

Yellowstone-to-Yukon:

**Canadian Conservation Efforts and
a Continental Landscape/Biodiversity Strategy**

A report by Gary M. Tabor

July 1996

Table of Contents

Preface	Page 1
<u>Executive Summary</u>	Page 2
1.0 <u>Report</u>	Page 5
2.0 <u>Introduction - Problems and Threats</u>	Page 5
2.1 Y2Y - A Rough History	Page 7
3.0 <u>Background</u>	Page 8
3.1 The Canadian Political Landscape - Nation and Provinces	Page 8
3.2 The Y2Y Landscape - A Regionalized Perspective	Page 9
3.3 Protected Area Strategic Issues	Page 11
3.3.1 Endangered Spaces	Page 11
3.3.2 Alberta Protected Area Strategies	Page 12
3.3.3 British Columbia Protected Area Strategies	Page 13
3.3.4 Federal Land Protection Strategies	Page 15
3.3.5 Recommendations for Alberta, British Columbia and Canadian Federal Protected Area Strategies	Page 16
4.0 <u>Provincial and Federal Parks: Institutional and Management Issues</u>	Page 18
4.1 Park Protection History	Page 18
4.2 Alberta Parks Service	Page 19
4.3 BC Parks	Page 19
4.4 Parks Canada	Page 20
4.5 Interagency Cooperation	Page 21
4.6 Commentary on Institutional and Management Issues	Page 21
5.0 <u>Hot Spots</u>	Page 22
6.0 <u>Cumulative Impacts</u>	Page 25
7.0 <u>Conclusions</u>	Page 26
Addenda A	Yellowstone-to-Yukon Vision Statement by Harvey Locke
Addenda B	Y2Y Hot Spot Listing
Addenda C	Contact List

Acknowledgments

I would like to thank all of those who provided input for the purposes of this report, including community and conservation leaders in Canada and the United States, government agency personnel in Alberta and British Columbia, and industry representatives. I want to particularly thank Ted Smith from the Henry P. Kendall Foundation for providing guidance and vision, Harvey Locke from Canadian Parks and Wilderness Society for introducing me to the Y2Y concept, and Judy Otton from Parks Canada and her husband Saul Greenberg for providing a base of operation and introductions to government agencies.

I am indebted to Matthew Secombe of Somerville, Massachusetts, Peyton Curlee at the Northern Rockies Conservation Cooperative, Leslie Giroday from the East Kootenay Environmental Society and Mike Sawyer from the Rocky Mountain Ecosystem Coalition for reading, commenting and editing drafts of this document.

I also want to thank Carolyn Callaghan from Guelph University, Dennis Demarche from the Government of BC, Mary Granskou and George Smith at Canadian Parks and Wilderness Society, Arlin Hackman at WWF/Canada, Peter Lee at Alberta Environment Protection, Anne Leveques from East Kootenay Environmental Society, and Alan McDonell at BC Wild for their efforts to educate me. Craig Stewart at Crown of the Continent Electronic Data Atlas and Jim Strittholt from Earth Designs provided map support for the report.

This report reflects the views of the author. It does not necessarily reflect the views of the Henry P. Kendall Foundation which provided funding.

Preface:

A three week visit to Alberta and British Columbia does not substitute for the life-long experiences and understanding of the committed conservationists that I met there. But perhaps my outsider's eyes can assist all conservation interests in drawing attention towards a "forever wild" agenda for the Rockies.

I had originally thought about titling this report "Banff or Bust," which was inspired by a cross-country car trip, that four young McGill Outing Club members -- Saul Greenberg, Nicole L'esperance, Karen McKenna and I took in June 1977. Crammed in a vintage Datsun stationwagon, the four of us spent three days on the Trans Canada Highway traveling from Montreal to Banff. During our crossing a patina of dust and dirt collected on the back window of our rickety car and before some prankster could write "Wash Me," "Banff or Bust" was proudly displayed. "Banff or Rust" was a close second given the state of repair of the Datsun.

On that first trip to the Banff region, I spent four hectic weeks at the Alpine Club of Canada's clubhouse in Canmore racing from one outing to another. My introduction to the region included climbs on Yamnuska, the Tunnel Mountain Traverse, the Valley of the Ten Peaks, Mt. Lefroy, Mt. Victoria, skiing on Parker Ridge and Columbia Icefields, plus a mad dash to climb Mt. Rainier in Washington State. The town of Canmore in 1977 was a barely a town and the Alpine Club clubhouse was the only structure on the benchlands on east side of the Bow River Valley. Today, the clubhouse exists in a sea of pricey second home developments. The residential units and population of Canmore will soon overtake Banff. And back then, Banff townsite was half the size of today -- certainly in terms of multi-storied buildings and shopping malls. The build-out of the town and the loss of the montane habitat in the Bow Valley of Banff National Park bear witness to the rapid human development in the Canadian Rockies. Today, Banff is a center for large resort tourism and a vortex for wildlife loss. The town created to allow enjoyment of nature has become a threat to it.

