BOW CORRIDOR ECOSYSTEM ADVISORY GROUP

GUIDELINES FOR HUMAN USE WITHIN WILDLIFE CORRIDORS AND HABITAT PATCHES IN THE BOW VALLEY (BANFF NATIONAL PARK TO SEEBE)

August 1999

Municipal District of Bighorn
Town of Canmore
Banff National Park
Government of Alberta

Pub No. T/464
ISBN No. 0-7785-0677-0
Date: August 1999

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Table of Contents

List of Maps

Appendices

1.0 Background

The Bow Corridor Ecosystem Advisory Group (BCEAG) is a partnership involving the Municipal District of Bighorn, Town of Canmore, Banff National Park and the Provincial Government. The goal is to facilitate the coordination of responses to environmental and resource issues in the Bow Valley. The objectives of BCEAG are:

- To facilitate inter-agency partnerships in managing environmental and resource issues in the corridor;
- To ensure environmental and resource management initiatives in the corridor are coordinated and integrated;
- To facilitate a coordinated one-window approach on cross-agency issues;
- To provide information and advice to member agencies on resolving environmental and resource management issues.

Commercial, recreational, and residential development within the Bow Valley has increased to the extent that it is important to take steps to ensure that wildlife habitat does not become increasingly fragmented and that functional wildlife linkage corridors between habitat patches are addressed. Due to the finite land base remaining for habitat and corridor functions, there is concern over the impact that recreational human use within these critical areas may have on their future ability to provide the necessary components for use by wildlife. Suitable remaining habitat exists on limited patches of private, municipal and provincial lands in the valley with various jurisdictions having planning and regulatory authority over the lands. In view of this, the BCEAG agencies felt it is necessary to take cooperative steps to manage human use impacts in the wildlife corridors and habitat patches.

In March 1998, BCEAG endorsed an approach to managing human use in its report titled *Wildlife Corridor and Habitat Patch Guidelines For The Bow Valley*. The report recommends restrictions on the types of land uses that should be permitted within wildlife corridors and local habitat patches. Please refer to Appendix 1 for definitions of these terms. The BCEAG report also provides a reference map delineating wildlife use areas as movement corridors and local and regional habitat patches. In addition, the report identifies approaches that should be incorporated into the management of human activities in these areas. The development and subsequent acceptance of these guidelines by the participating jurisdictions was the first step in creating a functional network of wildlife corridors and habitat patches within the Bow Valley.

In May 1998, a BCEAG subcommittee was assigned the task of preparing guidelines directed specifically at human use within wildlife corridors and habitat patches. This subcommittee was called the Human Use Group. Of particular concern was the need to consolidate human use trails scattered throughout critical wildlife areas. Seasonal closures and partial day closures were also identified as proposed methods to ensuring that the network of wildlife corridors would remain functional.

To address these issues, key stakeholders and representatives of user groups were identified and information gathering workshops were conducted on June 17 & 18, 1998. The workshops were followed by field inspections for areas of particular concern on July 15, 16 & 29, 1998. Using information from the initial workshops, field inspections and previously surveyed trails, a series of maps and trail use recommendations were created. These maps and recommendations were presented to stakeholders for review on October 14, 1998. Changes

resulting from the workshops were presented to BCEAG for comment on November 5, 1998. On February 8, 1999, an open house was held to present these draft recommendations to the general public. Changes resulting from the open house were incorporated and the revised draft recommendations were presented to BCEAG for approval on June 17, 1999.

2.0 Purpose of the Guidelines

The purpose of these guidelines is to provide BCEAG member jurisdictions with a coordinated approach to recommendations regarding the management of human use activities within wildlife corridors and habitat patches in the Bow Valley.

3.0 Applicability

These guidelines provide an advisory framework for decision making for all BCEAG agencies. However, the guidelines have no statutory authority in any jurisdiction unless adopted under specific legislation. With regard to the designation of the Bow Valley Wildland Provincial Park and adjacent protected areas within the Bow Valley, it is the recommendation of BCEAG that these guidelines be incorporated into the management plans that will be developed in the future for these newly designated areas.

For trails within Kananaskis Country, implementation of the guidelines will be coordinated with the outcome of the Kananaskis Country Recreation Development Policy Review. For trails within Three Sister's Resorts, trail development has been approved under the Wildlife Human Interaction Prevention Plan (WHIPP) which is consistent with recommendations of the BCEAG Human Use Group. The WHIPP has been approved by Alberta Environment.

This report is considered a "living document" and as such, the report may be updated by BCEAG as new information becomes available.

4.0 Implementation

Implementation of the guidelines will be the responsibility of each of the partnering jurisdictions. Voluntary compliance and public education will be the main tools used in the implementation of the guidelines. It is expected that trail users (i.e. users groups) and developers will play an integral role in the successful implementation of these guidelines.

5.0 Wildlife and Human Activity

Wildlife species vary in their tolerance to humans and will abandon areas if tolerance thresholds are exceeded. Habitat abandonment by wildlife due to high levels of human activity is a common occurrence. What is less clear is an understanding of the various factors that influence tolerance levels of different species and even individuals of the same species. There is general consensus among researchers that the response of a species to a particular disturbance depends largely on disturbance history (Paquet et al. 1994). "New disturbances, in conjunction with established background disturbance, may surpass the level of habituation or innate behavioral plasticity that allows the animal to cope with disruption" (Paquet et al. 1994:4). This same study indicated that increased stress resulting from activities, such as human harassment, may force wildlife to select or be displaced from suitable habitats to sub-optimal habitats and

travel routes in more difficult terrain. Depleted energy budgets and reduced fitness are possible outcomes of navigating through these sub-optimal areas.

It should also be noted that not all species react equally. "Species adapted to mature forests or large tracts of undisturbed land, such as grizzly bears (Ursus arctos) or wolves (Canis lupus), are especially vulnerable to loss of habitat and human disturbance" (Paquet et al. 1994:4). These species are often considered "keystone species" and their loss can disrupt mutualistic relationships or food webs. This may result in secondary extinction or unanticipated ripple effects in populations of other species (Wilcox and Murphy 1985, Wilcove et al. 1986 in Paquet et al. 1994).

Increased contact with humans is directly linked to increased human/wildlife interactions and in the case of bears is directly linked to increased mortality (Weaver et al. 1986, Mattson 1993). The Eastern Slopes Grizzly Bear Project (1998) found that 95% of all human-caused grizzly bear mortality occurred nearby roads or trails. In a recent study of habitat use by cougars, Jalkotzy et al. (1999) found that both male and female cougars avoided areas of high human use and where human use levels exceeded 250-500 users/month, useful habit for cougars could be alienated. In some instances, this conflict with recreational users and large carnivores with the subsequent removal of problem animals has resulted in mortality sinks which may be having significant effects of regional populations of these species (Paquet et al. 1994).

Based on these links between human use and wildlife use, the focus of the committee's recommendations have been to examine the level of human use that is currently occurring on the land base with primary emphasis on those lands that have been identified as wildlife corridor or habitat patches. The guiding principle is that trail use within wildlife corridors, except for limited perpendicular crossings, is incompatible with their primary wildlife function (Wildlife Corridor and Habitat Patch Guidelines For The Bow Valley, 1998) given the size of the remaining areas of undisturbed habitat available as movement corridors. Recommendation criteria used in the development of the human use guidelines were primarily related to the size (width) of the corridor or habitat patch (area) as well as the seasonal sensitivity of the area from a wildlife perspective (i.e. calving for elk, lambing for sheep, winter range).

In corridors deemed too narrow to accommodate both wildlife and human usage, permanent trail closures were recommended. Where multiple trails existed through corridors, redundant trails were recommended for closure with those left open being in locations least likely to have an impact on wildlife and leave the largest undisturbed land area for security. Many areas of the valley receive only seasonal use by wildlife and could be used by recreational users once they have been vacated by wildlife. Based on these criteria, certain trails have been recommended for closure only during the winter months while others would be closed only during sensitive times such as bighorn sheep lambing.

6.0 Recommendations

Please refer to the accompanying maps for trail location. Please note that the numbers are not sequential. Trails without numbers do not have recommendations.

