report include “closure markings” as part of the project. These are described as “white X’s” placed on the closed runways, pursuant to Schedule 300.1 and subsections 301.04 (4) and (5) of the Canadian Aviation Regulations. In December 2004, Transport Canada officials informed Parks Canada officials a misinterpretation of the Canadian Aviation Regulations applicable to decommissioning the Banff and Jasper airstrip had occurred. The correct direction for decommissioning and marking when an “aerodrome is closed permanently” does not include the installation of any X’s. Rather, “... the operator of the aerodrome shall remove all the markers and markings installed at the aerodrome” [- see the Canadian Aviation Regulations 2004-3, Part 111, Subpart 1, subsection 301.04(1)].

Thenceforth, further consideration of X's on the permanently closed runways and taxiways is eliminated from the scope of the project to decommission the Banff and Jasper airstrips.

Decommissioning the airstrips involves light machinery and hand labour to tear down and truck away the shacks and airplane shelters, take down and remove the windsocks, pick up the runway cones, remove toilets, scrape up gravel and spread topsoil, transport waste materials to disposal sites and deliver topsoil, remove and scrap the fuel tanks at Banff, excavate and backfill the buried fuel tank at Jasper, pick up the concrete landing button at Jasper, remove signs and gates, and seed the disturbed areas with an approved seed mix. A small crew of six workers with the appropriate equipment would be able to accomplish this work in about five days at each location.

THE COMPREHENSIVE STUDY ENVIRONMENTAL ASSESSMENT PROCESS

Parks Canada is the Responsible Authority for the project and has a Section 5 trigger under the CEA Act (1995). In April 2000, at the time of preparing the Terms of Reference for the Comprehensive Study, Parks Canada coordinated a solicitation of interest from other Federal Departments to participate in the project review. Federal Departments contacted regarding their Section (12) or Section (5) interest in the project included:

- Western Economic Diversification
- Transport Canada
- Health Canada
- Department of Fisheries and Oceans - Habitat Management
- Department of Fisheries and Oceans - Canadian Coast Guard
- Environment Canada
- Industry Canada
- Natural Resources Canada
- Department of Indian and Northern Affairs
- Canadian Transportation Agency

These Departments received a Preliminary Scoping description of the project. None of the Departments indicated a Section (5) role in the project, i.e. – no Responsible Authorities other than Parks Canada. Transport Canada – Aerodrome Safety, and Environment Canada – Environmental Protection both indicated a Section (12) interest in the project, i.e. – offered specialist advice; all other Departments recorded “no interest” in the project. Subsequently, Environment Canada provided advice regarding the contents of the Terms of Reference for the Comprehensive Study.

Parks Canada issued a separate Terms of Reference each for the conduct of research and preparation of a Comprehensive Study environmental assessment report regarding the proposal to decommission the Banff and Jasper airstrips. These Terms of Reference emphasized the research and reports were to address the issues pertinent to the actions

and activities to decommission the airstrips – not the question of closure; – legal closure had already been accomplished, with compelling judicial confirmation to that effect. Parks Canada was attentive to the expectations of the Comprehensive Study sections of the Canadian Environmental Assessment Act, 1995. Also, the *Guide to the Preparation of a Comprehensive Study for Proponents and Responsible Authorities* (Canadian Environmental Assessment Agency, 1997) was specifically referenced for the content and format of the Comprehensive Study report. Parks Canada provided guidance in the valued ecosystem components to be emphasized, including social and economic considerations. In response to earlier guidance from the courts, the subject of effect on “air safety” was to receive particular attention. Pursuant to CEAA Subsection 16(1)(e), Parks Canada consulted with the Canadian Environmental Assessment Agency regarding the “need for” and “alternatives to” the proposed decommissioning project.

Need For The Project

The Terms of Reference address the “need for the project” pursuant to the expectations of the Canadian Environmental Assessment Act (1995). The Canadian Environmental Assessment Agency *Operational Policy Statement OPS -E/2 -1998* defines “the need” for a project “as the problem or opportunity the project is intending to solve or satisfy”.

Routine aircraft operations at the Banff and Jasper airstrips were prohibited by the *National Parks Aircraft Access Regulations* in 1997. The project (decommissioning) is needed to remove the physical aspects of the airstrip, and to take the necessary administrative actions required to decommission the airstrips.

Justice Campbell (1997) established the requirement to complete a comprehensive study under CEAA, before a decision to decommission the airstrip could be enacted. Judge Norheim’s decision (1999) reinforces the need for the project (airstrip decommissioning):

“Parks Canada has created a sort of “undead” airstrip. It has the appearance of being an operational airstrip but is not... the airstrip is closed.” [paragraph 15]

Parks Canada’s strategy to close the airstrips but to leave the runway in place for emergency purposes has been unsuccessful. Illegal landings led to charges, prosecutions and court cases. The courts instructed Parks Canada to proceed with Comprehensive Study environmental assessment(s) for the purpose of decommissioning the airstrips(s).

Further, Judge Norheim’s comments link the need for the project with successful enforcement of the *National Park Aircraft Access Regulations*:

“Had Parks Canada marked the runway in a manner recognised by pilots as an indication that the airstrip was closed, as it had originally planned, this defence would not have been available to the accused.” [paragraph 21]

Additionally, Justice Moreau (Court of Queens Bench Alberta, 2000) found, in the appeal of the earlier judgement of Judge Norheim (1999), that the lack of typical physical elements of a decommissioned airstrip could lead a pilot to the erroneous conclusion a closed airstrip is open and available for landings. Under these circumstances, pilots claimed to be confused whether the airstrip was closed or operational.

Alternatives to The Project

Parks Canada did not instruct the Comprehensive Study investigators to consider alternatives to the project. “Alternatives to” are “functionally different ways of achieving the same end” as defined in the *CEAA Responsible Authority’s Guide* (November 1994, page 28). The *National Parks Aircraft Access Regulation* prohibits routine aircraft operation at the Banff and Jasper airstrips – the airstrips are closed. The project now is to decommission the infrastructure associated with the former airstrips, and reclaim the site to park land. Parks Canada is not aware of an alternative legal and regulatory acceptable way of achieving that desired end, other than to undertake the project, pursuant to the guidance provided in the *Canadian Aviation Regulations* - that is, remove the existing features normally associated with an open airstrip, and undertake administrative actions normally required to decommission a closed airstrip.

Therefore, it is not within the Terms of Reference for the Comprehensive Study (see Comprehensive Study Terms of Reference in Highwood’s Banff or Jasper report Appendix A) to consider ‘alternatives to’ decommissioning the airstrip. As has been confirmed by court findings, a do-nothing alternative is unacceptable. Alternative airstrip locations, or alternative landing sites, are not possible solutions to decommissioning the existing airstrips. Any other landing site within Banff National Park would contravene the *National Parks Aircraft Access Regulations*. Consequently, it was determined that proposed decommissioning project activities, that is - removing the existing facilities pursuant to the *Canadian Aviation Regulations*, do not have practical alternatives.

Alternative Means

The Comprehensive Study considers ‘alternative means’ of carrying out the project in accordance with the Act [CEAA, subsection 16 (2)(b)]. Alternative means of carrying out the project are methods of a similar technical character or methods that are functionally the same. For example, alternative means exist in the design and implementation of vegetation rehabilitation. Alternative means of ecological restoration have been investigated. However, practical ways and means for removing the existing facilities and reclaiming the disturbed lands are limited to practices acceptable in a National Park setting. This includes Justice Campbell’s suggestion to decommission the airstrip to a state where it is clearly closed, but to leave it in a condition that it could continue to function for emergency landing purposes. Achievement of the specifications of the *Canadian Aviation Regulations* and the expectations of the courts is imperative to successful legal decommissioning.

In a competitive bidding process, Highwood Environmental Management Ltd. from Calgary was selected to undertake the research and preparation of the Comprehensive Study report. Highwood completed their work and prepared draft reports in March 2002. Although they were satisfied sufficient information was available to make good judgements about the environmental effects of the decommissioning project, they recommended a more detailed examination of the effect on air safety should be undertaken. Subsequently, Parks Canada engaged Kootenai International Associates to conduct an air safety risk assessment of the proposal to decommission the Banff and Jasper airstrips. Kootenai International Associates initiated their work late in 2002 and reported in July 2003. Multiple stakeholders, aviation advocates in particular, were intensely engaged in the Kootenai International Associates air safety risk evaluation.

Parks Canada conducted a 60 day public consultation exercise between September and November 2004. The Highwood and Kootenai International Associates reports were made available to interested stakeholders at numerous locations and in several ways, including a website. Strategy Plus, an Edmonton-based company specializing in consultation exercises, was engaged to receive and analyze public comment about the Comprehensive Study reports, and to prepare a report regarding concerns about the decommissioning proposal. Their final "Analysis of Public Input" report was provided to Parks Canada in March 2005.

Parks Canada has maintained close contact with the Canadian Environmental Assessment Agency (CEA Agency) since 2000 - throughout the conduct of the studies and public consultation. Now, Parks Canada will summarize the findings of the environmental impact, air safety and public concern studies, and the comments provided by other Federal Departments. This will include measures to avoid and minimize adverse effects that could arise from the decommissioning project. Thence, Parks Canada will make a preliminary conclusion about the decommissioning proposal within the context of the following four possible conclusions:

1. The project is not likely to cause significant adverse environmental effects, taking into account appropriate mitigation measures, if necessary.
2. The project is likely to cause significant adverse environmental effects that cannot be justified.
3. The project is likely to cause significant adverse environmental effects and it is uncertain whether these can be justified in the circumstances.
4. It is uncertain whether the project is likely to cause significant adverse environmental effects.

Following, Parks Canada will provide all the material to the CEA Agency for the performance of their duties. The CEA Agency will conduct their mandatory public consultation, examine all the study material available and additional public comment at that point, and make a recommendation to the Minister of Environment Canada. The Minister in turn will provide direction to Parks Canada regarding the next course of action.

ENVIRONMENTAL EFFECTS ASSESSMENT - BANFF AIRSTRIP DECOMMISSIONING

Parks Canada retained Highwood Environmental Management Ltd. to prepare a Comprehensive Study report to evaluate the potential effects from decommissioning the Banff grass airstrip. The assessment evaluates the potential impacts that may occur as a result of the airstrip being decommissioned consistent with *Canadian Aviation Regulations*.

Scope of Assessment – Banff Airstrip Decommissioning

The scope of the assessment considers the environmental effects of the project, consistent with Section 16 of *CEAA, 1995*. In addition to the factors listed in *CEAA 1995*, the assessment examines aviation safety in terms of public health and safety of VFR pilots and passengers who use the BNP VFR route.

The Parks Canada Terms of Reference for the assessment identified the scope of the Valued Ecosystem Components to be considered, including:

- Carnivores, their habitat use and habitat effectiveness, habitat fragmentation and travel corridors;
- Public safety, including aviation safety matters, emergency and precautionary diversion, search and rescue, medical evacuation, and aircraft use for park management purposes;
- Vegetation and soils, ecosite/species representation, ground cover, forage condition and biodiversity, response to soil conditions, herbivory and fire inclusion/exclusion, soil compaction and potential contamination from fuelling activities;
- Ungulates – primarily elk; herbivory, predator-prey dynamics, habituation to humans and the context of the elk management strategy;
- Breeding birds, breeding bird habitat effectiveness as an ecological indicator; and
- Cultural resources, a summary of historic land uses in the vicinity of the airstrip.