In 1977, I was different too. Crazy Saul and I tried to do a first ascent up the east face of Mt. Victoria. This wasn't planned; one of us just woke up that morning with a deficiency of gray matter. After setting off three or four avalanches and coming to the edge of life, we made it to the summit. I will never forget the beauty of the Canadian Rockies. This is beauty that's like breathing after near suffocation.

With climbing "hero" snapshots in hand, I went back to the east and abroad. Saul came back two years later to stay, using Computer Science as ploy to be near the mountains. Nicole lives in the Alberta prairies and Karen found bigger adventure in the Yukon. Almost nineteen years later, I found myself in a rented Chrysler Neon, traveling the same routes, on better roads. The true heroes are the committed conservationists that I met in this project for the Kendall Foundation.

This report is a story of my reunion with a memorable landscape.

G.T.

Executive Summary:

The health of the Northern Rocky Mountain ecosystems and their threatened wildlife species in the United States is linked to the long-term integrity of contiguous wildlands in Canada. One female wolf, for example, has been tracked from the North Fork of the Flathead River near Montana to Northeast British Columbia close to Mile Zero of the Alaska Highway – a straight line distance of 840 km. Golden Eagles migrate from the Greater Yellowstone Ecosystem to the Yukon Territory. Some of the highest densities of grizzly bears are found in an area spanning from northwestern Montana to southeastern British Columbia. The habitats of these species are continental, not local, and certainly are not defined by political boundaries. Habitat fragmentation, land degradation and wildlife extirpation are undermining the ecological health of the shared landscape of Canada and the United States. At stake are the species and ecosystems that define many of the most treasured wildlands in North America.

The Yellowstone-to-Yukon Biodiversity Strategy (Y2Y) is an emerging Canada-United States partnership that provides a framework for conserving the natural properties of a vast landscape that stretches from the Greater Yellowstone Ecosystem in Wyoming, Montana and Idaho to the wild areas of the Yukon Territory. Y2Y is an ambitious undertaking in geographic and human terms. Initially conceived as a way to protect large carnivores in the Rocky Mountains (including grizzly bears, mountain lions and wolves), Y2Y has evolved into a vision to conserve large wildlands. It is a network of individuals and organizations, public and private sector, that seeks cooperative solutions in conserving the ecological characteristics of the region.

This report is a primer for those who view the Rocky Mountain region north of the Canada-United States border as pristine and secure. The assumption by citizens and natural resource management agencies in the United States, that nature “is taken care of” above the 49th parallel, is simply wrong. The state of protection along the Canadian Rockies from the border to the Yukon is less than optimal and in some places appallingly weak. The fate of wilderness and wildlands in the Northern Rockies of the U.S. is ecologically tethered to that of the Rocky Mountain region of Canada.

In the course of traveling through the Rocky Mountain region of Alberta and British Columbia from the Canada-United States border to Prince George in central British Columbia and conferring with almost 150 conservationists in preparing this report, several factors that contribute to the loss of biodiversity and habitat in the region came to light. These include:

- 1) Land protection in the Central and Southern Canadian Rocky Mountains is skewed heavily toward higher elevation areas (rocks and ice) that do not support many species and do not function to link wildlife populations, or ecosystems;
- 2) Many low elevation valleys and riparian areas that contain the highest biodiversity and upon which many wildlife species rely for winter range, migration, and sustenance, are rapidly being developed, fragmented and isolated;
- 3) Human transportation corridors act as wildlife mortality zones and block migration and genetic and demographic exchange between populations;

- 4) Public, private, provincial and national laws, regulations, and practices work at odds with regional level conservation;
- 5) Protected area mandates work at cross-purposes, especially when viewed from a larger scale perspective.
- 6) Increasing ecosystem management portfolios and decreasing budgets of federal and provincial park agencies threaten to undermine public institutions responsible for land protection.

The symptoms of a resulting environmental pathology include: 1) a loss of ecological connectivity across the landscape; 2) increasing isolation of habitats, wildlife populations and ecosystems; 3) a continual decline in wildlife numbers, especially large carnivores; and 4) increasing conversion of natural landscapes to humanscapes. Footprints of human resource demands and development are creating an archipelago of isolated natural areas. Isolation raises the risk and impact of species extinction.

The challenge of Y2Y will be its ability to address the ecological requirements of this large wildland area, while at the same time sustaining human needs. Natural processes are dynamic and exist in a medium of constant change and resilience. Human social processes work to create stasis and order when faced with change and uncertainty. We mistakenly seek static solutions to dynamic patterns. This is reflected in the fact that our present conservation and natural resource management methods do not match our goals for ecosystem protection. We create parks and assume the job of conservation is done, but in fact the maintenance of the ecological integrity of these protected areas requires adaptive management and flexible land conservation strategies.

The specifics of the Y2Y agenda are still evolving. Conservationists in Canada and the United States, from local grassroots activists to national environmental group representatives, have been meeting twice a year for over two years to establish the groundwork for the effort. A rapid assessment of the region will be performed in order to establish a list of conservation priorities and to define areas of cooperation. Educational and extension efforts are being designed to reach beyond the conservation community and embrace other interests including the region's local residents. A coordinator will be hired to facilitate communication among Y2Y participants and to oversee implementation of defined tasks. The Crown of the Continent Electronic Data Atlas at the University of Calgary will serve as the information hub for Web and Internet services.