Trail #	Recommendation	Rationale
1-4	No expansion. Seasonal winter/spring closure. December 1 – June 15.	Elk winter range use.
5-11	No winter trail maintenance prescribed.	Elk winter range use. Discourage expansion of human use within Georgetown Regional Habitat Patch.
12-28	No expansion. Seasonal winter/spring closure. December 1 – June 15.	Important habitat area for elk in spring and winter.
29	Permanent closure.	Consolidation of trails, important habitat.
31-32	Seasonal cross-country ski trail only. Open Dec. 1 – Mar. 31.	Impacts corridor. Effort to reduce summer human use.
33-37	Permanent Closure.	Impacts wildlife corridor. Portions of trails #36 - #37 fall within private land.
38	Seasonal spring closure May 1 – June 15.	Lambing area for bighorn sheep in upper basin. Portions of trail #38 falls within private land.
39-42	Seasonal cross-country ski trail only. Open Dec. 1 – Mar. 31.	Effort to reduce summer usage of trails going through corridors.
43	Permanent closure.	Consolidation of trails. Protect access for sheep to lick site.
44	Permanent closure. Re-routing of trail.	Need to direct public away from wildlife underpass.
47-48	Seasonal spring closure. May 1 – June 15.	Sheep lambing at upper elevations. Trail #47 allows utility vehicles access to Stewart Creek irrigation controls. Seasonal closure for recreational use.
49-51	Seasonal winter/spring closure. December 1 – June 15.	Important winter, spring (calving, lambing) range for elk and sheep.
53	Seasonal winter/spring closure. December 1 – June 15.	Important winter, spring range for elk and sheep.
54-56	Seasonal spring closure. May 1 – June 15.	Sheep lambing at upper elevations.
57	Seasonal winter/spring closure. December 1 – June 15.	Important winter, spring area for elk, sheep.
58-62	Seasonal winter/spring closure. December 1 – June 15.	Important winter range for elk, sheep. Wildlife corridor.

Trail #	Recommendation	Rationale
63-65	Permanent closure.	Important winter, spring range for elk and sheep.
66	Re-routing to accommodate for permanent closure of trails #64 and #65.	Continuity of trail.
67-70	Seasonal winter/spring closure. December 1 – June 15.	In wildlife corridor. Important winter area for elk, sheep.
71-85	Permanent closure.	Consolidation of trails in corridor.
86	Open 8:00 AM until Midnight Only.	High use public trail crossing corridor at pinch point. Trail closed at times of likely wildlife use.
87-90	Permanent closure.	Consolidation of trails, elk winter range.
91-93	Seasonal winter closure. December 1 – May 15.	Important winter spring area for elk, sheep.
94	Permanent closure.	Consolidation of trails, important winter spring area for elk, sheep.
95-106	Seasonal winter closure. December 1 – May 15.	Important winter spring area for elk, sheep.
114	Seasonal winter/spring closure Dec. 1 – June 15. Closure to be re-evaluated pending future development adjacent to the corridor.	Elk winter/spring range.
115	Permanent closure.	Consolidation of trails, important winter spring area for elk, sheep.

Please note that the Stewart Creek wildlife underpass is permanently closed to all human use.

7.0 Other Recommendations

Off leash dogs have been identified as having the single greatest potential impact on wildlife usage of corridors and habitat areas (J. Jorgenson, pers. comm.). Studies on heart rate responses of free ranging elk and bighorn sheep to various stimuli found that free ranging dogs and people with leashed dogs resulted in significantly elevated heart rates and long withdrawal responses (Ward et al. 1976, MacArthur et al. 1979). In another study with white-tailed deer, Nelson and Woolf (1978) found free ranging dogs and coyotes to be responsible for 69% of fawn mortalities.

With this in mind, and recognizing that a variety of different animal control regulations and policies exist throughout each of the partnering jurisdictions, it is the recommendation of this committee that dogs should be kept on a leash at all times on any trails that lie within identified wildlife corridors and habitat patches (as recommended in Wildlife Corridor and Habitat Patch

Guidelines for the Bow Valley, 1998). It should also be noted that dogs must be on a leash at all times within Wildland and Provincial Parks.

Cartpaths located within wildlife corridors and habitat patches on SilverTip and Three Sister's Resort properties are intended for golf course use only and are not intended for public recreational trail use. Exceptions are those that have been identified for cross-country ski use in Three Sisters Resort's Wildlife Human Interaction Prevention Plan.

8.0 Education, Monitoring and Implementation

To help ensure compliance, a significant public education effort will have to be undertaken to advise the public of the reasons behind these guidelines and to encourage community support for this initiative. To achieve this end, BCEAG has recommended the creation of a working sub-committee to deal specifically with education and implementation issues. This sub-committee has also been assigned the task of making recommendations on the potential establishment of a corridor wide monitoring program. The sub-committee is expected to begin their task during the summer of 1999.

Furthermore, BCEAG has taken steps to encourage the development of a "community education strategy" by a Master's student currently working on her Degree in Education at the University of Calgary. This project is seen as complementary to the work of the aforementioned BCEAG Education, Monitoring and Implementation (EMI) Sub-Committee.

9.0 Trails and Mapping

The trails depicted on this map were collected from several different sources between January 1998 and April 1999. These include the use of global positioning system surveys, drafted planning documents, ground surveys, and expert opinion. Therefore, the accuracy of the trail information reflects the degree of accuracy of these various methods. Every effort has been made to use the most up to date and accurate information available to BCEAG.

An informal, co-operative agreement between the BCEAG HUG working group and the three major developers in the Town of Canmore (Eagle Terrace, SilverTip, and Three Sisters Resorts (TSR) has resulted in the inclusion of those developers' most up to date trail information in the HUG trail mapping process. To maintain this agreement both SilverTip and TSR have asked that the trail information they supplied to BCEAG be represented on any maps produced as "Draft Plan Trails". The map-reader should be aware these trail placements are general plans and as such, trails may be added or removed, and the location and intended use of trails may change. Furthermore, BCEAG's trail recommendations may be subject to change depending on the developer's needs or agencies' concerns.

The continuing process of informal trail development within the Bow Valley makes it difficult to cost-effectively map all the trails presently being used. However we believe this series of maps represents the most comprehensive collection of trails data for the Bow Valley to date. It should be noted that this report makes no distinction between primary and secondary corridors.