In addition to identified VECs, potential effects on hydrology, human recreational use, aesthetics and historical resources were considered. Assessing interactions between decommissioning activities and VECs identified potential impacts. Mitigations to minimize predicted impacts were identified for each environmental resource. Residual impacts remaining once mitigation measures are applied were assessed and rated for significance using the following impact ratings:

Impact Attribute	Rating Term	Definition
Direction	Positive	Beneficial change
	Neutral	No Change
	Negative	Adverse change in the Valued Ecosystem Component being evaluated
Geographic Extent	Local	Within the project area or its immediate environs
	Regional	Beyond the project area but within the Lower Bow Valley
	Extra-regional	Outside the Park
Duration	Short-term	During decommissioning
	Medium term	Up to two years
	Long-term	Longer than two years
Frequency	Once	Occurs only once (i.e., one 5-day decommissioning period)
	Intermittent	Occurs occasionally (e.g., 3 times per year)
	Continuous	Occurs continuously
Reversibility	Reversible	May be reversed over time or when activity ceases
	Non-Reversible	Will not be reversed
Magnitude	None	<i>These terms combine the above attributes They are relative and assigned by professional environmental practitioners</i>
	Negligible	
	Low	
	Medium	
	High	
Significance	No	<i>The Responsible Authority (Parks Canada) will assign significance to the impacts. Impacts are considered significant if the magnitude of the impact is either medium or high, and the duration of the impact is greater than short-term. Significance is only assigned to adverse residual impacts.</i>
	Yes	

For this study, Parks Canada as the Responsible Authority assigns significance to the impacts. Impacts are considered significant if the magnitude of the impact is either medium or high, and the duration of the impact is greater than short-term. Only adverse (negative) residual impacts were rated.

The assessment focused on issues and VECs identified in the Terms of Reference and in a scoping process with project scientists and Parks Canada representatives. It examined potential environmental impacts resulting from all project activity likely to occur during decommissioning activities, and arising as a result of decommissioning the airstrip. Readers are referred to the Highwood report *Banff Airstrip Decommissioning Comprehensive Study, 2005* for a detailed explanation of subjects examined, methodology employed, references and people consulted, findings, analysis, conclusions and recommendations. A summary of the highlights of the impact assessment is presented below.

Hydrological Resources

The closest permanent surface watercourses are about 500 m away from the airstrip. Ground water levels are variable, but at least 5 m deep from the existing ground level.

With appropriate mitigation measures, no residual impacts were identified for hydrological resources (see Highwood's Banff report Sec 6.2.1).

Soils and Terrain

The landscape involved in the decommissioning project is a large, level, open grassland, with a small, contiguous tree-enclosed open area where most of the ancillary facilities are located. Potential impacts to soils and terrain during the five-day decommissioning activity include:

- Erosion of disturbed areas by wind or rain;
- Dust during excavation activities;
- Compaction of sub-soil from equipment;
- Soil contamination from accidental spills.

Mitigation measures and best management practices are proposed to avoid erosion. Rehabilitation methods will reduce the bulk density of the soil, thereby encouraging re-vegetation and water penetration. Residual soil and terrain effects that may remain after mitigation measures are applied are positive – see Highwood's Banff report Sec 6.2.2. This includes the removal of potentially contaminated soil from the abandoned fuel tanks (if any is found in the Phase I/II investigation and tank removal undertaking), and decreased soil erosion from the cessation of maintenance activities – mowing and snow ploughing.

Vegetation

The open montane grassland of the airport is one of the scarce and sensitive ecosites of Banff National Park - the HD4 ecosite. Additionally, the locations of rare plant species and plant communities potentially affected by the decommissioning project have been mapped by a botanist (Wilkinson) specializing in restoration of natural landscapes. One rare plant – *Sisyrinchium septentrionale*, was found in two locations, off the runway. The botanist concluded – “The Montane grassland ecosite (HD4) on which the airstrip is located, and its associated vegetation types are considered botanically significant due to small size, restricted distribution and value to wildlife in Banff National Park”.

Potential effects of decommissioning on the vegetation VECs can be summarized into three general categories:

- Damage to vegetation resources, including rare plants and plant communities;

- Change in vegetation composition and structure, including rare plants and plant communities;
- Introduction or removal of exotic plant species.

Measures to avoid vegetation damage during decommissioning are described in Highwood's Banff report. A rehabilitation program, based on Wilkinson's recommendations, emphasizes restoration of the native grassland, and elimination of non-native species and weeds. With the application of specified mitigation measures and best operational procedures during the decommissioning activities there will be no adverse impact on rare and representative plant species. The change in structure and composition of rare plant species is expected to be positive. Removal of weedy and exotic species is positive.

The overall impact on vegetation resources after decommissioning is positive provided maintenance activities cease – see Highwood's Banff report Sec 6.2.3.

Wildlife

Highwood Environmental Management Ltd. selected indicator species to determine the effect of the decommissioning project on a suite of wildlife likely to be present in the vicinity of the airstrip. These indicator species included, elk, wolf, grizzly bear, cougar, lynx, American badger, long-tailed weasel and clay-coloured sparrow. The reasons for selecting these species are:

- The species was likely to reside seasonally or consistently travel on or in the vicinity of the Banff airstrip (all VECs);
- The species relied on early succession grassland or open low shrub-land for breeding and/or foraging (elk, American badger, long-tailed weasel, clay-colored sparrow);
- The species was listed as a species of concern by Alberta Environmental Protection (AEP 1996) or the Committee on the Status of Endangered Wildlife in Canada (COSEWIC 2001) (grizzly bear, long-tailed weasel, American badger, cougar, lynx, clay-colored sparrow);
- The species was known to be sensitive to sensory disturbance and/or prone to movement obstruction (wolf, grizzly bear, cougar, lynx); and
- The species has a strong influence on ecological processes or vegetation structure and composition either directly or indirectly (elk, wolf).

Potential effects of decommissioning activities on wildlife can be summarized into four general categories:

- Increased risk of mortality to species at the site arising from decommissioning activities;
- Direct loss or change in habitat quality and quantity resulting from physical alteration;

- Indirect change in habitat quality due to alteration of ecological processes; and
- Habitat alienation or disruption of traditional movement patterns from anthropogenic sensory disturbance.

The potential for direct wildlife mortality of any of the indicator species during decommissioning is low and short-term (e.g. five days). The probable result for loss or change of habitat quality and quantity is positive. Sensory disturbance and interference with travel patterns of sensitive species is low during the five-day decommissioning period, and positive afterwards.

Overall, the project has negligible potential to cause adverse effects on wildlife during decommissioning activities. Post-decommissioning, residual effects on wildlife will be positive – see Highwood’s Banff report Sec 6.2.4.

Recreational and Aesthetic Concerns

Recreational aviation is illegal at the Banff airstrip, and therefore will cease upon decommissioning. Other typical users of the airstrip environs – dog walkers, hikers, equestrians, climbers, Nordic skiers and all other manner of national park appreciation will be positively or neutrally affected by the results of the decommissioning project.

Decommissioning activities should have no impact on the recreational activities that are currently occurring on the airstrip. There will be a reduction in aesthetics during decommissioning, but proper reclamation and site clean up will ensure the impact is only temporary. Except for people who hit golf balls on the short grass runway there are no predicted adverse residual impacts to recreational use of the airstrip resulting from decommissioning activities – see Highwood’s Banff report Sec 6.2.5.

Historic Resources

The presence of archaeological sites on the western periphery of the Banff airstrip suggests there is good potential for near surface sites to be present on the airstrip. Shallow archaeological sites may be exposed and impacted during the proposed rehabilitation activities that have subsurface impacts i.e., gravel stripping from the access road and aircraft parking areas. Archaeologists have already surveyed the site and provided advice regarding best decommissioning procedures. Historic photographs and evidence of extensive disturbance to the landscape surface imply the low likelihood of extant archaeological resources. Staff archaeologists will be present to oversee any soil disturbance activities.

Provided the recommended mitigations are followed, it is predicted that there will be no residual impacts to archaeological resources – see Highwood’s Banff report Sec 6.2.6.

Aviation Safety

The potential impact to aviation safety concerns the elimination of a potential landing area for emergency/diversionary landings along the Banff VFR Route, which could result in an increased risk for VFR aviators. Based on available information, Highwood Environmental Management Ltd. predicted that the long-term residual effect on aviation safety is low, negative in direction, extra-regional, long term, and intermittent. They recommended that Parks Canada conduct a risk assessment as a separate process to confirm this rating – see Highwood’s Banff report Sec 6.2.7. The results of that Air Safety Risk Assessment Study, subsequently undertaken by Kootenai International Associates Associates, are presented later in this summary report.

Justice Campbell’s Direction Regarding Continued Maintenance

In response to the direction from Justice Campbell (1997), continuation of maintenance of the Banff airstrip after decommissioning was considered and evaluated. Continued maintenance of the airstrip includes mowing the runway in summer and ploughing the snow off the runway in winter. Based on an assessment of the impacts of maintenance options on environmental and socio-economic components, and acknowledging the environmental objectives, policies and legislation that govern Parks Canada, it is concluded that continuation of maintenance, as it has been performed, does not meet the objectives of the project – see Highwood’s Banff report Sec 6.3.

Continued maintenance, as it has been performed, is not the chosen option for carrying out the project for several reasons:

- It does not meet the reclamation objectives of the project, namely to rehabilitate the physical area of the airstrip and return it to its natural state, including the grass runway and taxiways;
- It does not meet the Banff National Park Management Plan ecological integrity objective of restoring the area to its natural montane habitat;
- It may not meet the court’s expectations that Parks Canada will resolve the “undead” airstrip problem – it appears operational when it is actually closed; and
- It is contrary to the policy and legislation of Parks Canada, as defined in the Banff National Park Management Plan, the *Canada National Parks Act*, and the *National Parks Aircraft Access Regulations*.

Malfunctions, Accidents, Renewable Resources and Effect of the Environment on the Decommissioning Project

In addition to addressing project VECs the Comprehensive Study addresses malfunctions and accidents, sustainable use of resources, and the effects of the environment on the project – see Highwood’s Banff report Sec’s 6.5, 6.6 and 6.7. Potential accidents that may affect the environment during these activities are limited to accidental spills (e.g. – a

burst hydraulic hose on machinery) during on-site decommissioning, which can be readily mitigated. There are no renewable resources likely to be affected in a significant adverse way by the project. During the removal of infrastructure heavy rainfall and wildfire are the two environmental conditions that may affect the project. All construction activities will be halted during wet conditions (i.e., heavy rainfall and runoff events, or high winds), or in the event of wildfires in the vicinity.

Cumulative Effects

The existing cumulative effects of projects to restore the ecological integrity of the Cascade wildlife corridor are positive. These include the removal of the buffalo paddock, removal of the horse corrals and barns, removal of the cadet camp, erection of the TransCanada Highway fence and construction of wildlife crossing structures, winter closure of the Minnewanka loop road, designation of the Fairholme Bench limited entry area, burying the TransAlta penstocks, construction of a wildlife bridge over the Two-Jack canal, minimal redevelopment at the Juniper Inn (formerly the Timberline Lodge), and prohibition of a summer use program at the Mount Norquay ski area.

There are two areas where impacts from decommissioning the Banff airstrip may combine with effects from other existing activities or planned projects to incrementally contribute to cumulative effects. These areas are:

- Impacts to wildlife from activities within the Cascade and Fenland-Indian Grounds wildlife corridors; and
- Impacts to aviation safety from decommissioning of the airstrip when considered in conjunction with changes in flight services at the Springbank Airport.

While the impact of decommissioning will add only a comparatively modest incremental effect, the combined and cumulative effects of all of the closures and relocation of facilities in the Cascade corridor is already having a positive impact on wildlife use of the corridor.

The cumulative effects from airstrip decommissioning will beneficially add to this positive effect – see Highwood’s Banff report Sec 7.0.

Increasing aviation traffic potentially elevates risk to aviation safety as the likelihood of a mishap such as unforeseen bad weather or equipment failure becomes more probable over time.

The cumulative effects from decommissioning the Banff airstrip on aviation safety are negative in direction, but have low magnitude.

Monitoring and Follow-up

Although decommissioning is not anticipated to have significant adverse impacts on the project VECs, monitoring is proposed to ensure mitigation measures are effective – see

Highwood's report Sec 8.0. In particular, vegetation monitoring to evaluate success of the rehabilitation plan in this montane setting is recommended. Subsequent supplementary measures may be required if unsatisfactory success or unexpected circumstances arise. Highwood Environmental Management Ltd. presents a reclamation and monitoring plan, based on detailed plant studies and mapping undertaken by an independent botanist (Wilkinson) who specializes in natural landscape restoration.

ENVIRONMENTAL EFFECTS ASSESSMENT – JASPER AIRSTRIP DECOMMISSIONING

Parks Canada retained Highwood Environmental Management Ltd. to prepare a Comprehensive Study report to evaluate the potential effects from decommissioning the Jasper grass airstrip. The assessment evaluates the potential impacts that may occur as a result of the airstrip being decommissioned consistent with *Canadian Aviation Regulations*.