Y2Y is dedicated to making reconnections: the human connection to the landscape, ecological connection between land-uses, and local connection to regional and global conservation efforts. Landscape connectivity needs to be established in this mosaic of mixed patterns of land ownership and land-use management objectives. Y2Y gives context to local conservation initiatives, encouraging support and recognition by a broader constituency. When viewed from a large scale perspective, local initiatives no longer appear to be parochial concerns but can be seen as critical keystone efforts.

Canada and the United States share the longest and perhaps the most peaceful border in the world. Conservation cooperation has been a cornerstone of this relationship, including the formation of the Waterton Lakes-Glacier International Peace Park, the North American Waterfowl Management Plan, the Migratory Bird Treaty Act, and intergovernmental efforts to restore the ecological integrity of the Great Lakes region. The Yellowstone-to-Yukon Biodiversity Strategy builds upon this cooperative spirit. What initially began as a friendly political gesture to manage Waterton Lakes and Glacier as a binational park is now poised to become a strategy for large scale action based on a new understanding of conservation biology and ecosystem management. Y2Y helps North Americans to view their common landscape not as several countries but as one continent.

1.0 Report:

The purpose of this work is to introduce the Yellowstone-to-Yukon Biodiversity Strategy (Y2Y) to an audience outside the Y2Y conservation community and to report on conservation activities north of the U.S.-Canada border from Waterton Lakes National Park, Alberta, to the Prince George area of British Columbia. During the month of April 1996 I met with over 150 conservation, community, government and industry representatives in order to learn first hand about the Y2Y concept from the Canadian perspective. (A complete list of people met, a list of Y2Y hot spots, and a succinct Y2Y vision statement are attached as addenda.)

My trip began with a three day meeting of the Y2Y Science and Steering Council at the Kananaskis Field Station of the University of Calgary on April 11 to 14, 1996. I next traveled along the eastern slopes of the Rockies in Alberta to Waterton and then headed northward along the Rocky Mountain trench through the towns of Sparwood, Fernie, Cranbrook, and Invermere to Golden, British Columbia (following the Kootenay and the upper Columbia Rivers). I then traveled onward from Kootenay, Yoho and Jasper National Parks to the Robson Valley and upper Fraser River near Prince George, British Columbia before returning south to Banff and Calgary. I retraced my steps at the end of the stay to attend a workshop on the management of the Purcell Wilderness Conservancy in Cranbrook, British Columbia on April 26 and 27, 1996. In all, I logged over 4,000 km.

2.0 Introduction - Problems and Threats

The Yellowstone-to-Yukon Biodiversity Strategy (Y2Y) is a joint Canadian and US conservation initiative to protect many of the last regions of large wilderness and endangered wildlife areas in the Rocky Mountain cordillera of North America. This large-scale conservation effort seeks to establish a continuous network of protected areas and buffer zones from the Greater Yellowstone ecosystem and the Idaho wilderness in the United States to the MacKenzie-Selwyn Mountains in the Yukon Territory of Canada (see Map 1).

As a concept, Y2Y reflects the growing concern of scientists and conservationists that the free-ranging populations of large carnivores, "umbrella" species of Rocky Mountain ecosystems, are severely threatened. At risk is the unique large carnivore assemblage (grizzly bears, black bears, gray wolves, wolverines, mountain lions, and lynx) that formerly existed throughout much of western Northern America and in the foothill-prairies to the east. These species require large areas to maintain viable populations, and the protection of their habitat provides an "umbrella" for many other species. Evidence collected by ecologists indicates that human pressures on large carnivore habitats (and on the animals directly) endangers these species and the whole ecosystem.¹

By mapping carnivore movements and home ranges, scientists have been able to delineate wildlife usage of the landscape and the importance of a contiguous wildland matrix, interconnected by habitat corridors linking core protected areas.² The large-scale result of this

¹ (see Hummel and Pettigrew, 1991 and Paquet and Hackman, 1995)

² Most large carnivores occupy large home ranges (and areas removed from human disturbance). A protected area patchwork from the Southern Canadian Rockies to Yellowstone is considered "sufficiently large enough to ensure the long term survival of these species" (Paquet and Hackman, 1995).

carnivore mapping exercise delineates an area from the Greater Yellowstone ecosystem to the Peace River in the Northern Rockies of Canada.³ The inclusion of the Yukon recognizes the importance of large undisturbed areas as sources for wildlife in the Rocky Mountain region.⁴ Large carnivores are not the only indicators of this bioregion that is more than 2,500 km long and 250 km wide. Recent research indicates that migratory Golden Eagles truly shadow the entire cordillera from Yellowstone to Yukon. The region's topography and wind patterns enable as many as 8,000 to 13,000 eagles to use the mountains as a migratory conduit -- an eagle highway.⁵

Two assumptions underlie strategies to conserve these imperiled carnivore populations: 1) Interconnecting wildlife corridors will maintain large carnivores; isolated protected areas will not -- especially small isolated areas; and 2) If large carnivores are protected, other species and ecosystem functions will be protected as well, i.e., the umbrella effect.⁶ The Y2Y concept provides a coherent protected area framework for large carnivore and large landscape conservation along the Rockies.