10.0 Literature Cited

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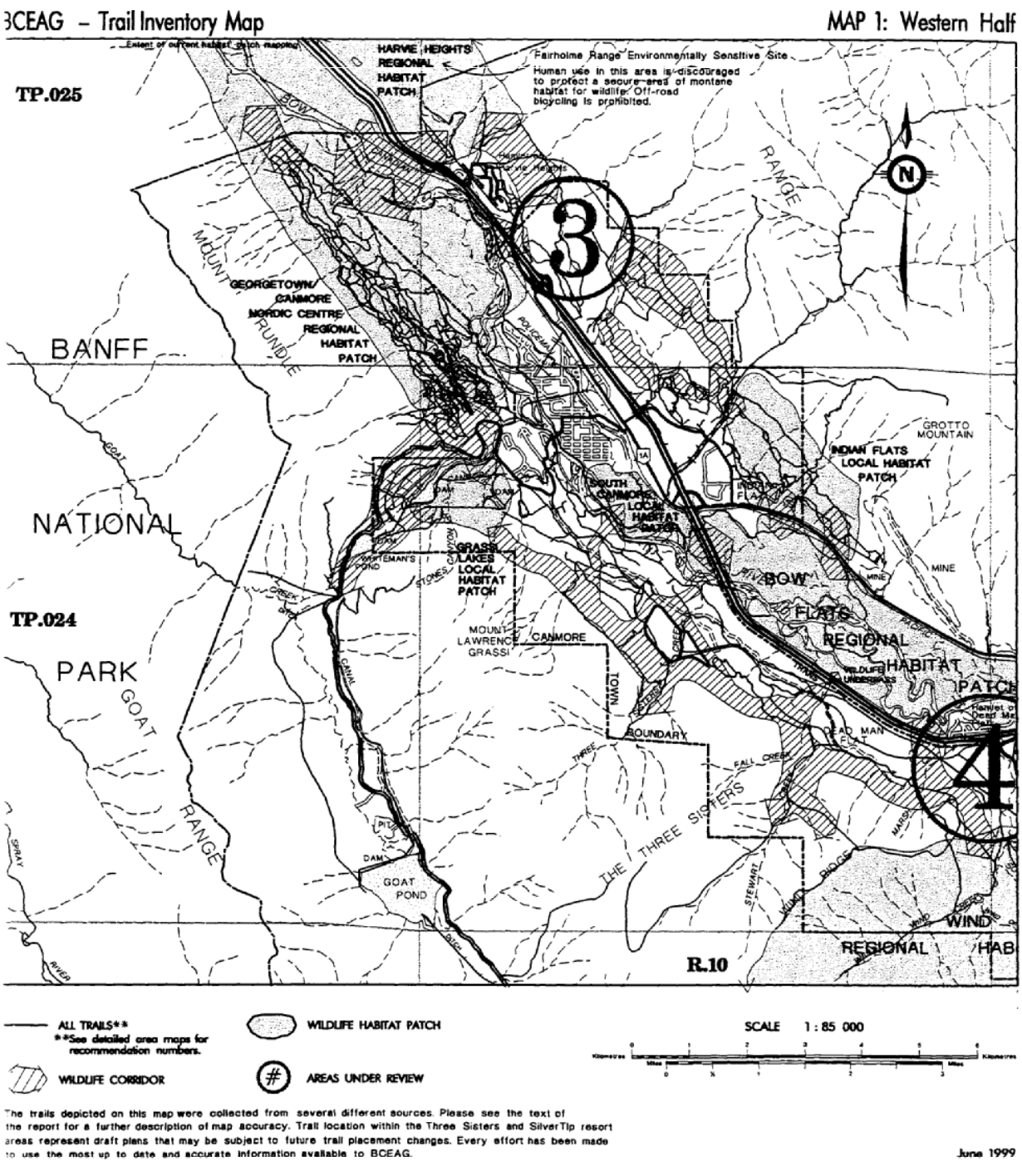
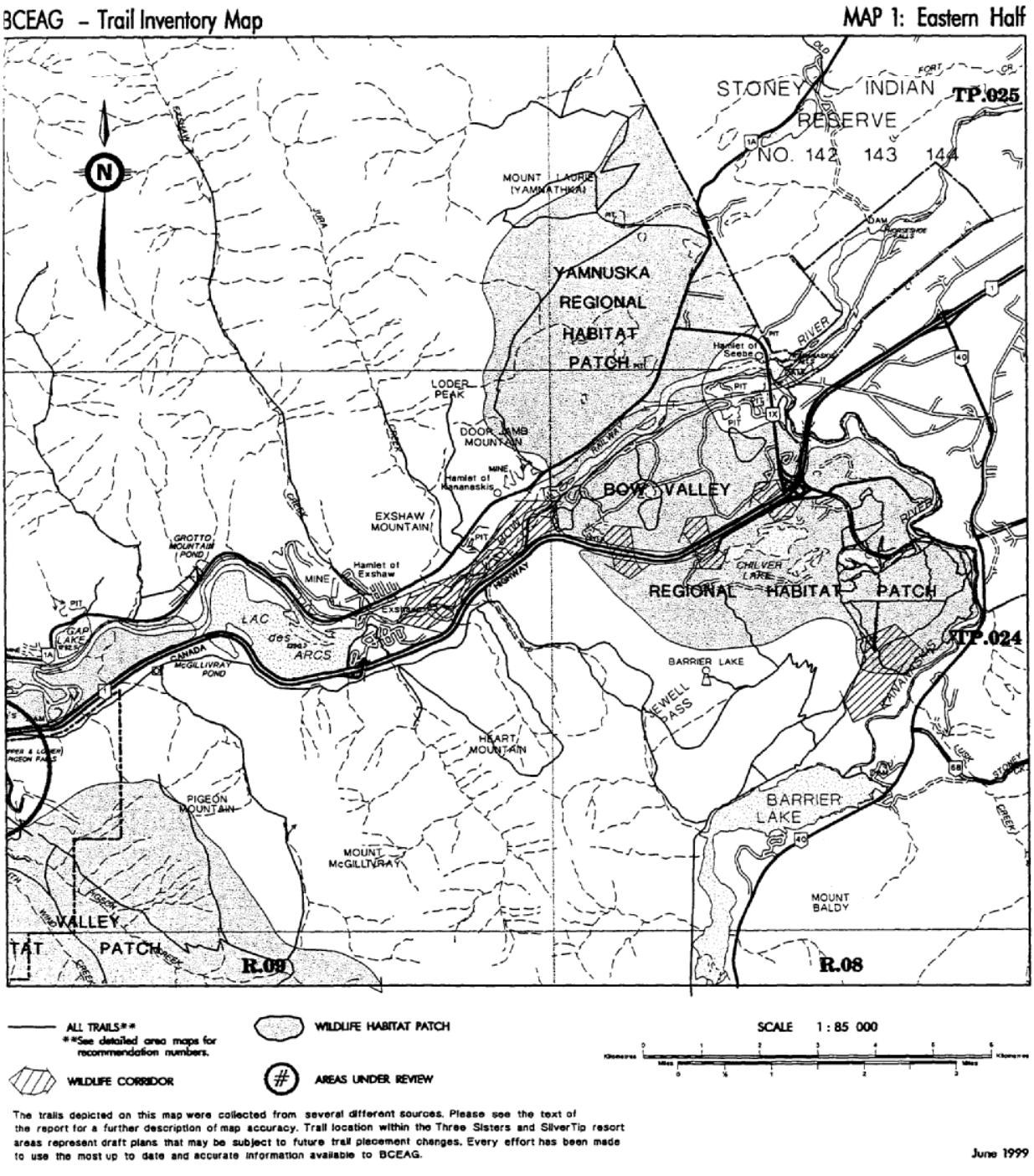

BCEAG – Trail Inventory Map
MAP 1: Western Half
TP.025
HARVIE HEIGHTS REGIONAL HABITAT PATCH
Fairholme Range Environmentally Sensitive Site
Human use in this area is discouraged to protect a secure area of montane habitat for wildlife. Off-road bicycling is prohibited.
BOW
RANGE
MOUNT RUNDLE
GEORGETOWN/ CANMORE NORDIC CENTRE REGIONAL HABITAT PATCH
BANFF
NATIONAL
PARK
GOAT
TP.024
GROTTO MOUNTAIN
INDIAN FLATS LOCAL HABITAT PATCH
SOUTH CANMORE LOCAL HABITAT PATCH
GRASS LAKES LOCAL HABITAT PATCH
MOUNT LAWRENCE GRASSI
CANMORE
BOW FLATS REGIONAL WILDLIFE HABITAT PATCH
TOWN BOUNDARY
DEAD MAN FLAT
THE THREE SISTERS
GOAT POND
WINDY REGIONAL HAB
R.10
ALL TRAILS**
**See detailed area maps for recommendation numbers.
WILDLIFE HABITAT PATCH
WILDLIFE CORRIDOR
AREAS UNDER REVIEW
SCALE 1:85 000
The trails depicted on this map were collected from several different sources. Please see the text of the report for a further description of map accuracy. Trail location within the Three Sisters and SilverTip resort areas represent draft plans that may be subject to future trail placement changes. Every effort has been made to use the most up to date and accurate information available to BCEAG.
June 1999