Scope of Assessment – Jasper Airstrip Decommissioning

The scope of the assessment considers the environmental effects of the project, consistent with Section 16 of *CEAA*. In addition to the factors listed in *CEAA*, the assessment examines aviation safety in terms of public health and safety of VFR pilots and passengers who use the JNP VFR route.

The Parks Canada Terms of Reference for the assessment identified the scope of the Valued Ecosystem Components to be considered, including:

- Carnivores, their habitat use and habitat effectiveness, habitat fragmentation and travel corridors;
- Public safety, including aviation safety matters, emergency and precautionary diversion, search and rescue, medical evacuation, and aircraft use for park management purposes;
- Vegetation and soils, ecosite/species representation, ground cover, forage condition and biodiversity, response to soil conditions, herbivory and fire inclusion/exclusion, soil compaction and potential contamination from fuelling activities;
- Ungulates – primarily elk; herbivory, predator-prey dynamics, habituation to humans and the context of the elk management strategy;
- Breeding birds, breeding bird habitat effectiveness as an ecological indicator; and
- Cultural resources, a summary of historic land uses in the vicinity of the airstrip.

In addition to identified VECs, potential effects on hydrology, human recreational use, aesthetics and historical resources were considered. Assessing interactions between decommissioning activities and VECs identified potential impacts. Mitigations to minimize predicted impacts were identified for each environmental resource. Residual impacts remaining once mitigation measures are applied were assessed and rated for significance using impact ratings, including:

- Direction, which indicates a positive, negative or neutral impact on the VEC;
- Duration, which refers to the period over which the impacts will occur;
- Geographical extent, which is considered local if the impact is limited to the local study area, regional if the impact extends within the Athabasca Valley, and extra-regional if it extends beyond Jasper National Park (JNP);
- Frequency, which refers to the incidence of occurrence of the impact and can either, be once, intermittent, or continuous. The term ‘once’ refers to the decommissioning period, which will be approximately five days;
- Reversibility, which assesses whether the impact can be reversed when the activity ceases or over time; and
- Magnitude, which combines all attributes, and is assigned based on professional judgment.

These impact ratings are explained in more detail in the foregoing Banff Environmental Effects airstrip section, and in Highwood’s reports.

For this study, Parks Canada as the Responsible Authority assigns significance to the impacts. Impacts are considered significant if the magnitude of the impact is either medium or high, and the duration of the impact is greater than short-term. Only adverse residual impacts were rated.

The assessment focused on issues and VECs identified in the Terms of Reference and in a scoping process with project scientists and Parks Canada representatives. It examined potential environmental impacts resulting from all project activity likely to occur during decommissioning activities, and arising as a result of decommissioning the airstrip. Readers are referred to the Highwood report *Jasper Airstrip Decommissioning Comprehensive Study, 2005* for a detailed explanation of subjects examined, methodology employed, references and people consulted, findings, analysis, conclusions and recommendations. A summary of the highlights of the impact assessment is presented below.

Hydrological Resources

The closest permanent surface watercourse – the Athabasca River, is about 400 m away from the airstrip. Ground water levels in the vicinity vary from 2 to 9 m, depending on the season.

A Phase I/II contaminated site assessment and removal of the buried fuel tank will determine any presence of and need for ground water or soil pollution remediation. None of the current site studies reveal any evidence of fuel spills or leaks.

With appropriate mitigation measures, no residual impacts arising from the decommissioning activity were identified for hydrological resources – see Highwood’s Jasper report Sec 6.2.1.

Soils and Terrain

The landscape involved in the decommissioning project is a large, level, open montane grassland, with the ancillary facilities located in a tree fringe at the south end. Potential impacts to soils and terrain during the five-day decommissioning activity include:

- Erosion of disturbed areas by wind or rain;
- Dust during excavation activities;
- Compaction of sub-soil from heavy equipment;
- Soil contamination from accidental spills.

Highwood Environmental Management Ltd. Proposes 18 specific mitigation measures and best management practices to protect soil and terrain during the decommissioning project. Rehabilitation methods will reduce the bulk density of the soil, thereby encouraging re-vegetation and water penetration. Benefits anticipated include the removal of potentially contaminated soil from the abandoned fuel tank (if any contamination is found in the Phase I/II investigation and tank removal undertaking), and decreased soil erosion from the cessation of maintenance activities – mowing and snow ploughing (although the Jasper airstrip has seldom required mowing or snow ploughing).

Residual soil and terrain effects that may remain after mitigation measures are applied are positive – see Highwood’s Jasper report Sec 6.2.2.

Vegetation

The open montane grassland of the airport is one of the scarce and sensitive ecosites of Jasper National Park - the AT3 ecosite. Additionally, K.Wilkinson - a native plant specialist, has mapped the locations of rare plant species and plant communities potentially affected by the decommissioning project. One rare plant – *Potentilla hookeriana*, and two botanically significant plant communities were recorded. Wilkinson concluded – “The Montane grassland ecosite on which the airstrip is located, and its dominant associated vegetation type are considered botanically significant due to their small size, restricted distribution and value to wildlife in Jasper National Park”.

Potential effects of decommissioning on the vegetation VECs can be summarized into three general categories:

- Damage to vegetation resources, including rare plants and plant communities;
- Change in vegetation composition and structure, including rare plants and plant communities;
- Introduction or removal of exotic plant species.

Measures to avoid vegetation damage to rare plants and botanically significant plant communities during decommissioning are described. A rehabilitation program emphasizing restoration of the native grassland, and elimination of non-native species and weeds, as presented by Wilkinson, is proposed. With the application of specified

mitigation measures and best operational procedures during the decommissioning activities there will be no adverse impact on rare and representative plant species. The change in structure and composition of rare plant communities is expected to be positive. Removal of weedy and exotic species is positive.

The overall impact of decommissioning the Jasper airstrip on native plant communities will be positive – see Highwood’s Jasper report Sec 6.2.3.

Wildlife

Highwood Environmental Management Ltd. selected indicator species to determine the effect of the decommissioning project on a suite of wildlife likely to be present in the vicinity of the Jasper airstrip. These indicator species included, elk, wolf, grizzly bear, cougar, long-tailed weasel and vesper sparrow. The reasons for selecting these species are:

- The species was likely to reside seasonally or consistently travel on or in the vicinity of the Jasper airstrip (all VECs);
- The species relied on early succession grassland or open low shrub land for breeding and/or foraging (elk, long-tailed weasel, vesper sparrow);
- The species was listed as a species of concern by Alberta Environmental Protection (AEP 1996) or the Committee on the Status of Endangered Wildlife in Canada (COSEWIC 2001) (grizzly bear, long-tailed weasel, cougar);
- The species was known to be sensitive to sensory disturbance and/or prone to movement obstruction (wolf, grizzly bear, cougar); and
- The species has a strong influence on ecological processes or vegetation structure and composition either directly or indirectly (elk, wolf).

Potential effects of decommissioning activities on wildlife can be summarized into four general categories:

- Increased risk of mortality to species at the site arising from decommissioning activities;
- Direct loss or change in habitat quality and quantity resulting from physical alteration;
- Indirect change in habitat quality due to alteration of ecological processes; and
- Habitat alienation or disruption of traditional movement patterns from anthropogenic sensory disturbance.

The potential for wildlife mortality during decommissioning is negligible and short-term (e.g. five days). The probable result for loss or change of habitat quality and quantity is positive. Sensory disturbance and interference with travel patterns is negligible during decommissioning and positive afterwards.

Overall, the project effects on wildlife during decommissioning activities are rated to be negligible. Post-decommissioning, the effects on wildlife will be positive – see Highwood’s Jasper report Sec 6.2.4.

Recreational and Aesthetic Concerns

Recreational aviation is illegal at the Jasper airstrip, and therefore will cease upon decommissioning. Other typical users of the airstrip environs – dog walkers, picnickers at the group picnic area, historic canoe trippers staging close-by, hikers, photographers and all other manner of national park appreciation will be positively or neutrally affected by the results of the decommissioning project.

Decommissioning activities should have no impact on the recreational activities that are currently occurring on the airstrip. There will be a reduction in aesthetics during decommissioning, but proper reclamation and site clean up will ensure the impact is only temporary.

There are no predicted adverse residual impacts to recreational use of the airstrip resulting from decommissioning activities – see Highwood’s Jasper report Sec 6.2.5.

Historic Resources

As no sites of significance have been recorded on the Jasper airstrip, there are no predicted project impacts on known sites. Unknown buried archaeological sites may be exposed and impacted during the proposed rehabilitation activities that have subsurface impacts, such as the removal of the fuel tanks or asphalt from the paved section of the parking lot. There are identified cultural sites in proximity to the airstrip but they will not be impacted by project activities. The subsurface reclamation activities will be monitored by a professional archaeologist to ensure any exposed artifacts are identified, authorities notified and work stopped immediately. The archaeologist may indicate when activities can resume.

Given the above mitigation measures, there will be no residual impacts to historical resources as a result of decommissioning activities – see Highwood’s Jasper report Sec 6.2.6.

Aviation Safety

The potential impact to aviation safety includes the elimination of a potential landing area for emergency/diversionary landings along the Jasper VFR Route, which could result in an increased risk for VFR aviators. Based on available information, Highwood Environmental Management Ltd. predicted that the long-term residual effect on aviation safety is negligible to low in magnitude, negative in direction, extra-regional, long term, and intermittent. They recommended that Parks Canada conduct a risk assessment as a separate process to confirm this rating – see Highwood’s Jasper report Sec 6.2.7. The

results of that Air Safety Risk Assessment Study, conducted by Kootenai International Associates are presented later in this summary report.

Justice Campbell's Direction Regarding Continued Maintenance

In response to the direction from Justice Campbell (1997), continuation of maintenance of the Jasper airstrip after decommissioning was considered and evaluated. Continued maintenance of the airstrip includes mowing the runway in summer and ploughing the snow off the runway in winter. Based on an assessment of the impacts of maintenance options on environmental and socio-economic components, and acknowledging the environmental objectives, policies and legislation that govern Parks Canada, it is concluded that continuation of maintenance, as it has been practised, does not meet the objectives of the project – see Highwood's Jasper report Sec 6.3.

Continued maintenance, as it has been practised by Parks Canada, is not the chosen option for carrying out the project for several reasons:

- it does not meet the reclamation objectives of the project, namely to rehabilitate the physical area of the airstrip and return it to its natural state, including the grass runway and taxiways;
- it does not meet the Jasper National Park Management Plan objective of restoring the area to its natural montane habitat;
- it may not meet the court's expectations that Parks Canada will resolve the "undead" airstrip problem – it appears operational when it is actually closed; and
- it is contrary to the policy and legislation of Parks Canada, as defined in the Jasper National Park Management Plan, the *Canada National Parks Act*, and the *National Parks Aircraft Access Regulations*.

Malfunctions, Accidents, Renewable Resources and Effect of the Environment on the Decommissioning Project

In addition to addressing project VECs the Comprehensive Study addresses malfunctions and accidents, sustainable use of resources, and the effects of the environment on the project – see Highwood's Jasper report Sec's 6.5, 6.6 and 6.7. Potential accidents that may affect the environment during these activities are limited to accidental spills (e.g. –a burst hydraulic hose on machinery) during on-site decommissioning, which can be readily mitigated. There are no renewable resources likely to be affected in a significant adverse way by the project. During the removal of infrastructure heavy rainfall and wildfire are the two environmental conditions that may affect the project. All construction activities will be halted during wet conditions (i.e., heavy rainfall and runoff events, or high winds), or in the event of wildfires in the close vicinity.

Cumulative Effects

When there are no project specific adverse impacts, insignificant or otherwise, there can be no adverse cumulative effects. Project-specific environmental effects of the Jasper

airstrip on selected VECs are predicted to be largely mitigable. However, there are two noteworthy subjects where impacts from decommissioning the Jasper airstrip may combine with effects from other existing activities or planned projects to incrementally contribute to cumulative effects. These areas of concern are:

- Impacts to wildlife from other activities presently occurring along the Athabasca River floodplain and terrace, which likely serves as an important movement corridor for large mammals (combined effects); and
- Impacts to aviation safety from decommissioning the airstrip.