From, the ground or from the eagle's height, the Y2Y landscape is spectacular. It contains some of the most beautiful country in the world and is the birthplace of national parks for the United States and Canada. Yellowstone was the first national park established in North America in 1872; Banff was the first Canadian national park, established in 1885, and Waterton Lakes-Glacier National Park, a binational protected area crossing the border of Alberta and Montana, was the first International Peace Park, established in 1932. Waterton Lakes-Glacier is also a United Nations-designated Biosphere Reserve. In addition, Banff National Park and the three other Canadian Rocky Mountain national parks, Jasper, Yoho and Kootenay, are a combined World Heritage Site. Yellowstone has recently received a similar designation.

Yet this national and international recognition hides the fact that most of the landscape under protection is in the high elevation "rocks and ice" zone and that the parks primarily protect scenic and geologic features. Middle and lower elevation areas, important for biodiversity conservation, are largely unprotected. This poses a serious threat to the long term ecological integrity of the region. Oil and gas development, coal and mineral extraction, logging, livestock grazing, off-road vehicle use, transportation and energy corridors (roads, railroads, pipelines and transmission lines), industrial tourism (resort development), urban development, and growing recreational use of the backcountry are degrading much of the Y2Y landscape both inside and outside protected areas. The growing needs of the Canadian and American populations have created a conflicting array of land-use demands. Calgary, a city of over 800,000 people and the fourth largest economic center in Canada, stands at the doorstep of the region and its footprint extends into Montana and British Columbia, influencing development on both the east and west slopes of the Rockies. Collective human impacts are transforming the terrain through

³ (Paquet and Hackman, 1995)

⁴ While the Liard Plateau on the B.C.-Yukon border does create a natural break in the Rocky Mountain Cordillera, the rich wild areas of the Yukon serve as source for wildlife and are woefully underprotected from a conservation standpoint.

⁵ Peter Sherrington - Y2Y Science meeting, 1996. Swainson's Hawk also use the Rockies for their extended migrations between North America and South America (P. Sherrington, pers. comm.). Migratory birds do not feed, but only soar and glide over the landscape.

⁶ Rich Walker - Y2Y Science meeting, 1996

destruction and fragmentation of habitat, alteration of wildlife migratory and plant succession patterns, and the introduction of non-native species.

Developing a conservation strategy to maintain the ecological integrity of the landscape and sustain human needs is the long-term challenge of Y2Y. The ultimate goal is a comprehensive and coherent land-use strategy for this vast area. The need for this is demonstrated by the inadequate protection status of many critical habitats in the region, the lack of ecosystem priorities in present land management regimes (even in lands that have conservation protection), and the incremental erosion of biological resources. In the United States, severe habitat fragmentation has virtually isolated the Greater Yellowstone Ecosystem and the critical wilderness areas of central Idaho from other continental wildlands in Canada. This has created an archipelago of disconnected wildlands in the Northern Rockies of the U.S. Once isolated, these areas are subject to elevated extinction rates, diminished gene flow and threats from environmental catastrophe and disease. Many Americans assume that the Canadian Rockies are part of an intact wilderness continuum extending from the border up into the Arctic, but nearly impenetrable corridors of transportation and land development now threaten to repeat the American experience and create isolated ecosystem fragments in the heart of Canada's Wild Rockies.⁷