BCEAG – Trail Inventory Map
MAP 1: Eastern Half
STONEY INDIAN RESERVE NO. 142 143 144
TP.025
MOUNT LAURIE (YAMNATHKA)
YAMNUSKA REGIONAL HABITAT PATCH
LODER PEAK
DOOR JAMB MOUNTAIN
Hamlet of Seebe
Hamlet of Mananeskis
BOW VALLEY
EXSHAW MOUNTAIN
GROTTO MOUNTAIN (POND)
Hamlet of Exshaw
CHILVER LAKE
REGIONAL HABITAT PATCH
TP.024
LAC des ARCS
GAP LAKE
CANADA MCGILLIVRAY POND
BARRIER LAKE
JEWELL PASS
HEART MOUNTAIN
PIGEON MOUNTAIN
MOUNT McGILLIVRAY
BARRIER LAKE
MOUNT BALDY
VALLEY
PATCH
R.09
R.08
ALL TRAILS**
**See detailed area maps for recommendation numbers.
WILDLIFE HABITAT PATCH
WILDLIFE CORRIDOR
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SCALE 1 : 85 000
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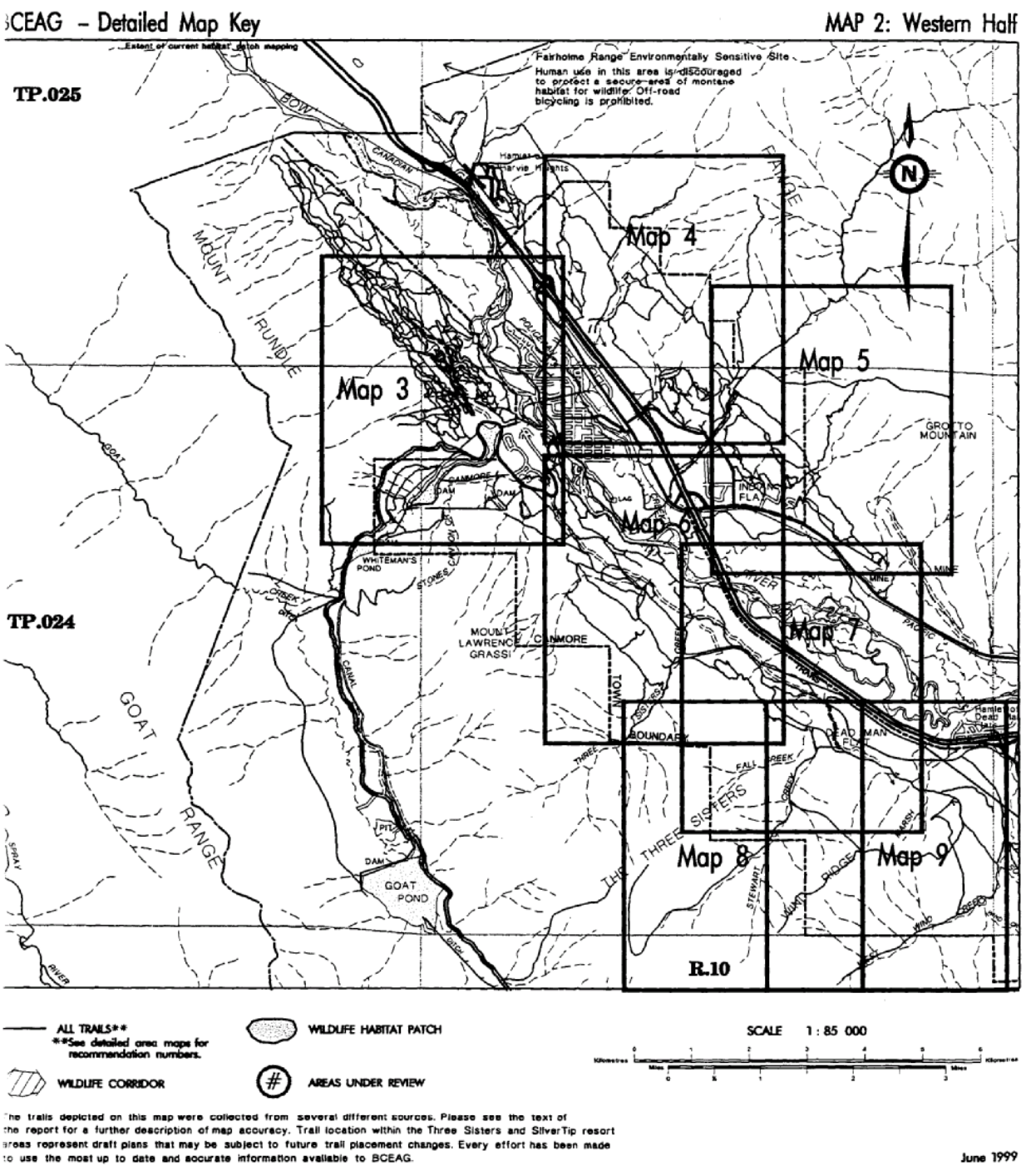
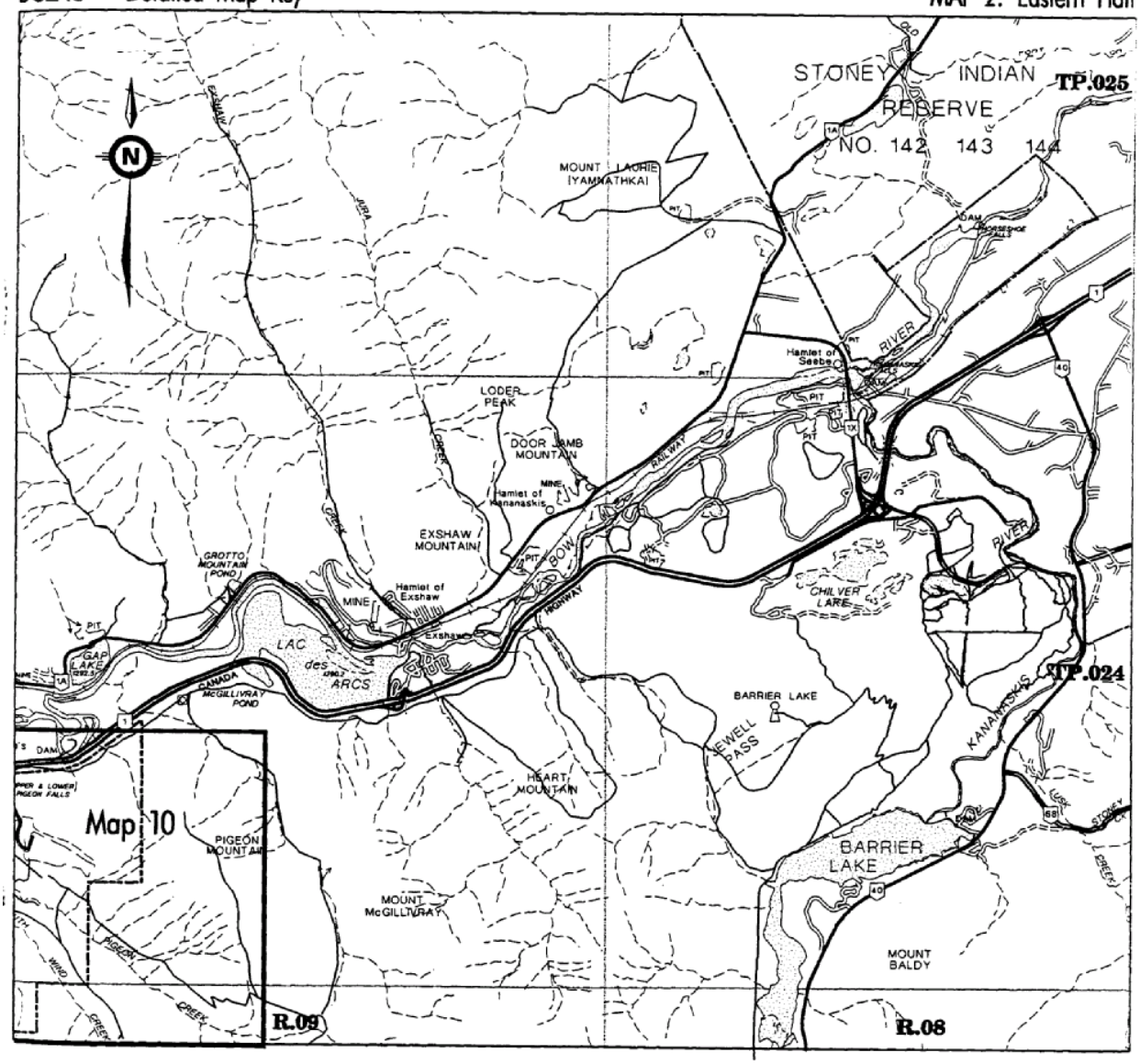

CEAG – Detailed Map Key
MAP 2: Western Half
Extent of current habitat patch mapping
Fairholme Range Environmentally Sensitive Site
Human use in this area is discouraged to protect a secure area of montane habitat for wildlife. Off-road bicycling is prohibited.
TP.025
TP.024
Map 3
Map 4
Map 5
Map 6
Map 7
Map 8
Map 9
R.10
BOW
CANADIAN
MOUNT
IRUNDLE
GOAT
RANGE
GROTTO MOUNTAIN
INDIAN FLAT
WHITEMAN'S POND
STONES
CREEK
MOUNT LAWRENCE GRASSI
CANMORE
TOWN BOUNDARY
DEAD MAN FLAT
THREE SISTERS
FALLS
CREEK
STEWART
KUMI RIDGE
GOAT POND
DAM
PIT
SPRAY
RIVER
N
ALL TRAILS**
**See detailed area maps for recommendation numbers.
WILDLIFE CORRIDOR
WILDLIFE HABITAT PATCH
AREAS UNDER REVIEW
SCALE 1 : 85 000
The trails depicted on this map were collected from several different sources. Please see the text of the report for a further description of map accuracy. Trail location within the Three Sisters and SilverTip resort areas represent draft plans that may be subject to future trail placement changes. Every effort has been made to use the most up to date and accurate information available to BCEAG.
June 1999

BCEAG – Detailed Map Key

MAP 2: Eastern Half



ALL TRAILS**
**See detailed area maps for recommendation numbers.