While the predicted project-specific impacts to both of these VECs are negligible, the potential for combined impacts from other existing uses (for wildlife movement) and future trends in air traffic (for aviation safety) may incrementally contribute to cumulative environmental effects.

Potential Cumulative Effects to Wildlife

The Jasper airstrip decommissioning is proposed in a regional setting where past, present and future planned human actions have and will continue to affect wildlife VECs. Regionally, the airstrip is part of a larger wildlife movement corridor along the Athabasca River floodplain and terrace. Existing activities within the regional study area that may combine to affect wildlife movement and produce sensory disturbance in addition to decommissioning include:

- Vehicle activity on the Yellowhead Highway;
- Train activity on the Canadian National Railway line;
- Human use of the picnic area east of the airstrip; and
- Human use of the Athabasca River.

The project-specific impact assessment concludes that decommissioning activities will have negligible effects. During decommissioning activities, there will be negative, short-term, reversible effects on wildlife related to increased sensory disturbance. After the 5-day decommissioning period, all effects on wildlife from decommissioning activities will be positive. For example, reclamation of the runway will result in habitat improvement with long-term positive benefits to native grasslands and wildlife species reliant on them. The other existing mechanical and human activities identified above contribute to the effect of sensory disturbance on wildlife within the Athabasca Valley. Demolition and reclamation activities involved in decommissioning the airstrip will require the use of machinery and trucks, which will increase noise and human activity in the area. Sensory disturbance from vehicle, train and human use in the area may combine with the minimal disturbance from decommissioning activities. Given the short-term nature of decommissioning activities (5 days), it is unlikely the combined effects of this project with existing activities in the region will result in an adverse cumulative impact to wildlife. These combined effects are unlikely to affect movement of wildlife along the Athabasca River valley in the vicinity of the airstrip. It is important, however, to avoid an

increase in the amount of human recreational use of the abandoned strip, and especially the area along the Athabasca River floodplain.

Parks Canada has developed a Cumulative Effects Analysis framework for the Three Valley Confluence that focuses on ecological indicators such as carnivores and wildlife movement corridors. This framework is an important tool to manage the cumulative effects related to wildlife in JNP.

The only known potential future activity in the study area is future prescribed burns on the airstrip as part of restoring historic fire cycles and grassland. It is not anticipated that this will result in a significant adverse cumulative impact to wildlife in the area; to the contrary, lightly burned areas typically stimulate a more diverse plant and wildlife assemblage.

Overall, the cumulative effects from airstrip decommissioning on wildlife are anticipated to be neutral, negligible, and local, occur once, and be short-term in duration. Post decommissioning, the effect will be positive – see Highwood’s Jasper report Sec 7.2.

Potential Cumulative Impacts to Aviation Safety

Cumulative impacts to aviation safety from decommissioning the Jasper airstrip may occur when other existing or planned activities impact the aviation safety VEC. While there are no known planned projects, such as decommissioning of other airstrips in the cumulative effects study area, there are related activities that may impact aviation safety along the Jasper VFR route, namely:

- Potential increasing air traffic (e.g. mountain aviation tours) between the Edmonton area and remote mountain terrain along the Jasper VFR route. It is anticipated air traffic may increase as mountain tourism and population increase. Increasing aviation traffic could elevate risk to aviation safety as the likelihood of a mishap such as unforeseen bad weather or equipment failure becomes more likely over time. However, designation within the Canada Flight Supplement that the Jasper airstrip is available for “emergency/diversions only” helps to mitigate this risk. It is therefore concluded that the cumulative effects from decommissioning the Jasper airstrip are negative in direction and of negligible to low magnitude – see Highwood’s Jasper report Sec 7.3.

Monitoring and Follow-up

Although decommissioning is not anticipated to have significant adverse impacts on the project VECs, monitoring is proposed to ensure mitigation measures are effective – see Highwood’s Jasper report Sec 8.0. In particular, vegetation monitoring to evaluate success of the rehabilitation plan in this montane setting is recommended. Subsequent supplementary measures may be required if unsatisfactory success or unexpected circumstances arise. Highwood Environmental Management Ltd. presents a detailed reclamation and monitoring plan.

AIR SAFETY RISK ASSESSMENT

Background

Parks Canada has considered the air safety implications of decommissioning the Banff and Jasper grass airstrips in three different specific initiatives, beginning in 1989.

1. Transport Canada and Parks Canada jointly monitored and recorded the incidence of use of the Banff and Jasper airstrips for diversionary or emergency use between June 1989 and into 1994. The terms of the study called for an evaluation of general over-flight and landing activity, and emergency and diversionary landings, an assessment of weather conditions, and determining the need for the strips for enroute emergency or diversionary use.

Transport Canada, the Canadian government agency responsible for aviation safety, took the lead to analyze the findings, make conclusions and prepare the final report. Their 1995 report deals only with the requirement for the airstrips for emergency/diversionary use. The report relied on an analysis of information gathered during the study and from other sources. Transport Canada concluded:

“ The Banff and Jasper airports are located on the busiest corridor used by light aircraft to get through the Rocky Mountains. This study of the aerodromes and their use, the prevailing weather in their vicinities, current safety regulations, and information from other sources indicate the following:

- a) There is little traffic at either aerodrome
- b) Use of the aerodromes for practical diversions and/or emergencies has not been accurately ascertained. The information gathered from accident reports and other sources indicates that the aerodromes do not play a significant role in ensuring aviation safety in their vicinities.
- c) The weather conditions at these locations are typical for mountain valleys on the lee side of mountain ranges. Both sites have relatively good weather for Visual Flight Rules (VFR) flying.
- d) Transport Canada does not have any policy or legislation regarding the provision of emergency or diversionary airstrips for use by VFR aircraft.

Transport Canada has not identified a significant role played by either of these airstrips for emergency/diversionary use”.

Parks Canada relied on this report, and other material, in advancing with their plans to close and decommission the Banff and Jasper airstrips (closed in 1997). The Canadian

Owners and Pilot Association rejected the content, findings and conclusion of the Transport Canada report. COPA criticized the report for not considering the viewpoints of pilots experienced in flying the Banff and Jasper VFR corridors. Eight pilot testimonials provided in the COPA critique considered the unpredictable weather circumstances to be dangerous and therefore requiring the emergency landing option provided by the Banff and Jasper airstrips. Also, these pilots disagreed that environmental conflict arose from the airstrips and related aviation activity.

2. The 2000 Terms of Reference for the Highwood Environmental Management Ltd. conduct of a Comprehensive Study of the Parks Canada proposal to decommission the Banff and Jasper airstrips specifically directed an evaluation of the air safety risk implications. Highwood's 2005 conclusion with respect to Jasper is:

“The current Canada Flight Supplement indicates that the Jasper airstrip should only be used for “emergency/diversions only”. Given this current practice, the potential impact to aviation safety includes an elevation of risk associated with flying light aircraft along the Jasper VFR corridor. It is predicted that the long-term residual effect on aviation safety is negative and negligible to low. The Responsible Authority (Parks Canada) retained KIA (Kootenai International Associates) to conduct an air safety risk assessment for the decommissioning of the airstrip, which supported this rating (KIA, 2003).

There are no predicted significant adverse cumulative effects from the project.”

Highwood's conclusion regarding Banff is nearly identical.

3. Following Highwood' conclusion, in late 2002 Parks Canada undertook a risk assessment to determine what impact the proposed Banff and Jasper National Parks decommissioning project would have on aviation safety. Kootenai International Associates was contracted to advise Parks Canada on aviation risk issues and to facilitate the risk assessment process. This was the final investigative stage of a Comprehensive Study that was initiated in 2000.

The Air Safety Risk Assessment Process

Issues and historical records relevant to the risk assessment were to be analyzed and summarized. The risk assessment process was based on a modified version of the *CAN/CSA - Q850-97 Risk Management Guideline for Decision Maker, A National Standard of Canada*. This is a participative, consensus-based process that involves key stakeholders in assessing risk and negotiating mitigation and control measures. Stakeholders were invited to participate in an initial introductory and planning meeting on January 22nd, 2003 and a two-day risk assessment workshop on March 17th and 18th, 2003. The process is subjective and qualitative. Relevant data and evidence is used to inform the process and guide decision-making, but does not usually determine the outcome by itself.

The Air Safety Risk Assessment for the proposal to decommission the Banff and Jasper airstrips was undertaken with the participation of a number of stakeholders – see KIA Risk Assessment report Sec's 1.3 and 2.0. Parks Canada invited both key and observer stakeholders to the risk assessment workshop. The organizations that were asked to attend as key stakeholders were those which:

- Represent mountain aviators who fly the Banff and Jasper VFR navigation routes and have the experience and knowledge required to help assess the risks to aviation associated with the proposed airstrips decommissioning; or
- Have a direct responsibility for flight safety along the routes in question (e.g. Transport Canada).

Key Stakeholders, Organizations and Agencies Attending the Risk Assessment Workshop

Alberta Aviation Council
Banff Flying Club
Canadian Owners & Pilots Association
Jasper Flying Club
Parks Canada Agency
Transport Canada

Several other organizations were invited to attend as observer stakeholders.

Observer stakeholders were:

- Non-aviation organizations that have an interest in, or may be affected by, the outcome of the Banff and Jasper Airstrip Decommissioning Comprehensive study, but which are not qualified to assess aviation risks (e.g. Canadian Parks and Wilderness Society); or
- Representatives of other organizations who were asked to provide relevant information or advice to the key stakeholders (e.g. Alberta Transportation, Nav Canada).

Observer Stakeholders, Organizations and Agencies Invited to the Risk Assessment Workshop

Association for Mountain Parks Protection and Enjoyment (AMPPE)
Alberta Transportation
British Columbia Transportation
Canadian Environmental Protection Agency
Canadian Parks & Wilderness Society
Civil Air Search and Rescue Association of Alberta
Environment Canada
Nav Canada
Parks Canada

Air Transport Association of Canada (not present)

The stakeholder participants assessed the impact to flight safety resulting from decommissioning of the Banff and Jasper Park airstrips. In order to make this assessment, the primary hazards to flight along the Banff and Jasper low-level VFR air routes were identified along with existing or required risk mitigation and control measures. The suitability and value of the Banff and Jasper airstrips in their roles as risk mitigation and control measures were assessed relative to these hazards and other appropriate measures. Risk mitigation and control measures were identified and recommended.

Kootenai International presented a basic review of factors salient to air safety at both the Banff and Jasper airstrips . These included:

- both Banff and Jasper airstrips have predominantly fair weather conditions, favourable for VFR flight
- weather recording and information services are basic, making local weather forecasting difficult
- local weather conditions in the mountains can be highly variable
- the Banff airstrip can be a treacherous place to land a small aircraft. Moderate to severe subsidence, turbulence, wind shear and highly variable winds may be encountered. Take-off on run way 36 is not recommended due to tall trees and rapidly rising terrain north of the airstrip
- the Jasper airstrip has more favourable flight conditions, being less prone to wind turbulence, shear, variability, and subsidence
- it is estimated there are 2000 annual over-flight of the Banff VFR route, and 1200 annual over-flights of the Jasper VFR route
- the Canadian Transport Safety Board records 10 aircraft accidents at the Banff airstrip for the years 1976 to 2003. One accident was recorded at the Jasper airstrip for the same period
- warden logs record 16 diversionary and emergency landings at Banff between 1995 and 2003 – 10 of these were weather related. Seven diversionary and emergency landings were logged at Jasper in the same period
- according to a COPA spokesman, most of the reported diversions at both the Banff and Jasper airports have occurred during eastbound flights. Constrictions in the route exits through the outer ranges and the weather volatility in the area of the eastern slopes create hazards for VFR aviators attempting to depart the mountains in an eastbound direction. Westbound flights more commonly are blocked from entering the mountains due to these same conditions and normally safely return to their point of departure to await more favourable conditions.
- weather barriers along the Banff VFR route occur at Exshaw gap, Castle Junction, Vermillion Pass, Radium gap and Kicking Horse Pass.
- weather barriers occur along the Jasper VFR route at Roche Miette and south of Mount Robson

Problem Definition

Kootenai International defined two main problems requiring attention by the workshop participants – see KIA Risk Assessment report Sec 2.2. Kootenai paraphrased the issues as:

1. **Parks Canada** – “Parks Canada will be unable to enforce the National Parks Aircraft Access Regulation at the Banff and Jasper airstrips until such time as they are clearly marked as being closed in compliance with the Canadian Aviation Regulations. Aircraft operations must be restricted within the Banff and Jasper National Parks in order to achieve management plan and environmental objectives.”