2.1 Y2Y - A Rough History

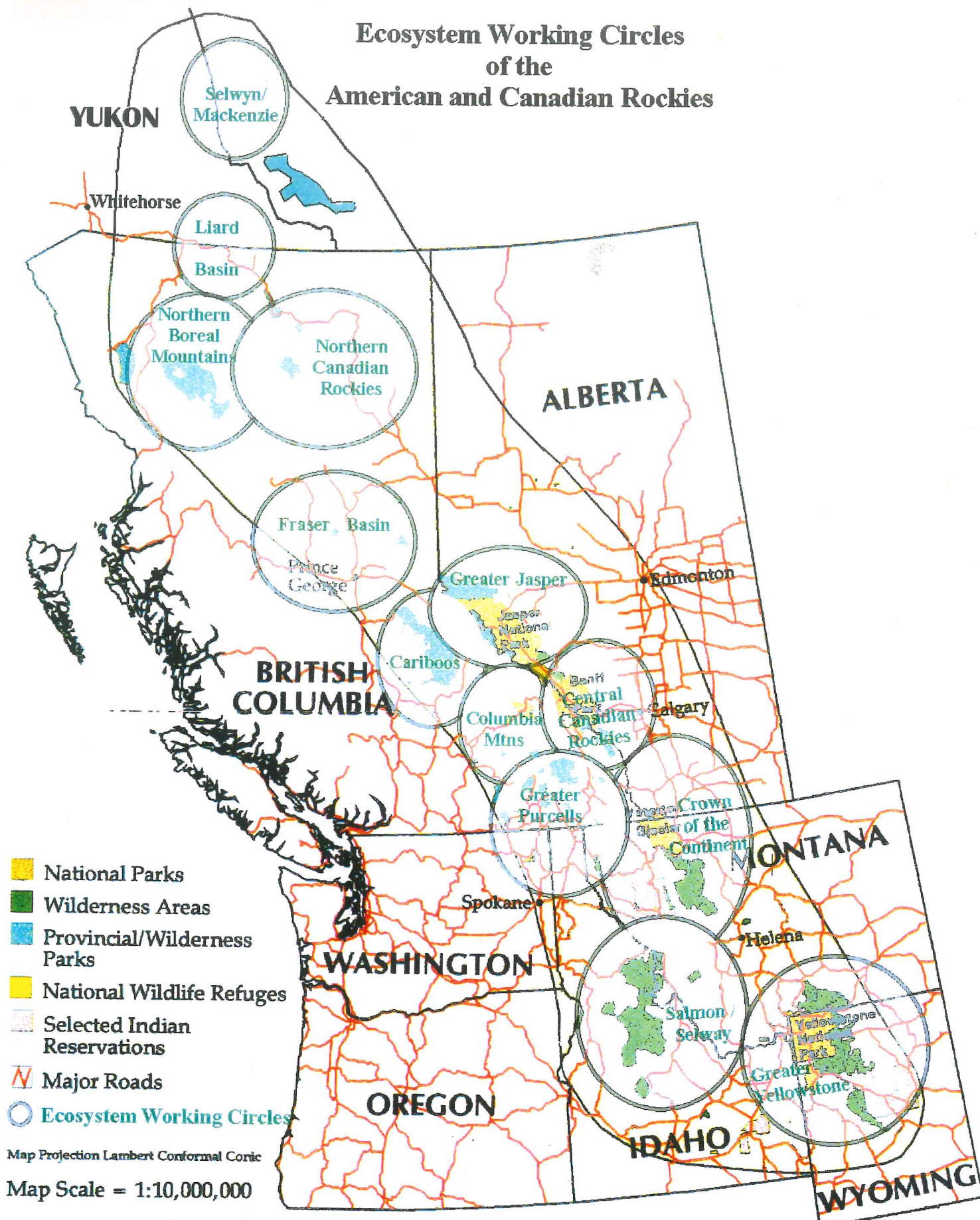
Y2Y was born out of the conservation biology thinking engendered by The Wildlands Project, a U.S.-based conservation organization, and the Canadian Parks and Wilderness Society (CPAWS). It is the coalescence of ideas developed by Reed Noss at Oregon State University, Monty Hummel and Arlin Hackman of World Wildlife Fund/Canada, Steve Herrero at University of Calgary, John Weaver and Louisa Willcox from Montana, Tim Clark in Wyoming, and Paul Paquet in Saskatchewan, and then brilliantly synthesized by Harvey Locke in Calgary. In Harvey Locke's eyes, Diane Boyd's radio-collared wolf data help to delineate the scale of wildlands conservation. This young, female wolf was observed moving between the Flathead River in British Columbia near Montana to an area near Mile 0 of the Alaska Highway in Dawson Creek, Northern British Columbia – a straight-line distance of 840 km.

The Y2Y Biodiversity Strategy is in an early phase of conceptualization. Four planning meetings have been convened by the environmental community in Canada and the U.S. over the past two years. In terms of institutional design, the organizational structure of Y2Y is a work-in-progress. A Steering Council will serve as the body for individual and organizational membership. It is an inclusive entity that welcomes new members. A Coordinating Committee (presently 14 people), a subset of the Council, will provide administrative and policy support. A coordinator will be hired to assist with networking and information gathering and to work with Council members in attaining goals set forth through a common agenda.

These planning meetings have created interest and energy for the comprehensive vision, with a proposed sub-regional project approach as a possible mode of implementation. Given the vast scale of the region, the Y2Y concept is predicated upon the support, linkage, and coordination of existing conservation initiatives – the tactical efforts that can make the strategy

⁷ Transcontinental road corridors in Crowsnest Pass in Southern Alberta (Highway 3 area) and the Banff/Bow Valley region in the Central Canadian Rockies (Trans-Canada Highway) have become barriers to wildlife movement and gene flow.

Ecosystem Working Circles of the American and Canadian Rockies



succeed. And thus the organization is a metaphor for wildlife conservation: the need for home base focus and interlinking corridors/connections between populations of stakeholder individuals and groups. Moving the Y2Y concept forward will not just require collaborative efforts within the environmental community, it will require broad-based investment by much of the public and the region's stakeholders. There are many keen supporters within the private sector and the government natural resource agencies who seek partnership with this initiative. Taking the concept beyond the environmental community will be the true challenge of Y2Y.

3.0 Background:

3.1 The Canadian Political Landscape - Nation and Provinces

While Canadians are usually knowledgeable about the United States, Americans have much to learn about Canada. One major difference between the two countries is the greater significance of the federal system in Canada. Now that "states rights" issues have gained considerable strength in the American political landscape, advocates of this movement look upon the Canadian provinces with some envy. Provinces act almost as independent nation-states within the Canadian confederation. This autonomy decentralizes power, but it may be at a cost of weakening the glue that binds a nation together.