WILDLIFE HABITAT PATCH

WILDLIFE CORRIDOR

(#) AREAS UNDER REVIEW

SCALE 1 : 85 000

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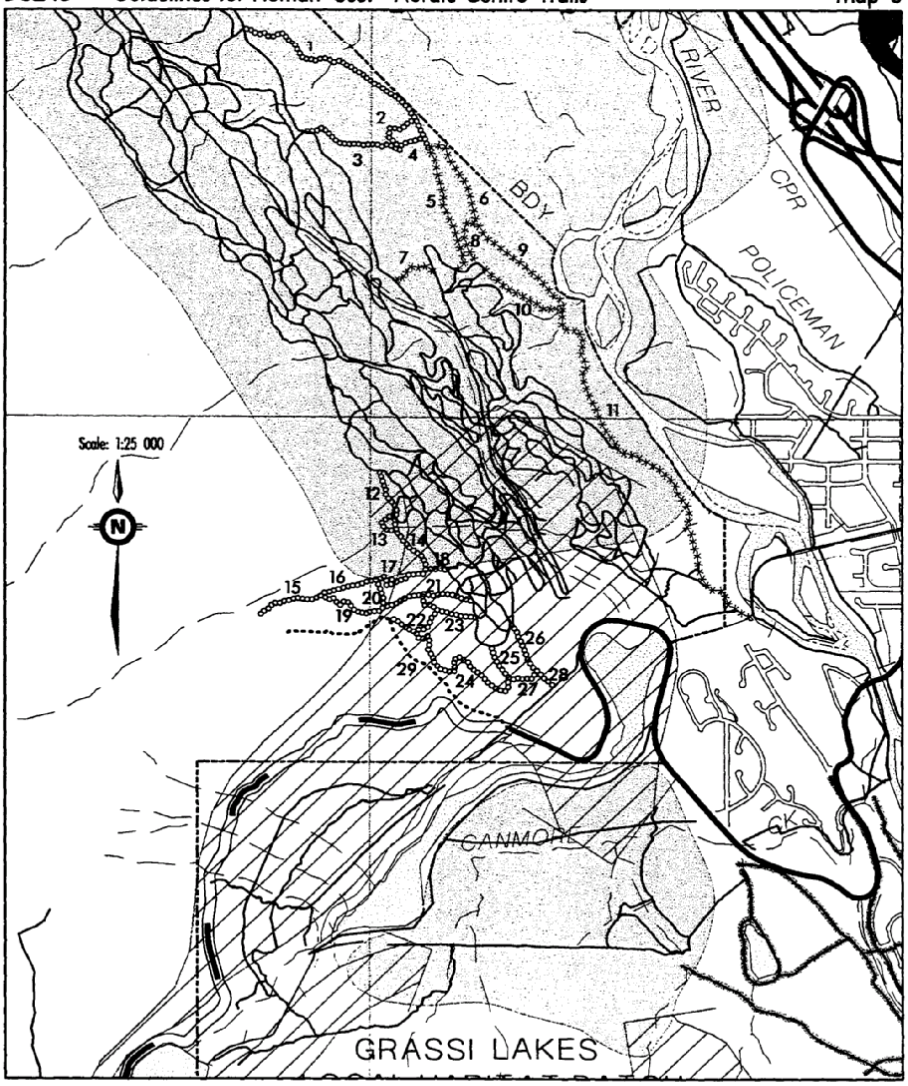
June 1999

BCEAG – Guidelines for Human Use: Nordic Centre Trails Map 3



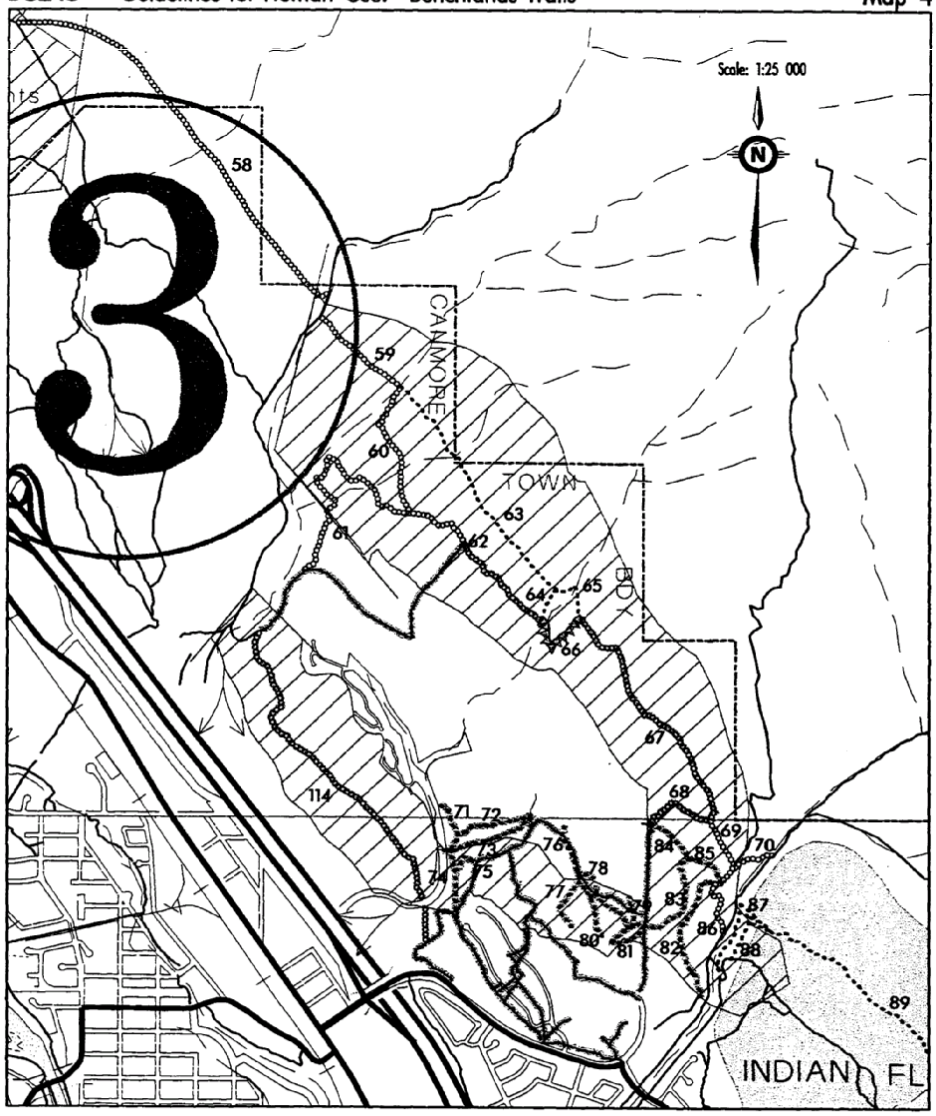
Existing Trails – No Recommendations
Existing Trails – Recommendations Prescribed
Existing Trails – Permanent Closure Prescribed
Existing Trails – No Winter Trail Maintenance Prescribed
Proposed Trails – Re-routing to Accommodate for Closed Trails
Draft Plan Trails within SilverTip and Three Sister's Resort

Wildlife Corridor
Wildlife Habitat Patch
Areas Under Review

Note: The trails depicted on this map were collected from several different sources. Please see the text of the report for further description of map accuracy. Trail location within the Three Sisters and SilverTip resort areas represent draft plans that may be subject to future trail placement changes. Every effort has been made to use the most up to date and accurate information available to BCEAG.
Numbers shown adjacent to trails are for references purposes only.

May 1999

BCEAG – Guidelines for Human Use: Benchlands Trails Map 4



Existing Trails – No Recommendations

Existing Trails – Recommendations Prescribed

Existing Trails – Permanent Closure Prescribed

Existing Trails – No Winter Trail Maintenance Prescribed

Proposed Trails – Re-routing to Accommodate for Closed Trails

Draft Plan Trails within SilverTip and Three Sister's Resort

Wildlife Corridor

Wildlife Habitat Patch

(#) Areas Under Review

Note: The trails depicted on this map were collected from several different sources. Please see the text of the report for further description of map accuracy. Trail location within the Three Sisters and SilverTip resort areas represent draft plans that may be subject to future trail placement changes. Every effort has been made to use the most up to date and accurate information available to BCEAG.