2. **Aviation Users** – “The proposed closure and reclamation of the Banff and Jasper airstrips will negatively impact aviation users.”

These problems are related and, apparently, in conflict. The objective of this risk workshop was to determine whether the Aviation users problem statement is valid and, if so, to suggest alternatives which will provide acceptable solutions to both of the principle stakeholders.

The aviation stakeholders identified the following risks that may be associated with the loss of the Banff and Jasper airstrips as diversionary landing sites. They are listed in descending order of significance as ranked by the participants:

1. Controlled Flight into Terrain (CFIT) or disorientation accident with high probability of fatalities;
2. Forced landing at unprepared site with probability of traumatic injury;
3. Loss of, or significant damage to aircraft;
4. Third party losses;
5. Search and Rescue costs;
6. Flight delay resulting in:
 - a) Loss of income;
 - b) Inconvenience;
 - c) Increased aircraft rental charges;
 - d) Alternate transportation and accommodation costs.

Assumptions, Positions and Constraints

Before the “risk scenario exercise”, “assumptions, position and constraints” were discussed – see KIA Risk Assessment report Sec 2.5. These are basic beliefs or goals put forward by the main stakeholders to explain their positions or concern before the risk scenario exercise commenced. These were:

Parks Canada

- Closure of the airfields was undertaken to meet Park Management Plan objectives for the Banff and Jasper National Parks;
- The airstrips must be decommissioned in order to enable enforcement of the *National Parks Aircraft Access Regulation*;
- The policy decision to close the airstrips in 1997 and the supporting environmental justifications are not subjects for review by the risk workshop. The environmental need for closure has been established and is documented in the Banff-Bow Valley Study, the Parks Canada environmental Screenings 1997 and the current Highwood Environmental studies.

Aviation Users

- Mountain weather is volatile and inadequately reported and forecast
- The Banff and Jasper VFR routes are part of a vital “Trans-Canada” coast-to-coast flight corridor;
- The Banff and Jasper airstrips are strategically located in areas of good weather adjacent to known weather “gaps” that often become barriers to safe flight;
- Pilots have relied on, and have used these airstrips for decades as “safe harbours” when transiting the eastern Rocky Mountains;
- Roads and other emergency landing areas are not acceptable for diversionary planning and use unless they can be secured and made safe for landing;
- The removal of these airstrips will force pilots to land at unsafe sites or to “push” adverse weather in search of a safe landing area;
- The Government of Canada has a duty to support the safe and effective use of the Banff and Jasper VFR routes.
- An independent and impartial agency should conduct the Comprehensive Environmental Assessment and the Air Safety Risk Assessment.

Kootenai International Associates

- Inadequate accident and incident data and analysis for the areas under study make it difficult, if not impossible, to establish a cause and effect relationship between the availability of diversionary landing sites and CFIT and disorientation accidents.
- Pilots are responsible for managing risk by assessing available resources and conditions along the flight route and making appropriate pre and in-flight decisions.
- Minimum flight safety service or facility levels are not prescribed for VFR flight routes. The Government of Canada does not have a regulatory, legal, or policy-based obligation to maintain a diversionary airstrip at Banff or Jasper.
- Operational experience and judgment can be used to qualitatively evaluate the impact of airstrip decommissioning and to make mitigation and control recommendations. This risk assessment process is conditional and the results affected by participant assumptions, positions, biases, and experience.

- Where data is uncertain or indeterminate, the aviation risk-decision making process must err on the side of safety.

Risk Scenario Exercise

A risk scenario case study was selected from an accident analysis report submitted to the group by COPA. After discussing the particulars of the pilot's report, a composite risk scenario was created. This scenario was developed for the Banff route but participants felt it was equally valid for Jasper. The risk scenario was intended by the participants to be representative of the flight capability and risk levels that can reasonably be expected to exist or be accommodated along the Banff and Jasper VFR routes. The risk scenario involved 1. Hazard identification and prioritization, 2. Risk identification and prioritization, 3. Severity and probability definition and, probability and severity estimation, and 4. Risk scenario estimation. This then gave rise to response possibilities, including, risk acceptability, mitigation and control, flight safety information services, weather reporting and diversionary landing site possibilities. The group focused on "landing site options" as the most effective course of action to an aviator distress situation.

The following landing site options were identified by participants and listed in descending order of acceptability:

1. **Re-open and Restrict** - Return the status of the Banff and Jasper airstrips to open and restrict landings through NOTAMS and CFS Prior Permission Required (PPR) and cautionary notices.
2. **Voluntary Compliance** - Maintain the airstrips in their present state and negotiate a voluntary compliance agreement with the users in which they agree to limit flight operations to emergency and diversionary use only;
3. **New Diversionary Aerodrome Standard** - Request that Transport Canada develop a new standard for VFR diversionary aerodromes so that the Banff and Jasper airstrips can be brought into compliance with the CARs without having to display closure markings that would, in the opinion of the participants, discourage diversionary use. The status of the airstrips would remain unchanged until the new standard was implemented. This standard should include:
 - a. Criteria for marking the aerodromes in such a manner that they are clearly distinguishable as safe landing sites for diversionary and emergency use only;
 - b. Design and maintenance safety standards;
 - c. Provisions for publication in the CFS and GPS database.
4. **Move the Airstrips** - Develop a new diversionary airstrip in some other less environmentally sensitive location that is in the same strategic weather area as the existing airstrips and would provide equivalent or better levels of operational safety.

5. **Lease the Airstrips** – Lease the existing airstrips to a private operator with a contractual obligation to restrict operations to emergency and diversionary use only. The operator could then charge violators under trespass.
6. **Maintain & Close** – Maintain the existing airstrips but display closure markings and remove windsocks and other features of an operating airstrip in compliance with the CARs. The area would still be considered to be a safe diversionary option and published in the CFS and GPS database.
7. **Create a Designated Road Landing Site** – Select a strategically placed section of straight road that is maintained and can safely accommodate landing and take-off operations. This landing site would require the following:
 - a) Signage;
 - b) ARCAL operated vehicle barriers;
 - c) Warning lights;
 - d) Publication in the CFS and GPS databases;
 - e) Aircraft parking turnout.
8. **Open Field** – Create a new diversionary landing site in a less environmentally sensitive area. This site should be maintained so that the risk of potential aircraft damage is minimized. It would also be published in the CFS with cautions, although there is currently no mechanism to accommodate this in the CFS or on the aeronautical charts.

Acceptability of Landing Site Options

The aviation users clearly stated that only landing site options (1) to (5) above were acceptable without further consultation and discussion. At least one participant reserved judgment on any of the options. All of the aviation users continued to express their displeasure with being “forced” to give up normal recreational use of the Banff and Jasper airstrips.

Landing Site Maintenance

All of the landing site options listed above require ongoing maintenance. Participants suggested that the minimum maintenance required for a grass airstrip should include:

1. Grass cut at least once annually;
2. Snow compacted as required;
3. Weekly inspection – an inspection checklist and standards should be created for use by Parks Wardens or other assigned agency. COPA and/or the local flying clubs could assist in the preparation of an airstrip operations manual.

Kootenai International Associates Conclusion

Based on participant input and their own analysis, Kootenai International Associates concluded that if the Banff and Jasper airstrips were no longer available for diversionary use a serious accident may occur within a generation (once every 27 years) of aviation users, although the likelihood was “extremely improbable”¹. This determination assumes the following:

1. No other mitigation or control measure are implemented to compensate for the loss of the existing diversionary landing sites;
2. The existing route capability levels are maintained.²
3. The judgment of stakeholders and experts should be conservative and err on the side of safety given the lack of statistically relevant accident data and information regarding causal relationships between the availability of VFR diversionary airports and safety.

¹The workshop participants determined that the probability level for both primary risks (off-airport landing and CFIT accident) was “improbable” (definition: unlikely to occur to each aviator but may occur several times within one generation) (Sec 4.3.2). The Kootenai International Associates probability evaluation suggests the risk level is lower by one level, or “extremely improbable” (definition: unlikely to occur during one generation of aviators using the route). However, the residual risk is still unacceptable and mitigation and control measures are required.

² The aviation users clearly indicated during the workshop that the imposition of further restrictions on their ability to safely use the Banff and Jasper VFR routes would be unacceptable. While they understand that they would have to make more conservative flight planning decisions if the airstrips were unavailable, they are unwilling to accept this outcome as reasonable or justifiable.

Kootenai International was firm in their conclusion regarding the small amount of increased risk arising from closure of the Banff and Jasper airstrips. Kootenai International made the following recommendations to Parks Canada – see KIA Risk Assessment report Sec 6.2.

1. Legal council to Parks Canada should re-evaluate the Norheim decision to determine whether the implementation of landing site mitigation option (1) would allow for the successful prosecution of pilots who are charged under the National Parks Aircraft Access Regulation;
2. The appropriate agency(s) should implement one or more of the recommended mitigation and control measures described in Section “5.0 Decision” of this report (these are the “options 1-8 shown above). Note that the participants asked for further consultation if landing site options (6) to (8) are selected.
3. If a diversionary landing site is maintained in the Banff area, long-term consideration should be given to selecting an alternative site that is less affected by lee and down slope wind conditions.

4. Transport Canada should conduct a full aeronautical study of VFR flight safety along designated mountainous routes in Canada.

Public Consultation

Public Consultation Lead-up to the Comprehensive Study Consultation

Compared to other National Park subjects attracting public interest an exceptional amount of public consultation has been devoted to the Banff and Jasper airstrips closure subject. The concept of closing the Banff airstrip first arose at the time the TransCanada Highway was being twinned and fenced, beginning in 1979. Wide public involvement in the topic began with the Four Mountain Management Framework Planning exercise in 1981. This undertaking included an extensive program of public and professional consultation. Public input was actively sought throughout, but particularly during consultation events in March-April 1982, March-May 1983, June-July 1984 and February-March 1985. The future of the Banff and Jasper airstrips was debated intensively. Generally, recreational aviation aficionados and local flying club members opposed closure of the airstrips, whereas environmental and national park protection advocates endorsed airstrips closure. The conclusion, stated in *In Trust for Tomorrow – A Management Framework for Four Mountain Parks*, Parks Canada, 1986 was:

“ The existence of airfields in Banff and Jasper is inappropriate and their use as emergency landing strips will be reviewed”.

Subsequently, during the public consultation phase of preparing the new Banff and Jasper National Park Management Plans between 1986 and 1988, the subject of airstrip closure again was engaged. These National Park Management Plans, approved in 1988, were the first stated confirmation of Parks Canada’s intent to close the airstrips. Similar public debates regarding the airstrips arose in the round-tables for the Banff-Bow Valley Study, begun in 1994 and completed in 1996; and again in the public consultation in preparation for the National Park Management Plan updates. These updated plans, approved in 1997, again stated the airstrips would be removed. At this point, hundreds, if not thousands of opinions had been expressed about the idea of closing the airstrips.

In his 1997 decision regarding the fairness of the Parks Canada’s process to decide to close the airstrips, Judge Campbell said:

“In this respect, I find weight should be given to the respondent’s (Parks Canada’s) argument that there has been an overwhelming mass of consultation about the decision to close the airstrips and there is no point in having more”

Parks Canada sought stakeholder input in the preparation of the Terms of Reference for the Comprehensive Study that would guide the consultants later chosen to conduct the research and prepare the reports regarding the potential effects of decommissioning the Banff and Jasper airstrips. Similarly, COPA, the Banff Flying Club and the Jasper Flying Club were consulted regarding the Terms of Reference for the conduct of the Air Safety

Risk Assessment. Key and observer stakeholders intensively participated in the Air Safety Risk Assessment. Subsequently, COPA was consulted regarding the ways and means of undertaking the Parks Canada public consultation and analysis component of the Comprehensive Study.