The Canadian parks system is a case in point. As part of a nation-building agenda, the federal government created the Ministry of Canadian Heritage in 1993 to foster a national identity. The government transferred Parks Canada from the Ministry of Environment and placed it within Canadian Heritage with other organizations such as the Canadian Broadcasting Corporation and Sports Canada. In addition to the Maple Leaf flag and the Royal Canadian Mounted Police, Canadians view their national parks as distinctly Canadian, elements of the Canadian "sense of place." Parks are "big icons to Canadians."⁸ If Old Glory, motherhood and apple pie define Americans, the Ministry of Canadian Heritage believes that "mounties, hockey and national parks" define Canadians. But national parks are a small percentage of the country.

One indication of the power of the provinces is that the vast majority of public lands (known as crown lands) are provincially controlled. Only 4 percent of lands below the 60th parallel (the southern boundary of the Yukon and Northwest Territories) are federally owned. In 1930, the Natural Resources Act transferred federal lands in Alberta to the province. Roughly 60 percent of Alberta land is provincially owned. British Columbia, 94 percent of the land base is provincially owned, the highest percentage in Canada.⁹

The two provinces differ in their politics. Alberta is conservative. The Progressive Conservative Party has ruled the province for almost three decades. Alberta is also a rural society, even though roughly 55 percent of the province's 2.7 million people now live in urban areas (e.g., Calgary and Edmonton). The voting structure of the province is heavily weighted toward rural areas: It takes only 7,000 votes to elect a provincial representative in Pincher Creek for example, as compared to roughly 46,000 in Edmonton. The minority rules the majority. And thus, rural values are reflected in the province's land-use decision making, which favors

⁸ Harvey Locke pers. comm.

⁹ This high percentage of provincially owned land is largely due to British Columbia's unique status in joining Canada as a Crown Colony in 1871. This does not reflect the unresolved First Nation aboriginal land claims.

agriculture and extractive industry.¹⁰ Given the rapid growth of Alberta's urban population and the movement of eastern Canadian industry to Calgary, the province is undergoing a values conflict, especially regarding the environment. Urban attitudes to the environment are more progressive. A Calgary Attitude Survey recently performed as part of the Banff Bow Valley Study shows widespread support for environmental protection. The emergence of this conflict is visible in the long term planning process for the Kananaskis Country (K-Country), a multiple-use protected area just south of Banff National Park and 80 km from Calgary. Referred to as Calgary's playground, K-Country was established in 1979 with a dual emphasis on recreation and extractive resource exploitation. It is the site of the Olympic downhill skiing and nordic centers. Today, there is pressure to reduce extractive uses significantly, if not completely, in K-Country as conservation values become stronger.

British Columbia is politically more liberal than Alberta. To Canadians, this is an understatement. The New Democratic Party (NDP), a socialist government, has been in power since 1991. The politics of the province are dominated by the coastal population centers of Vancouver (approx. 1.8 million) and Victoria (approx. 350,000), which constitute a large majority of the total population of 3.3 million. While the Rocky Mountains are a world away to many British Columbians, the provincial government has demonstrated leadership and foresight in its recent protected area policies. In the recent provincial election held on May 28, 1996, the NDP lost the popular vote to the more conservative Liberal Party, but kept its majority of the 75 seat legislature.

Crossing from Alberta to British Columbia is more like crossing an international border than a U.S. state line. This political boundary between these provinces is also reflected in their ecological maps. Most provincial ecological maps are drawn along provincial boundaries. This hides trans-boundary representation of common ecosystems and serves to de-couple provincial land-use management from ecologically defined landscapes. In this regard, Y2Y is as much about Alberta and British Columbia cooperation as it is about Canadian and American conservation cooperation.

3.2 The Y2Y Landscape - A Regionalized Perspective

Yellowstone to Yukon covers big territory. The landscape challenges human geographic comprehension. Canadian and American views of the Y2Y landscape are shaped by political geography. To Americans, the Northern Rockies are the Rockies in Wyoming, Idaho and Montana. To Canadians, the Northern Rockies lie in Northeast British Columbia. Canadians refer to the American Northern Rockies as the Southern Canadian Rockies or the Southern Interior Mountains. The lack of a common name for the region has existed since the first Europeans explored and settled it almost two hundred years ago.¹¹

¹⁰ Ty Lund, the present Minister for Environment, is an agriculturist and has a reputation for being less than sympathetic to his own portfolio.

¹¹ The Stoney and Blackfoot Indians of Alberta and Montana referred to this area as the Shining Mountains. The name -- Shining Mountains -- is used by Dennis Demarche of the Government of BC who realized that there was no common nomenclature for the shared landscape between Canada and the U.S. The Shining Mountain Ecoprovince ecologically defines the Y2Y region from the central Idaho and northwest Montana to central British Columbia near Prince George. The ecoprovince vegetation is primarily classified as temperate wet forest ("interior wet belt") composed of cedar and hemlock. North of the Shining Mountain ecoprovince above Prince George, the vegetation changes to boreal forests.