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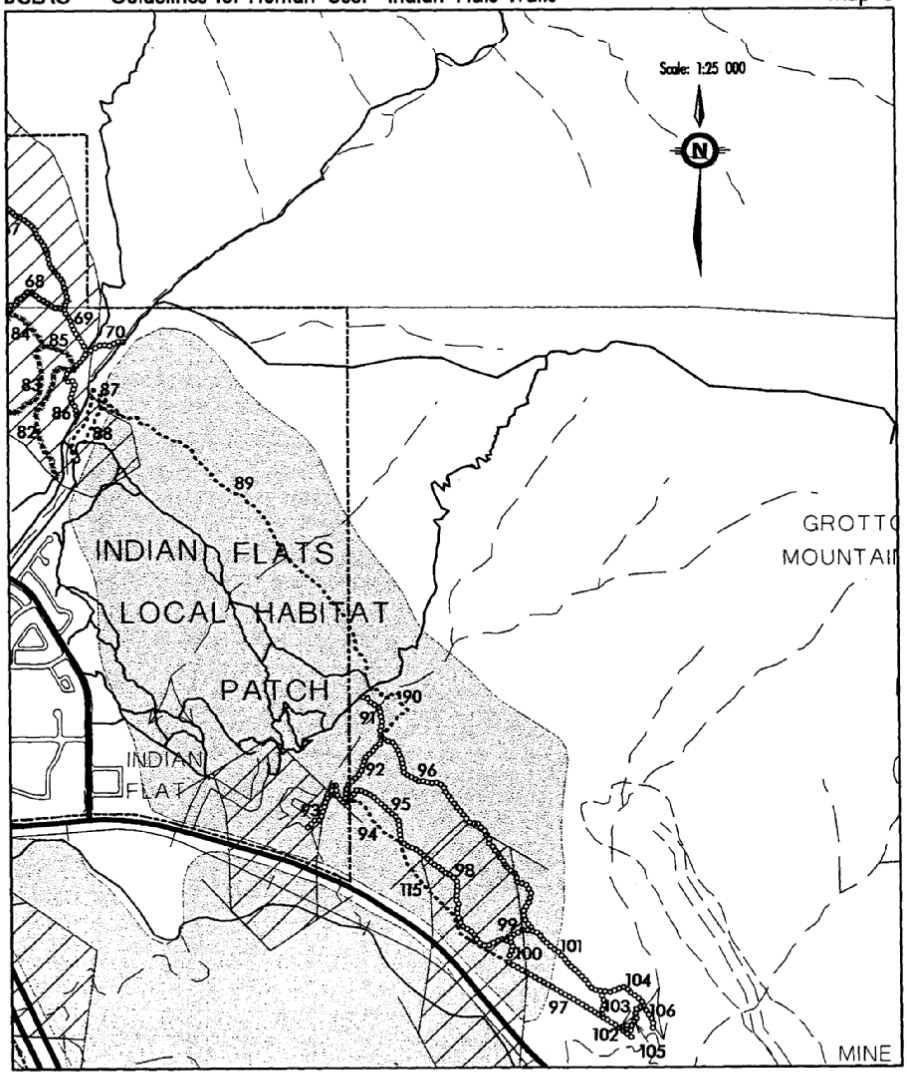
May 1999

BCEAG – Guidelines for Human Use: Indian Flats Trails Map 5



Existing Trails – No Recommendations

Existing Trails – Recommendations Prescribed

Existing Trails – Permanent Closure Prescribed

Existing Trails – No Winter Trail Maintenance Prescribed

Proposed Trails – Re-routing to Accommodate for Closed Trails

Draft Plan Trails within SilverTip and Three Sister's Resort

Wildlife Corridor

Wildlife Habitat Patch

(#) Areas Under Review

Note: The trails depicted on this map were collected from several different sources. Please see the text of the report for further description of map accuracy. Trail location within the Three Sisters and SilverTip resort areas represent draft plans that may be subject to future trail placement changes. Every effort has been made to use the most up to date and accurate information available to BCEAG.
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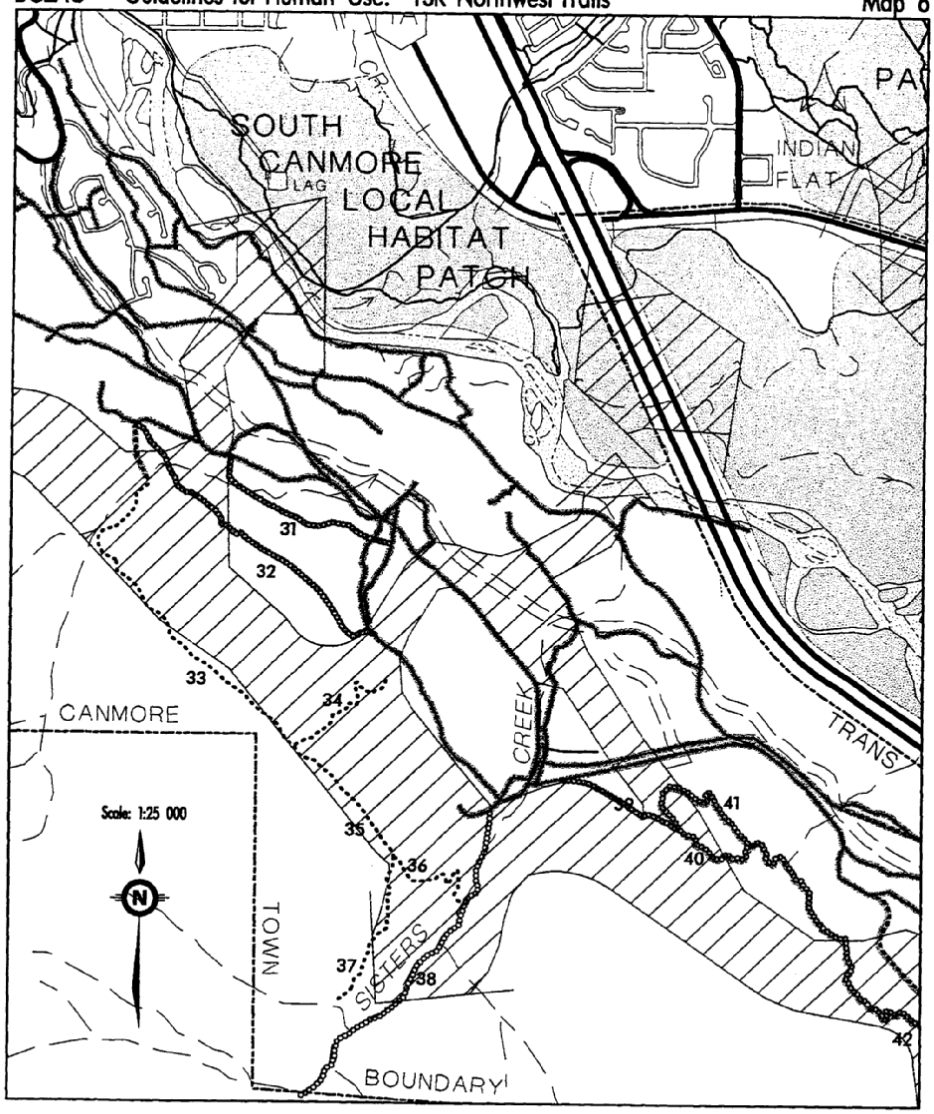
May 1999

BCEAG – Guidelines for Human Use: TSR Northwest Trails

Map 6



Existing Trails – No Recommendations

Existing Trails – Recommendations Prescribed

Existing Trails – Permanent Closure Prescribed

Existing Trails – No Winter Trail Maintenance Prescribed

Proposed Trails – Re-routing to Accommodate for Closed Trails

Draft Plan Trails within SilverTip and Three Sister's Resort

Wildlife Corridor

Wildlife Habitat Patch

(#) Areas Under Review

Note: The trails depicted on this map were collected from several different sources. Please see the text of the report for further description of map accuracy. Trail location within the Three Sisters and SilverTip resort areas represent draft plans that may be subject to future trail placement changes. Every effort has been made to use the most up to date and accurate information available to BCEAG.
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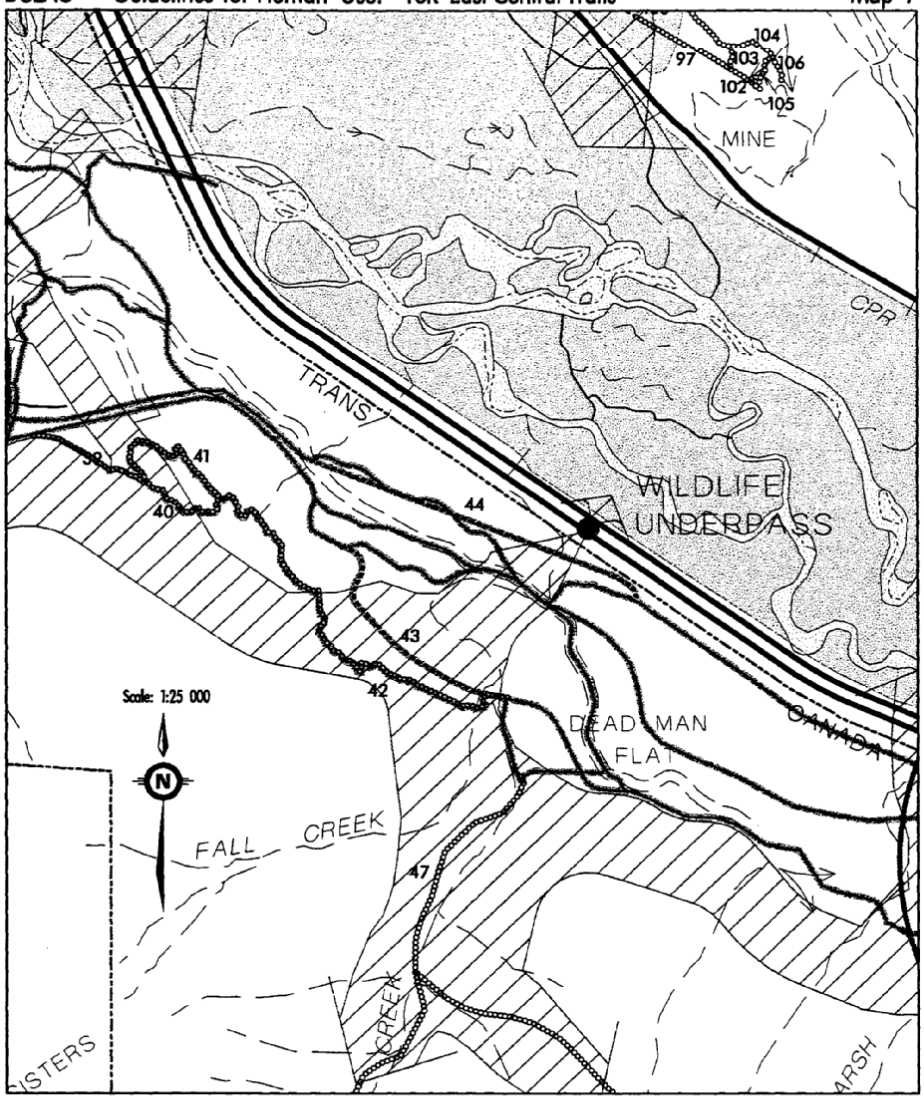
June 1999