Parks Canada's Public Consultation of the Findings of the Comprehensive Environmental Assessment Study of the Proposal to Decommission the Banff and Jasper Airstrips

The Scope of Consultation

Parks Canada undertook to conduct a thorough consultation with key stakeholders and all interested people relative to the proposed decommissioning of the Banff and Jasper Airstrips. Public comment would be examined to determine if issues exist that could be accommodated by changing the project in ways to avoid or reduce impact that concerned people. To that end public input was sought regarding the two Comprehensive Study reports completed by Highwood Environmental Management in March 2002 and the Air Safety Risk Assessment prepared by Kootenai International Associates in July 2003.

The consultation process for review of the three reports was formulated by Parks Canada with input from key stakeholders, including the Canadian Owners and Pilots Association (COPA) and the Canadian Parks and Wilderness Society (CPAWS). Each of these stakeholder organizations conferred with a larger population of groups and individuals to cast a wide net of alert that Parks Canada was seeking review of the Comprehensive Study reports. The Canadian Environmental Assessment Agency (CEAA) was kept up-to-date about the proceedings being undertaken. Strategy Plus of Edmonton was contracted as a third party to receive, compile and analyze the public input and comments relative to the three reports.

The three reports were posted on the Parks Canada websites for Banff and Jasper National Parks. Printed copies of the reports were also made available for public review in Banff, Jasper, Calgary, Edmonton, and Ottawa. The reports were available in both English and French language. The public was invited to provide comments relative to these reports during the consultation period that ran from September 27 to November 29, 2004. Advertisements regarding the review were provided on the Parks Canada websites and in regional newspapers.

The following is a listing of the newspapers that carried advertisements about the review period, listed by the dates on which they were placed:

- Tuesday, September 28, 2004:
 - o Banff Crag & Canyon
- Wednesday, September 29, 2004:
 - o Edmonton Journal
 - o Calgary Herald
 - o Golden Star

- Valley Echo
- Kamloops Daily
- Prince George Citizen
- Jasper Booster
- Thursday, September 30, 2004:
 - Canmore Rocky Mountain Outlook
 - Hinton Parklander
- Friday, October 1, 2004
 - Le Franco
 - L'Express du Pacific.

Major stakeholder groups were also notified, and they in turn advised their membership of the consultation process.

A reading room containing planning, policy, environmental and safety research, and legal documents pertinent to the airstrips subject, dating back to 1984, was set up in the library in Parks Canada's office in Calgary. Any person or groups wishing to review this material was welcomed to do so.

No formalized comment form or specific questions to address were provided to the public for use in their review. It was determined that it would be better to provide the public with an opportunity to submit comments as they wished, rather than giving any appearance that any attempt was being made to focus the comments in any particular direction.

Executive Summary of the Public Consultation Analysis

The Analysis of Public Input on the Comprehensive Studies for the Decommissioning of the Airstrips in Banff and Jasper National Parks of Canada, Alberta contains numerical data and multiple permutations and combinations of analysis of the public comment received. Readers are referred to the Strategy Plus Executive Summary, and the full report for a detailed presentation of the findings of public consultation. An overview of the Strategy Plus Executive Summary follows.

Who Responded

A total of 1,512 valid submissions with 4,363 specific comments were received during the two-month consultation period. Submissions were received by e-mail, fax or regular mail to Strategy Plus.

Respondents were not asked to identify themselves as pilots or non-pilots, although many did identify themselves. The majority of submissions received were from self-identified pilots (1,167 or 77.2%). A further 96 or 6.3% of submissions were from self-identified non-pilots, and it was not clear from the remaining 249 submissions (16.5%) if they were from pilots or non-pilots.

The highest number of submissions was from Alberta (387 or 25.6%), followed by Ontario and eastern Canada (378 or 25.0%), and British Columbia (311 or 20.6%).

Most submissions received were from individuals. A total of 1,430 (94.6%) of submissions were from an individual and 42 (2.8%) specifically represented input from 2 people. A total of 28 (1.9%) submissions represented large groups or associations of 20 or more people. The remaining 12 submissions were from small groups ranging in size from 3 to 19 persons.

Support or Non-Support for Decommissioning

The majority of respondents do not support the proposed decommissioning of either airstrip. Of the 1,512 submissions, only 21 or 1.3% support decommissioning, one was neutral, and the remaining 1,490 or 98.5% did not support the proposed decommissioning of the airstrips.

A straightforward appeal to “keep the airstrips open” was made by 193 respondents (12.8% of all respondents and 4.4% of all comments).

Numerous respondents suggested that the airstrips should be maintained and expanded for tourism and recreation access (178 or 4.1% of all comments). Potential benefits for the local economy, recreation, tourism, environmental awareness, and fire reporting, etc., resulting from use of the airstrips, were identified 61 times (1.4% of all comments).

Others (29 or 0.7% of all comments) suggested that, in recognition of the location of the airstrips in national parks and/or the conflicting protection and enjoyment mandate of Parks Canada, the airstrips should be maintained for emergency or diversionary landings, but not re-opened as destination strips.

Of the 1,512 valid submissions included in the analysis of public input, almost one third (455 or 30.1%) clearly demonstrated awareness that both the Banff and Jasper airstrips are closed to general aviation and are available for emergency and diversionary use only. A total of 88 (5.8%) of the submissions clearly demonstrated that they were not aware that the airstrips are currently closed to general aviation. It was unclear in the remaining 969 (64.1%) or almost two thirds of all submissions whether or not the respondent was aware of the current closed status.

Highlights of public comments received are outlined below, sorted into the following categories:

- Concerns for Safety, Diversionary and Emergency Landings
- Environment and Wildlife
- Liability and Costs
- Mitigations suggested

Concerns for Safety, Diversions and Emergency Landings

Safety and having airstrips available for emergency or diversionary purposes was of concern to almost three quarters of all respondents, and the **most frequently noted comment**.

Almost 40% of respondents (592 of 1,512 submissions) or 13.6% of all 4,363 specific comments received and **the second most frequent comment**, noted that they “support the recommendation of the Air Safety Risk Assessment to keep both airstrips open for emergency and diversionary use, including runway markings, windsock and listings in the Canada Flight Supplement”. This wording repeats the Canadian Owners and Pilots Association (COPA) position and interpretation of the results of the *Air Safety Risk Assessment* report that COPA provided to their members via correspondence and their website. (NOTE – Kootenai International Associates did not specifically recommend to keep the airstrips open for emergency and diversionary use, including runway markings, windsock, etc. – this was one of eight possible options in a list that also included an option to remove windsocks and other operating features, but maintain the airstrip in a condition useable for emergency landings).

Inaccurate weather forecasts, rapidly changing weather conditions, and reduced services from Navigation Canada mean that the airstrips provide an option for pilots running into unfavourable weather conditions (148 or 34% of all comments).

Environment and Wildlife

Over one quarter of respondents (394) or 9.0% of all 4,363 specific comments received, noted that the airstrips have less of an impact on the environment than the highways, railways and other activities in the Parks. **This was the third most frequently made comment**.

A total of 211 submissions (13.9% of all respondents or 4.8% of all specific comments received) noted that decommissioning the airstrips would have little if any impact on wildlife.

Specific comments related to the role restoring grasslands has in maintaining biodiversity and providing interpretive opportunities were noted 30 times in the 21 submissions indicating support for the proposed decommissioning of the airstrips.

Liability / Costs

Legal liability issues for Parks Canada in the event of an accident/fatality due to the decommissioning of the airstrips were identified 141 times or 3.2% of total specific comments.

Concerns about closing air access over National Parks and the seeming unfair targeting of air access versus highway access were noted 149 times or 3.4% of all specific comments.

Concerns with bureaucrats, government expenditures and political control for no reason were noted 54 times by self-identified pilots (1.6% of all comments from pilots) and 8 times by non-pilots (2.9% of all comments from non-pilots).

Mitigations Suggested

A total of 22 mitigations (0.5% of all comments) were suggested. These mitigation suggestions are wide ranging and frequently involve ideas contrary to the goals of the decommissioning project or the National Park mandate. In some instances they required substantial undertakings by other Federal departments – e.g. weather recording and reporting. Readers are referred to the Strategy Plus report Sec IV.6 for details regarding mitigations suggested by the public. A brief summary follows:

Continued maintenance of the airstrip

The most frequent mitigation proposed was to decommission the airstrips, but maintain them in a state useable for emergency landings. Ideas proposed included:

- Removing all physical structures at the airstrips except for the runway markers, windsocks and signs with instructions to pilots.
- The runways be maintained by cutting the grass when greater than 6 inches and ploughing the snow when greater than 6 inches deep.
- The airstrips continue to be posted in the Canadian Flight Supplement with notations that their use is for emergency and diversionary landings only, unless by permission of the Park Superintendent.
- Maintenance of the area of the airstrips as open grassland through the use of prescribed fire once they are decommissioned will still provide pilots with a soft field landing area for emergency landings
- Special attention should be given to ensuring past fuelling areas are appropriately investigated and mitigated.

Improved Weather Reporting Services

- Decommissioning of the airstrips and removing them from flight planning literature offers an opportunity for the federal government to follow up on the weather office closures and encourages risk avoidance through conservative flights planning and fly/no fly decisions by pilots.

- Establishing weather-reporting facilities in critical locations, such as the Exshaw Gap, would be an important mitigation measure if decommissioning and reclamation projects have an unacceptable impact on aviation safety. National Parks ecological integrity dictates this choice over the provision of environmentally disruptive airstrips.

Other Recreational Use of the Airstrips

- Decommissioning of the airstrips should be contingent on all other recreational activity on the aerodrome ceasing and that Parks Canada be compelled to fulfill its stated mitigations within a specific period of time and that a public reporting system regarding this be implemented.
- In Section 5.8 on Recreational Use, the consultants noted an important recreational use of the area was off-leash dog walking, which is prohibited under the National Parks Act. Continued use of this area as a recreational dog walking area will do much to erode the ecological benefits of airstrip decommissioning. Parks should take concrete steps to implementing an ecological closure in the airstrip area to ensure restoration efforts are effective.

Alternative Airstrips

- Another suggestion might be to put a strip beside the highway as has been done along the Alaska Highway.
- Another alternate emergency airstrip could be situated in the vicinity of Healy Pass between the Bow River and the Sunshine Ski Area interchange on the Trans Canada Highway.

Wildlife Corridor

- If it is environmentally beneficial to widen the animal corridor in Banff between the Banff Airstrip and Cascade Mountain, the parking area could be removed and the airstrip moved closer to the Trans Canada Highway. Realigning the strip into the prevailing wind would also make approaches easier. A similar comment notes that there is sufficient space on the SW side, especially at the NE end of the airstrip, to relocate the airport infrastructure, including the fuelling station, hangar space, tie downs and vehicle parking. This would open up the Norquay-Cascade Corridor for better wildlife transit of the area, and fencing could also be provided.

Developing a Cooperative Solution to Share the Park

- By working with the general aviation community, all parties could share the park and advance its aims, taking into account the historical significance and its importance to the advancement of flight safety.

Requirement for Adequate Mountain Flying Experience

- On the subject of risk assessment in flying, many of the recreational pilots flying in the mountains have little to no specific training in the hazards and different safety considerations required for mountain flying. As a mitigative measure to reduce mountain flying risk, recreational pilots seeking to open or close a VFR flight plan traveling through the mountain areas, and especially National Parks, should be required to have taken adequate mountain flying experience.

Concerns About Search and Rescue, Emergency Evacuation and Wildfire Fighting

A noteworthy submission brought directly to Parks Canada outside of the formal public consultation program involved a concern that the Banff airstrip provided an important base for search and rescue, emergency evacuation and firefighting. The commentator was concerned decommissioning the airstrip would impair these functions in the national parks. A key point of response regarding this subject is that the Banff airstrip has never been considered to be an important infrastructure element with respect to emergency response operations.

As with most communities in mountainous terrain, the primary reliance for emergency air movement or support is on helicopters, due to their ability to land almost anywhere. Shock Trauma Air Rescue Service (STARS) – based in Calgary, is responsible for helicopter evacuation to hospital of seriously injured persons (e.g., from vehicle, climbing or serious skiing accidents) in southern Alberta, including the Banff area. Parks Canada bases its helicopter-supported operations out of a helipad in the Banff works compound. The Banff Mineral Springs hospital has its own helipad. A major helicopter services company operates out of a nearby base in Canmore.