How we define the landscape influences our land management practices. The *Atlas of the Central Rockies Ecosystem* (1995) attempts to create a better frame of reference for the Y2Y region by dividing the landscape into overlapping “ecosystem working circles.” These circles of land are centered on ecosystems within the region and serve as a possible forum for stakeholder involvement in the management of these ecosystems. As such, each circle could potentially contain a roundtable committee which is composed of representatives from government agencies, universities, industry, public interest groups, indigenous peoples and local communities interested in land use developments within a particular ecological region.¹² The *Atlas* describes six current “ecosystem working circles” from the U.S.-Canada border to central British Columbia. Each circle is named for the prominent ecosystem that it encompasses and includes a set of core protected areas (see Map 2):

- 1) **The Crown of the Continent Ecosystem** or Northern Continental Divide Ecosystem¹³ (includes Waterton Lakes-Glacier National Parks in Alberta and Montana, the Bob Marshall Wilderness Complex in Montana, and the Akamina-Kishenina Provincial Park in B.C.)
- 2) **The Greater Purcells Ecosystem** or Southern Columbia Mountains Ecosystem (includes the Purcell Wilderness Conservancy; Valhalla and Kokanee Glacier Provincial Parks in B.C. and the Greater Cabinet/Yaak/Selkirk ecosystem of Idaho.)
- 3) **The Central Rockies Ecosystem** (includes Banff, Yoho and Kootenay National Parks; Kananaskis Country and White Goat/Siffleur and Ghost River Wildernesses in Alberta; Mount Assiniboine, Height of the Rockies, Elk Lakes Provincial Parks in B.C.)
- 4) **Columbia Mountains Ecosystem** (includes Glacier and Mount Revelstoke National Parks, Bugaboo Glacier and Monashee Provincial Parks in B.C.)
- 5) **Greater Jasper Ecosystem**, also known as the Greater Yellowhead Ecosystem, (includes Jasper National Park, Willmore Wilderness Park and Foothills Model Forest in Alberta, Mount Robson, Terry Fox, and Hamber Provincial Parks in B.C.)
- 6) **Cariboos Ecosystem** (includes Wells Gray and Bowron Provincial Parks)

Other possible working areas, which are not included in the *Atlas* and are based on prominent ecosystems within the Y2Y bioregion, include:

- 7) **Greater Yellowstone Ecosystem** (with Yellowstone and Grand Teton National Parks in Montana, Idaho and Wyoming and seven national forests and three wildlife refuges)
- 8) **Greater Salmon-Selway Wilderness** (the heart of Central Idaho Wilderness with the Selway-Bitterroot and Frank Church Wilderness complex)

¹² (White, Scott-Brown *et al.*, 1995)

¹³ Northern Continental Divide refers to U.S. geographic perspective

- 9) **Fraser Basin** of central British Columbia (includes the central region of the Rocky Mountain Trench)
- 10) **Northern Canadian Rockies Ecoregion** (includes the Kwadacha Wilderness Provincial Park and the newly established Muskwa protected area in northcentral B.C. and the Cassiar/Kechika Mountains)
- 11) **Northern Boreal Mountain Ecoregion** (includes the Spatsizi Wilderness Provincial Park and the central Cassiar Range in northwestern B.C.)
- 12) **Liard Basin Ecoregion** (with the Liard Plain and Hyland area on the B.C. - Yukon border)
- 13) **MacKenzie-Selwyn Ecoregion** (includes the Mackenzie Mountains in western Northwest Territories and the Selwyn Mountains of the Yukon. This also includes the Wernecke Mountain Ecosystem with the Wind, Snake and Bonnet Plume watersheds.)

The working circle delineation is a conceptualization tool that links ecosystem-based efforts to the broader landscape. Some of these ecosystem working circles are operational to some extent. The Central Canadian Rockies, for example, has an interagency government coordinating body, but without any conservation, industry or local community participation. The Greater Yellowstone Ecosystem, on the other hand, maintains a strong conservation and community coordinating effort plus several interagency government committees. Most of the other working circles have little activity at this time. This is a function demography, community structure, non-profit interest and logistical realities.

3.3 Protected Area Strategic Issues:

A biodiversity conservation strategy that is gaining acceptance among conservation biologists includes a combination of three approaches: 1) protecting large, core wildland areas, 2) managing the interstitial human landscape and semi-natural areas outside of protected areas through compatible land management and 3) ensuring connections between core protected areas. This strategy utilizes core areas, buffer zones and corridors. While there are valid scientific debates concerning this strategy, this is the template for my assessment of protected area strategies for British Columbia, Alberta and the Canadian Federal Government.¹⁴

3.3.1 Endangered Spaces

At the national level, the foundation for Canada's protected area strategy is the United Nations' Brundtland Commission report on the state of the environment that described the need for more protected landscapes. In 1989 the World Wildlife Fund/Canada (WWF) and the Canadian Parks and Wilderness Society (CPAWS) launched the "Endangered Spaces Campaign" to promote the protection of Canada's 450 or so natural regions. Almost 9 percent of Canada now has some form of land protection and nearly half of these lands are "strictly protected from

¹⁴ There is debate about the negative aspects of corridors in terms of increasing susceptibility to disease, predation and non-native species introductions. Buffer zones protection is determined by levels of human impact. There is little long term data to assess success of buffer zone strategies.

all commercial extractive activities.”¹⁵ The goal of this initiative is to establish an ecologically representative network of habitats, with at least 12 percent of Canada’s land base set aside for protection nationwide.¹⁶ The campaign was designed to be implemented on a province-by-province basis and in 1992 all governments of Canada, federal and provincial, agreed to support this initiative.