BCEAG – Guidelines for Human Use: TSR East Central Trails Map 7



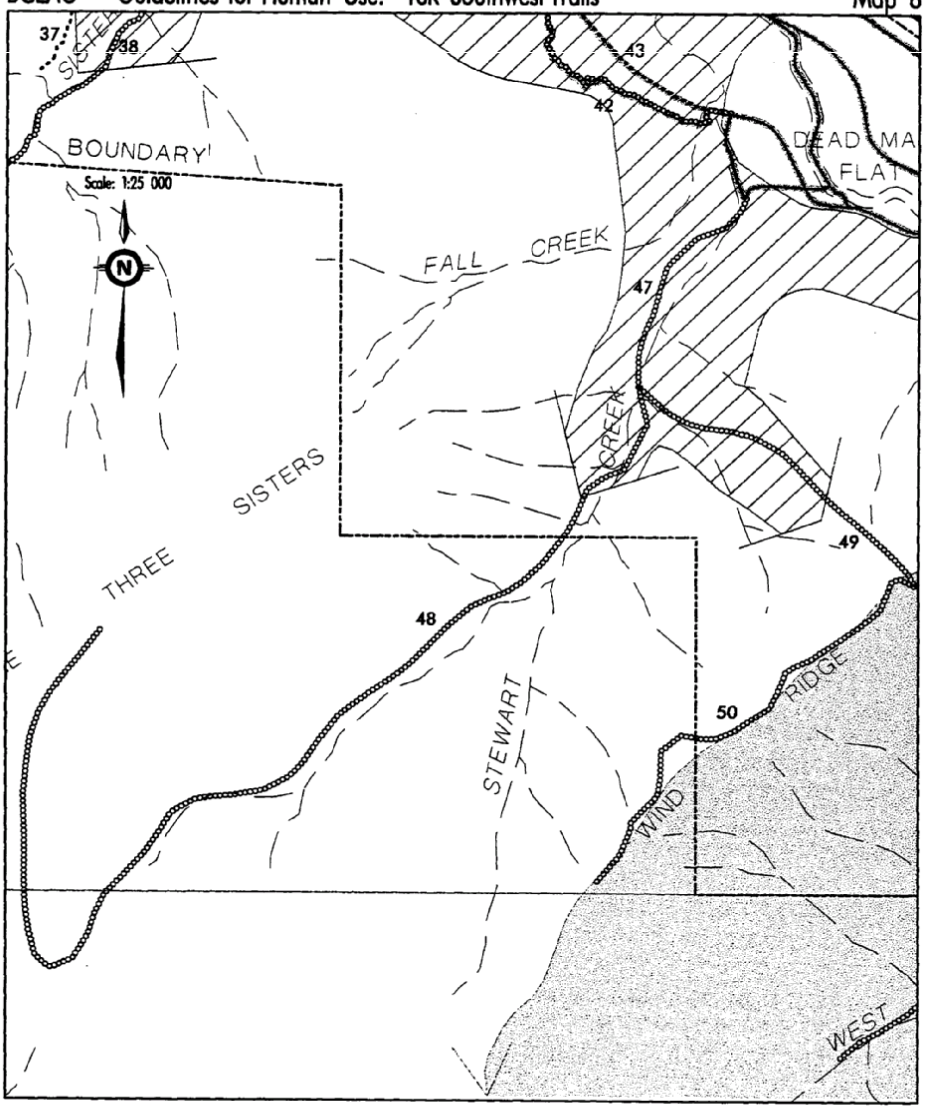
Existing Trails – No Recommendations
Existing Trails – Recommendations Prescribed
Existing Trails – Permanent Closure Prescribed
Existing Trails – No Winter Trail Maintenance Prescribed
Proposed Trails – Re-routing to Accommodate for Closed Trails
Draft Plan Trails within SilverTip and Three Sister's Resort

Wildlife Corridor
Wildlife Habitat Patch
(#) Areas Under Review

Note: The trails depicted on this map were collected from several different sources. Please see the text of the report for further description of map accuracy. Trail location within the Three Sisters and SilverTip resort areas represent draft plans that may be subject to future trail placement changes. Every effort has been made to use the most up to date and accurate information available to BCEAG.
Numbers shown adjacent to trails are for references purposes only.

June 1999

BCEAG – Guidelines for Human Use: TSR Southwest Trails Map 8



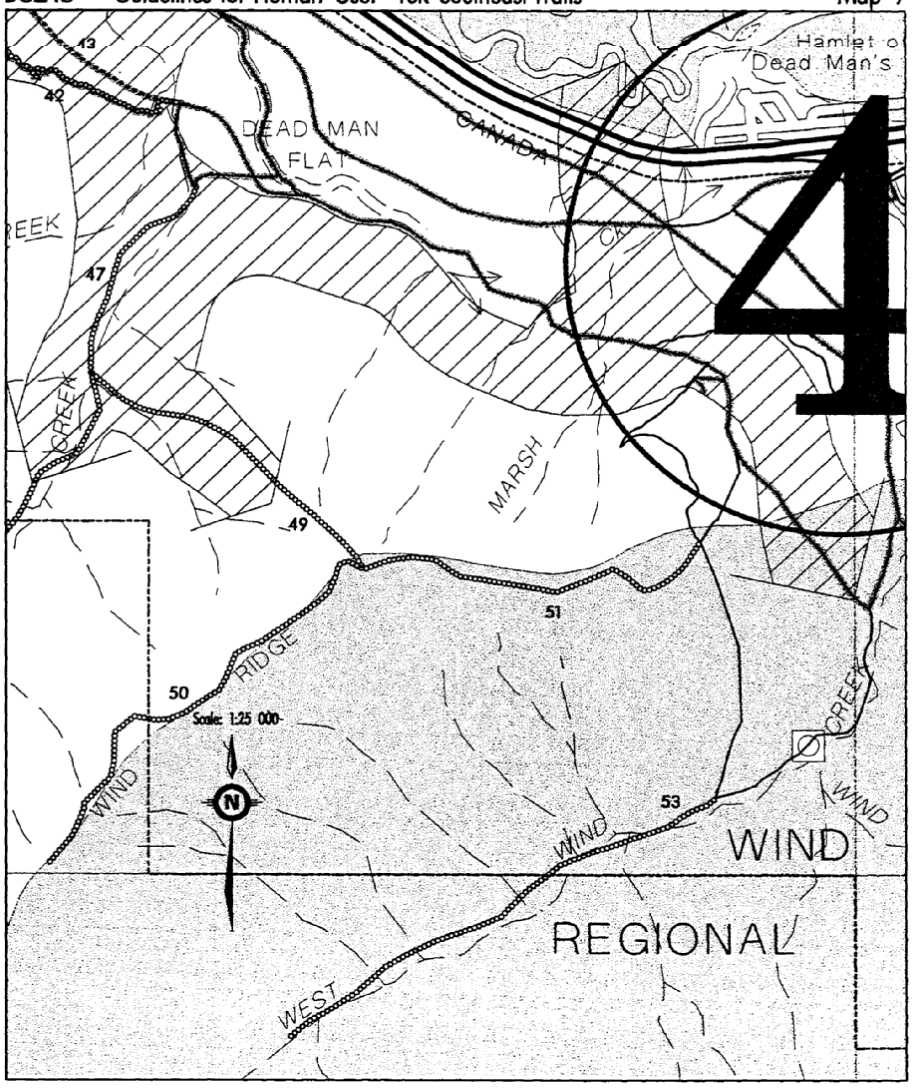
Existing Trails – No Recommendations
Existing Trails – Recommendations Prescribed
Existing Trails – Permanent Closure Prescribed
Existing Trails – No Winter Trail Maintenance Prescribed
Proposed Trails – Re-routing to Accommodate for Closed Trails
Draft Plan Trails within SilverTip and Three Sister's Resort

Wildlife Corridor
Wildlife Habitat Patch
(#) Areas Under Review

Note: The trails depicted on this map were collected from several different sources. Please see the text of the report for further description of map accuracy. Trail location within the Three Sisters and SilverTip resort areas represent draft plans that may be subject to future trail placement changes. Every effort has been made to use the most up to date and accurate information available to BCEAG.
Numbers shown adjacent to trails are for references purposes only.