If civilian fixed-wing aircraft support is required for some operation near Banff – e.g. – for wildlife census, it is typically staged out of the full-service bases of Calgary International or Springbank Airports, both situated in open flatland conducive to aviation.

The Department of National Defence coordinates official air search and rescue missions in the mountainous areas of Alberta's national parks. Typically they use larger aircraft – mostly C-130 Hercules – home based in Winnipeg, Manitoba or Comox, B.C., but operating out of Calgary and Edmonton for the search.

The Trans Canada Highway is the primary public transportation link into and out of Banff, both normally and during emergencies. Should the Trans Canada Highway become impassable as a result of an emergency, the wide pavement would serve as a good contingency landing strip.

When forest fire fighting in the National Parks requires fixed wing aircraft, they operate out of Rocky Mountain House, Pincher Creek and Edson in Alberta and from Kimberly in British Columbia. If necessary, a highway could be closed for landings if needed, as was the case when battling forest fires in the Vermillion Pass in 1968. However, that has

not been necessary for some time because fire fighters mostly use heavy helicopters – e.g. – fire fighting in Kootenay National Park in 2003.

The airstrip in Banff is considered by Transport Canada to be a dangerous one, due to its proximity to Cascade Mountain and the effect of wind shear forces in its vicinity. That danger has justified a standing Notice to Airmen (NOTAM) of the inherent risks to safe navigation. In summary, Parks Canada considers the Banff airstrip more of an emergency liability than an asset during emergency event operations. Parks Canada maintains contingency plans for a variety of possible emergencies, and has not and does not foresee a response role for the Banff airstrip in these situations.

RESPONSE TO OTHER FEDERAL DEPARTMENTS

Two of the ten federal departments contacted regarding the Parks Canada proposal to decommission the Banff and Jasper airstrips indicated a specialist advice interest in the project - CEA Act Sec (12). They were Transport Canada – Aerodrome Safety and Environment Canada – Environmental Protection. All other federal departments indicated a “no interest” or lacked a regulatory trigger for the project. Parks Canada is the sole Responsible Authority with a CEA Act Sec (5) duty.

Both Transport Canada and Environment Canada were asked to review the draft Comprehensive Study reports on 30 September 2004 and provide advice to Parks Canada by 29 November 2004.

Transport Canada acted as an observer stakeholder during the air safety risk assessment exercise. Later, in 2004, Transport Canada provided an important interpretation of the Canadian Aviation Regulations during their review of the scope of project. They instructed Parks Canada that the installation of “white X’s” was not a component of closing and decommissioning an airstrip in Canada. The white crosses are used to inform an aviator of the temporary closure of an airport runway. Yellow crosses are used for the temporary closure of an airport taxiway. Permanent closure of an airstrip requires the removal of all markers, windsocks and other appurtenances that make, and appear to make, an airstrip operational. The following is the interpretation of the Canadian Aviation Regulation provided to Parks Canada from the Regional Safety Officer at Transport Canada (RAEB), Edmonton, AB:

“The following excerpt from part three of the regulations distinguishes a difference between permanent closure and temporary closure. Permanent closure is dealt with clearly in 301.04 (1). All markings are to be removed. This is the only logical solution to a permanent closure, since legislation does not deal with the duration of time that markings are required to exist, and the limitation imposed by markers to the landowner would not be reasonable or justified.

The question that remains is the point in time where decommissioning is complete and permanent closure begins. At that point in time 301.04 (1) would apply.

Markers and Markings

301.04(1) When an aerodrome is closed permanently, the operator of the aerodrome shall remove all of the markers and markings installed at the aerodrome.”

In response to this correcting information Parks Canada has now deleted the “white X’s” from further consideration in the proposal to decommission the Banff and Jasper airstrips. This of course makes a substantial change in the activity and components of decommissioning, enduring considerations of emergency landing possibility, and environmental effect.

Environment Canada provided advice at the Terms of Reference stage, and conducted a review of the draft Comprehensive Study reports. Their main points regarding the Highwood Environmental Management Ltd Comprehensive Study reports are as follows. Parks Canada herein responds to each of their points.

- Environment Canada commented the Highwood report is confusing regarding ‘alternatives to’ decommissioning. Parks Canada has addressed this circumstance in this summary. The complexity arises in that there are limited ways to fulfill the requirements of the *Canadian Aviation Regulations* for closing and decommissioning an airstrip; however, Justice Campbell instructed Parks Canada to consider how to decommission the airstrips, but leave them in a condition useable for emergency landings. Subsequent court rulings appear to disallow that.
- Environment Canada comments at length about the closure markings – the “white X’s”. Transport Canada’s guidance regarding permanent airstrip closure requirements now nullifies and sets aside any further consideration or discussion about closure markings.
- Environment Canada comments on their confusion regarding the *National Park Aircraft Access Regulations*. Parks Canada has reviewed the accuracy and application of the discussion about these regulations, and does not contemplate revisions
- Environment Canada commented on inaccuracies or oversights in cited references. These have been addressed
- Environment Canada comments on lack of clarity in the seed mix intended to be used to reclaim the Jasper airstrip. Parks Canada accepts the recommendations provided by Wilkinson in 2000. Upon preparing the details of the reclamation contract Parks Canada will review those recommendations in light of new technologies, improved practices, and preferred seed mixes and their availability at that time

- Environment Canada comments their greatest concern arising from their review of the Highwood reports is the lack of more detail about possible site contamination resulting from abandoned fuel tanks at both Banff and Jasper airstrips. Parks Canada had investigated both sites prior to the start of the Comprehensive Study and concluded there was no evidence or history of a spill or leakage. These sites did not qualify to be on the National Park national register list of potentially contaminated sites of concern, prepared by Parks Canada in the early 1990's. Similarly, Highwood Environmental Management reported no observable evidence of fuel contamination at either site. Nevertheless, Phase I Environmental Site Assessments to investigate the possibility of contamination have been completed for the fuelling installations at both Banff and Jasper airstrips.

The Banff airstrip fuelling installation is two 1000 litre aboveground tanks installed in 1983 and used up to 1997. At that time they were drained and have not been refilled or used since. These tanks have always been encircled by a containment berm enclosed inside a high, locked chain link fence. There is no evidence of vandalism or damage to the tanks. There is no history of fuel spills or evidence of spills or leakage, either in the top 80cm of select soil profiles or patterns of vegetation growth. Surface water is about 700 m distant across level terrain, and the groundwater is about 20 m deep. Decommissioning will involve removal of the tanks and attachments, removal of the fence and concrete pedestals, and possible leveling of the berm. Machinery can readily access the site. However, the site has grown in heavily and there will be consideration for leaving the terrain as is to avoid destruction of this vegetation, which is consistent with an early seral stage of succession in an un-grazed Montane setting. Should the site be levelled and reseeded, the seed mix used will be based on recommendations provided by Wilkinson (2000).

The Jasper fuelling facility is a tank, buried in 1980, but not used since 1995. Tank capacity is unknown because accurate records cannot be found, and this tank was not recorded in the Parks fuel tank inventory. The tank probably is in decent condition as it was wrapped with the same yellow-jacket material used to protect the TransMountain Pipeline that passes through Jasper National Park. There are no records of spills, or evidence of hydrocarbons in the top 80 cm of the close-by soil profile. Vegetation growth adjacent to the tank location displays no evidence of stress. The Athabasca River is about 400 m distant across a level terrace. There are no groundwater records from wells in the close vicinity of the airstrips. The closest boreholes are 1.5 km south, where the groundwater is recorded to vary seasonally between 2 and 9 m deep. Decommissioning will be excavation and removal of the concrete pad, the tank and its attachments. The hole will be backfilled with pit run material, leveled and reclaimed with suitable soil and grass seed to achieve the desired end result – Montane grassland, as recommended by Wilkinson (2000). Machinery can readily access the site.

Although neither fuelling site displays any evidence of fuel contamination a Phase II contaminated site investigation will be conducted at the time of tank removal

for both Banff and Jasper airstrips. Remedial action, as may be appropriate will be undertaken at that time. The tanks will be removed pursuant to applicable regulations and best contemporary management practices.

FINDINGS – WHAT WE LEARNED FROM THE COMPREHENSIVE STUDIES.

The Environment

The environment includes, natural, cultural and socio-economic components

Natural Environment

In the case of both Banff and Jasper there will be no significant adverse residual effects to the natural resources examined in detail– hydrologic resources, soils and terrain, vegetation and wildlife. Hydrological resources will not be affected. The effects to soils and terrain, vegetation and wildlife during the time of actual decommissioning activity are low to negligible in magnitude, short term, limited in geographic extent and reversible. Effects after the completion of airstrips decommissioning for soils and terrain, vegetation and wildlife will be positive. Ecological processes associated with these resources will be naturalized and environmental management opportunities – e.g. prescribed fire, will be enhanced. Restoration of the scarce and special montane grasslands and associated vegetation communities, and reduction in wildlife habitat fragmentation are the noteworthy achievements that contribute to the goal of improved ecological integrity. Cumulative effects for the natural resources studied are positive, particularly in the case of Banff and the goal to restore the Cascade wildlife corridor.

The strategy to focus on valued ecosystem components was valid. There were no surprises or unexpected discoveries of other natural resources that would be affected by the project – e.g. – geology, land forming processes, climate, etc.

Cultural Environment

The cultural environment includes prehistoric and historic resources.

There are no known sites of prehistoric significance on the Jasper airstrip. Nevertheless, an archaeologist would be present to oversee any soil disturbing activities. There are identified historic cultural sites in the vicinity of the Jasper airstrip – short-term Metis occupation sites. They would not be impacted by the decommissioning activities.

Three pre-contact archaeological sites have been found on or in the vicinity of the Banff airstrip. These are sites where scattered stone flakes, fire cracked rock and small stone tools have been recorded on the ground surface. Hand shovel tests have not revealed any buried materials. Archaeologists consider these sites to be of low surface archaeological potential as they probably indicate occurrence of general travel by pre-historic persons in the area – not a major camping or stopping site. However, based on backhoe studies when

the nearby TCH/Banff interchange was constructed in 1982 there is potential for buried surfaces and sites to be present in the general area. No deep excavations or surface disturbance of previously undisturbed sites are involved to decommission and reclaim the Banff airstrip.

During the time of early, historic exploration of the Bow Valley in the mid to late 1800's, well prior to the 1933 introduction of the airstrip, the meadow at the base of Cascade Mountain was a frequently use camping area. Reverend Rundle, Sir James Hector and others journeying through the valley camped at the base of "The Mountain Where the Water Falls" – today's Cascade Mountain, due to the good horse feed, close water supply and open aspect. However, there is no extant evidence of their former presence. Photos taken in 1936 shown extensive hand excavation of soil up to a metre in depth, apparently to level the runway; it seems likely than any near surface evidence of early historic occupation of the airstrip meadow has been lost. There are no existing, nearby historic resources or sites potentially impacted by the decommissioning activities.

Given the low potential for archaeological and cultural artefacts on the airstrip, the minimal disturbance methods necessary to decommission the airstrip, and the oversight of a staff archaeologist, the potential for adverse residual impact to cultural resources arising from decommissioning the Banff airstrip is negligible.

Socio-economic Components

Socio-economic considerations in the case of the airstrips decommissioning proposal include recreation and aesthetics, aviation safety and aboriginal interests. There never have been commercial or business interests related to the airstrips, particularly since they were legally closed in 1997.

Recreation and aesthetics at both the Banff and Jasper airstrips will be enhanced after the decommissioning project is completed. There will be a short-term disturbance during the five-day period of activity to remove facilities and undertake reclamation at the airstrips. A public safety plan will be in place during this time.

A change in aviation safety is the most important social effect resulting from decommissioning the Banff and Jasper airstrips. This subject is addressed below.