May 1999

BCEAG – Guidelines for Human Use: TSR Southeast Trails Map 9



Existing Trails – No Recommendations
Existing Trails – Recommendations Prescribed
Existing Trails – Permanent Closure Prescribed
Existing Trails – No Winter Trail Maintenance Prescribed
Proposed Trails – Re-routing to Accommodate for Closed Trails
Draft Plan Trails within SilverTip and Three Sister's Resort

Wildlife Corridor
Wildlife Habitat Patch
(#) Areas Under Review

Note: The trails depicted on this map were collected from several different sources. Please see the text of the report for further description of map accuracy. Trail location within the Three Sisters and SilverTip resort areas represent draft plans that may be subject to future trail placement changes. Every effort has been made to use the most up to date and accurate information available to BCEAG.
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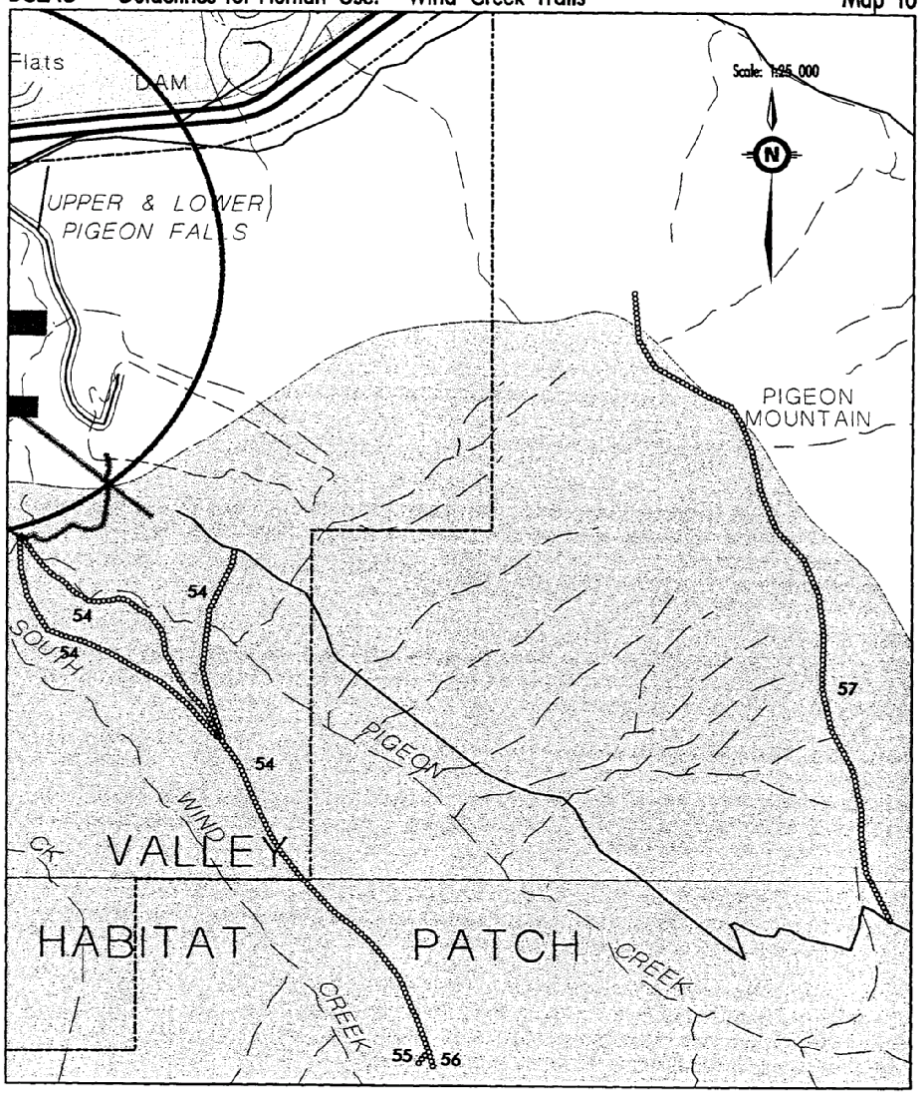
May 1999

BCEAG – Guidelines for Human Use: Wind Creek Trails Map 10



Existing Trails – No Recommendations
Existing Trails – Recommendations Prescribed
Existing Trails – Permanent Closure Prescribed
Existing Trails – No Winter Trail Maintenance Prescribed
Proposed Trails – Re-routing to Accommodate for Closed Trails
Draft Plan Trails within SilverTip and Three Sister's Resort

Wildlife Corridor
Wildlife Habitat Patch
(#) Areas Under Review

Note: The trails depicted on this map were collected from several different sources. Please see the text of the report for further description of map accuracy. Trail location within the Three Sisters and SilverTip resort areas represent draft plans that may be subject to future trail placement changes. Every effort has been made to use the most up to date and accurate information available to BCEAG.
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May 1999

Appendices

Appendix 1: Definitions

Habitat Patch
Habitat patches are areas of land linked together by wildlife corridors. Habitat patches are generally large in area and meet a wider spectrum of habitat requirements (e.g. feeding, breeding, thermal regulation, security, resting) for species expected to live in the valley.

Wildlife Corridor
Wildlife corridors area areas of land designed to provide connectivity among habitat patches. Wildlife corridors are generally not designed to fulfil any of the requirements of habitat patches other than some elements of security without which animals would not use them.

Appendix 2: Mapping Legend Information

Circled Area 3
Area that represent constraints on wildlife utilization and movement but on which detailed information to better delineate exact boundaries is lacking. Final delineation of wildlife corridor/habitat patch boundaries will occur after completion of site-specific research, EIA studies and associated development review processes.

Circled Area 4
Area which provides a critical link for wildlife moving between the Kananaskis Valley and Banff National Park. More detailed information is currently being gathered to delineate specific wildlife corridor and highway crossing locations.

Appendix 3: Acknowledgements

These guidelines were prepared with the help and assistance of many individuals from the Municipal District of Bighorn, Town of Canmore, Alberta Environment, Alberta Agriculture, Food and Rural Development and Banff National Park.

Steven Hills of Terrapro Incorporated in Prince George, British Columbia kindly donated a digital autoCAD copy of several GPS, differentially corrected trails in the Bow Valley. This contribution of data greatly improved both the comprehensiveness and accuracy of the trails inventory.

Frank Kernick, of Eagle Terrace Developments, Canmore, Alberta provided an AutoCAD file of existing trails on their property. John Third of SilverTip (Stone Creek Properties Inc.) furnished spatial information for their development area. Kara Holt of Three Sisters Resorts supplied a digital draft plan of proposed trails on Three Sister's property.

An initial provincial update of the multiple use trails in and around Canmore was completed for this report. We would also like to thank all those individuals who assisted with the trails update by providing their time and expertise to the inventory. Many thanks to: Kristine Bulek, Greg Birch, Don Cockerton, Jim Dennis, Steven Donelon, Steve Gaylor, Sam Hall, Carolyn Harris, Scott Jevons, Jamie Johnson, Jon Jorgenson, Dales Judd, Doug Kielau, Brad Kopp, Niki

LePage, Mark Lindberg, Greg McAndrews, Glen Naylor, Terry Riva, Pete Smillie, Emily Smith, Rob Wolfe and Fine Zweier.

Thanks to all individuals who participated into the information gathering workshops held in June and October of 1998. Many of these individuals contributed a great deal towards the inventory and through their overall general knowledge of trails in the area.