Aviation Safety

Both the Banff and Jasper airstrips were legally closed in 1997. However, court orders prevented Parks Canada from taking any action to decommission these airstrips until a Comprehensive Study of the effects of such an undertaking could be examined. During the time between 1997 and now, Parks Canada maintained the airstrips for emergency and diversionary landings only. Discretionary and recreational landings and takeoffs have been illegal since 1997. Since 1997 the Canada Flight Supplement has alerted aviators the Banff and Jasper airstrips are closed and available for landing only by prior permission from Parks Canada authorities. However, Parks Canada has not taken

consistent enforcement actions against defiant aviators landing and taking off during this period because in 1999 Alberta Provincial Court Judge D.C. Norheim held that Parks Canada could not maintain a successful prosecution for landing at the airstrip until the normal measures of decommissioning an airstrip had been accomplished. Subsequently in 2000, during appeal, Justice M.T. Moreau upheld that ruling in the Court of Queen's Bench of Alberta. During the time of preparation of the Comprehensive Study - 2001 to 2005, Parks Canada has not taken enforcement action against aviators using the Banff and Jasper airstrips, and has maintained the airstrips in a status quo condition for emergency landing purposes.

Now, the Comprehensive Studies are complete and the main finding of concern is whether or not, decommissioning the airstrips, as proposed, would unacceptably heighten the existing air safety risk.

In the case of the Banff and Jasper airstrips and their associated VFR routes, it is a complex task to determine the degree to which air safety might be compromised by decommissioning these airstrips. The comparatively small number of aircraft movements and the infrequency of accidents and emergency or diversionary landings at Banff and Jasper preclude the application of normal risk assessment procedures employed in commercial aviation or where a large amount of private aviation activity occurs. Consequently, experience, judgement and the principles of cautious decision-making have been employed to make findings about the effect on air safety.

Parks Canada relied on the findings of Transport Canada in 1995 that the Banff and Jasper airstrips were not significant facilities in air safety considerations along the VFR routes where they were located. Parks Canada advanced with legal closure of the airstrips in 1997. Concern for air safety persisted within the light aircraft aviation community, and legal challenges ensued.

Within the context of the Comprehensive Study process Parks Canada directed Highwood Environmental Management Ltd. to address the air safety issue with particular attention. Highwood Environmental reported the change in air safety arising from the proposed closure of the airstrips was negative in direction, but low in magnitude, extra regional, long term, and intermittent. Even though the change in air safety was not significant, Highwood Environmental recommended, and Parks Canada agreed, to undertake a more detailed study of the air safety risk subject to attempt to quantify the effect.

Kootenai International Associates conducted an air safety risk assessment utilizing a recognized risk assessment methodology. This was a participative, consensus-based process involving key stakeholders in assessing risk and negotiating mitigation and control measures. Importantly, Kootenai International Associates reported that the low occurrence of air accident and incident data and analysis for the area under study made it difficult, if not impossible, to establish a cause and effect relationship between the availability of diversionary landing sites and CFIT and disorientation accidents. (CFIT - Controlled Flight Into Terrain is the occurrence of an airplane crash onto earth while

under competent pilot control). Nevertheless, a conclusion was achieved, albeit the aviator participants reached a slightly different determination than Kootenai International Associates Associates.

Kootenai International Associates concluded, that decommissioning the airstrips and making them unavailable for emergency landing would adversely impact air safety. Their quantification of the new situation is that it was reasonable to assume that a serious air accident may occur within a generation of aviation users (a generation in Canada is 27 years). This conclusion fell along the “extremely improbable” position of an accident probability scale of: probable – improbable – extremely improbable – extremely remote. A serious accident involves the possibility of serious injury, loss of the airplane and possible fatality.

The key stakeholders agreed with Kootenai's conclusion, except, they rated the probability of a serious air accident higher – at “improbable”.

Both Kootenai International Associates and the key stakeholders considered the residual risk to air safety to be unacceptable and mitigation and control measures would be required.

Aboriginal Interests

Both the Bow Valley in Banff and the Athabasca Valley in Jasper would have been traditional travel and hunting territory for aboriginal persons. Prehistoric long term occupation sites have not been found at either the Banff or Jasper airstrips even though such sites exist at other locations in the Bow River River valley.

In Banff, contemporary aboriginal interest occurs in two locations. The Siksika Nation has maintained ongoing discussions with Parks Canada for a specific claim near Castle Junction, approximately 32 km west of the airstrip location. This claim has no interaction with the airstrip decommissioning project. The Stoney Nation intermittently conducted a pageantry form of gathering at a location near Banff from the 1940's to the late 1970's. This one-week, summer time encampment, called “Indian days” occurred at a location near Banff – called the “Indian grounds” on the south side of both the Trans Canada Highway and the CPR train tracks. Although separated by the highway and train tracks, it is in the vicinity of the airstrip location – about 500 metres away. There has never been any functional cultural connection between the Stoney “Indian days” gathering and the airstrip site. Consequently there has not been a need to initiate a specific consultation exercise with aboriginal persons regarding the Banff airstrip closure proposal. Both Siksika and Stoney nations are routinely informed about Banff's planning exercises and are invited to the annual “State of the Park” forums. Since 1984, these planning exercises have included the topic of airstrip closure, and since 2000, the subject of decommissioning. There never has been any point of special interest raised by aboriginal persons regarding the Banff airstrips topic.

There are no known aboriginal interests in the Jasper airstrip locale, or in the subject of closing or decommissioning the Jasper airstrip. Two Metis occupation sites are in the general area – the Adolphus Moberly and Isadore Finlay sites. Neither will be affected by the airstrip decommissioning project. Jasper National Parks conducts planning exercises and “State of the Park” forums, to which local Indian groups are invited. There never has been any point of special interest raised by aboriginal persons regarding the Jasper airstrips topic. Consequently there has not been a need to initiate a specific consultation exercise with aboriginal persons regarding the Jasper airstrip closure proposal

Parks Canada will alert each of the aboriginal communities typically interested in Banff and Jasper National Parks about the projects, to apprise them of the opportunity to provide input to the Canadian Environmental Assessment Agency during the time of their public consultation about these projects. Also, the Canadian Environmental Assessment Agency will alert key stakeholders, including potentially interested aboriginal communities, of how to participate in the review of the Comprehensive Study.

Indian and Northern Affairs Canada indicated they did not have a CEA Act Sec (5) trigger or Sec (12) advice role in the Banff or Jasper airstrips decommissioning projects. Further, the Department did not have an interest in the projects, and did not require additional documentation.

Public Consultation - Highlight of Responses and Concerns

A total of 1,512 valid submissions with 4,363 specific comments were received during the two-month consultation period.

The majority of submissions received were from self-identified pilots (1,167 or 77.2%).

The highest number of submissions was from Alberta (387 or 25.6%), followed by Ontario and eastern Canada (378 or 25.0%), and British Columbia (311 or 20.6%)

The majority of respondents do not support the proposed decommissioning of either airstrip.

Safety and having airstrips available for emergency or diversionary purposes was of concern to almost three quarters of all respondents, and **the most frequently noted comment.**

Almost 40% of respondents (592 of 1,512 submissions) or 13.6% of all 4,363 specific comments received and **the second most frequent comment**, noted that they “support the recommendation of the Air Safety Risk Assessment to keep both airstrips open for emergency and diversionary use, including runway markings, windsock and listings in the Canada Flight Supplement”. This wording repeats the Canadian Owners and Pilots Association (COPA) position and interpretation of the results of the *Air Safety Risk Assessment* report that COPA provided to their members via correspondence and their website – this was not Kootenai International Associates recommendation.

Over one quarter of respondents (394) or 9.0% of all 4,363 specific comments received, noted that the airstrips have less of an impact on the environment than the highways, railways and other activities in the Parks. **This was the third most frequently made comment.**

PARKS CANADA CONCLUSIONS ARISING FROM THE FINDINGS OF THE COMPREHENSIVE STUDIES

A number of concise conclusions can be made from the results of environmental studies, air safety studies and public consultation regarding Parks Canada's proposal to decommission the Banff and Jasper airstrips.

1. There is no adverse residual impact to the environment, natural resources or cultural heritage. Similarly, the effects of the project do not combine with the effects of other projects or activities to cause a cumulative adverse effect. To the contrary, positive individual and cumulative environmental effects are anticipated from airstrips decommissioning in both Banff and Jasper. Damaged environments will be restored and ecological integrity will be enhanced.
2. Air safety is impacted, with the change in air safety negative in direction. Although the change in air safety risk is not quantifiable, it is low; with an "improbable" or "extremely improbable" likelihood that a serious air accident would occur within the next 27 years.
3. Aviators are very much on alert and concerned about the loss of any emergency or diversionary landing sites. The situation in Banff is particularly troublesome because of local weather blocks. Weather blocks that form at the Exshaw Gap, are unpredictable, dangerous to VFR aviators and most frequently impact east bound pilots between May and October. Weather blocks that form near Roche Miette in Jasper are similar, but less frequent than at Exshaw near Banff.
4. 98.5% of the 1512 respondents to the public review of the Comprehensive studies do not support full decommissioning of the airstrips. Nearly three quarters of the respondents support maintaining the airstrips in a state useable for emergency landings.
5. Environmental protection advocates and proponents of the ecological integrity element of Canada's national parks endorse the proposed decommissioning of the Banff and Jasper airstrips.
6. There appears to be reluctant resignation that recreational and discretionary aviation landings/take-off, and storage of private aircraft, at the Banff and Jasper airstrips has come to an end. This is accompanied with strong hope and urgent appeal that some kind of emergency landing capacity endures at these former airstrip locations.
7. There are no aboriginal interests in the airstrips decommissioning projects

PARKS CANADA'S MODIFIED PROJECT TO DECOMMISSION THE BANFF AND JASPER AIRSTRIPS

Parks Canada is mindful of any decision that truly does, or appears to, increase safety risk to citizens lawfully pursuing legitimate activities. The issue of reducing safety for aviators by completely eliminating and precluding the Banff and Jasper airstrips as an emergency landing option is not a trivial matter. As small as the increase in risk appears to be, it is more than just an inconvenience; in the event of a bona-fide aviator emergency in the Banff or Jasper area along these mountain VFR routes – it could be a matter of life and death. On the other hand, Parks Canada has not had practical or legal success to maintain the airstrips in their status quo for emergency landings only. Consequently, Parks Canada is compelled to seek a solution that fully decommissions the Banff and Jasper airstrips, but retains an emergency landing possibility. Importantly, Parks Canada must not propose actions that jeopardize the realization of the environmental gains predicted from the airstrips decommissioning. To that end it is proposed the Banff and Jasper airstrips will be decommissioned, but left, and possibly maintained, in a state to facilitate emergency landing for an aviator in a circumstance of dire distress. To that end, it is proposed:

1. Parks Canada reaffirms that pilots in distress can conduct an emergency landing anywhere in a National Park, including at the former airstrip sites in Banff and Jasper.
2. Owners of privately owned aircraft presently kept at the airstrips will be notified to remove their aircraft.
3. Parks Canada will advance to full accomplishment of all measures necessary to comply with the requirement of the *Canadian Aviation Regulations* for the permanent closure of an airstrip. That includes removal of the windsock(s), runway markers and any other features that appear to indicate the airstrips are open. Additionally, in Jasper it includes the removal of the landing button.
4. Parks Canada will take administrative steps to fulfill permanent closure notice requirements for the *Canadian Aviation Regulations*.
5. Parks Canada will remove all other ancillary infrastructure that has arisen to support the airstrips – e.g. makeshift airplane shelters, tie-downs, fuel tanks, toilets, buildings, power and phone services, notice boards, access roads, parking areas, etc.
6. Parks Canada will take measures to rehabilitate and restore the natural grassland environment processes of these damaged landscapes, in the direction of improved ecological integrity.
7. Parks Canada will manage the vegetation on these former airstrips to ensure they are not encroached by trees and shrubs.
8. The airstrips will not be snow ploughed. Snow ploughing is one of the past practices that has been most damaging to vegetation and soils, and must not continue. Most of the emergency landing events occurs between May and October, when snow cover is absent or shallow.

9. Parks Canada will undertake a monitoring program to periodically determine if rehabilitation is progressing as intended. Follow-up intervention may be required, as warranted
10. Pilots who land at the former Banff and Jasper airstrips in defiance of the *National Parks Aircraft Access Regulations* will be subject to airplane impoundment and prosecution.

CONCLUSION

Parks Canada concludes, taking into account the mitigation measures proposed, the project to decommission the Banff and Jasper airstrips is not likely to cause significant adverse environmental or air safety risk effects.

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