3.3.2 Alberta Protected Area Strategies

Roughly 10 percent of Alberta’s land base is protected. Three national parks (Banff, Jasper and Wood Buffalo) account for nearly 87 percent of this figure; the Province of Alberta has managed to protect only 1.4 percent of its total area.¹⁷ In response to the Endangered Spaces Campaign, the Government of Alberta created a program called “Special Places 2000: Alberta’s Natural Heritage.” This program was designed to fill the gaps within the province’s protected landscape by establishing a “network of Special Places that represent the environmental diversity of the Alberta’s six Natural Regions (ecoregions) by the end of 1998.”¹⁸ Special Places 2000 was chartered to protect lands for the purposes of ecological preservation, heritage conservation, outdoor recreation and tourism/economic development (see Map 3 -- Natural Region Map of Alberta).

The early phases of Special Places 2000 did little to improve the conservation status of the province, as measured by the World Wildlife Fund. In the process of public consultation, natural resource industries voiced resistance to this conservation. In its annual assessment of government efforts to comply with the Endangered Spaces Campaign, WWF gave the province an overall grade of “F” in 1995 for lack of progress.¹⁹ After concerted conservation advocacy efforts, Alberta responded by enhancing Special Places 2000 and protecting several critical areas (including Kakwa Wildland Park, Willmore Wilderness Park, Wind Valley Natural Area, and Upper Elbow/Sheep Wildland Park). These recent actions added 6,884 km² of protected lands and helped the province earn a much improved “B” in WWF’s latest annual report card.

Special Places 2000 is an opportunity for increasing Alberta’s protected area base. It is not a substitute for a comprehensive framework for land conservation. The fixation on the 12 percent set-aside is a recipe for cook-book conservation, not comprehensive land-use planning for the future. Alberta’s protected area system is highly fragmented, mirroring the conflicting land-use patterns of the province’s landscape. At present, the province employs a palette of at least 22 disparate designations to manage land-use.²⁰ A recent addition is the Wildland Park status, which has a legal designation but is still undefined in terms of protection parameters. The legislative terrain for conservation in Alberta features a variety of statutes with contradictory mandates and with inconsistent language to protect the ecological integrity of the province’s

¹⁵ (P.S. Elder, 1996)

¹⁶ This figure is based on recommendations from the Brundtland Commission. It is an arbitrary number without ecological basis (WCED, 1987 and Dearden and Rollins, 1993).

¹⁷ (P.S. Elder, 1996)

¹⁸ An ecoregion is defined as “an area characterized by a distinctive regional climate as expressed by vegetation. Ecoregions are divided into ecodistricts which can be divided into ecosections” (Alberta Energy and Natural Resources, 1984).

¹⁹ Assessment criteria includes: Application of Ecological Principles, Strategy Development, Percentage Completion to Date, Annual Rate of Progress in New Site Designations, Protection Standards and Private Sector Incentives (WWF, 1996).

²⁰ (Bramm, 1992)

landscape over time.²¹ Many statutes such as the Provincial Park Act lack defined guidelines for prohibited activities and regulatory enforcement, opening the door for discretionary management by the reigning Minister of Environment. This imprecision has permitted incompatible land uses in parks and wildlands, including oil and gas exploration, hunting, off-road vehicle use, grazing, and mineral extraction in areas that were supposed to receive land and wildlife protection. The more precise the legislation in terms of management and policy, the less room there is for ministerial abuse.²²

The fragility of park protection is caused in part by the mechanism of their creation. Most new parks and protected areas in Alberta have been created by a provincial cabinet level decision, known as an Order-in-Council.²³ In the case of Kakwa and Upper Elbow/Sheep Wildland Areas, the cabinet used the existing Provincial Parks Acts as enabling legislation but omitted specific articles pertaining to the precise management of these new protected areas. While an Order-in-Council allows government to act quickly, it does so without public debate and without the comprehensive provisions of properly crafted legislation. And an Order-in-Council can be rescinded as quickly as it was created.²⁴ Its greatest strength is also its greatest weakness.

3.3.3 British Columbia Protected Area Strategies

The present B.C. government was elected on a platform that called for an increase in the province's protected area base. With much enthusiasm, the province adopted the Endangered Spaces Campaign's 12 percent guidelines for protecting representative ecosystems by the year 2000.²⁵ The B.C. Protected Areas Strategy was designed to achieve two goals:

1. To protect viable examples of the natural diversity of the province that are representative of the major terrestrial, marine, and freshwater ecosystems, the characteristic habitats, hydrology, and landforms, and the characteristic backcountry recreational and cultural heritage values of each ecosection.
2. To protect the special natural and cultural heritage and recreational features of the province, including rare and endangered species and critical habitats, outstanding or unique botanical, zoological, geological and paleontological features, outstanding or fragile cultural heritage features; and outstanding outdoor recreational features such as trails.

Canada's most biologically diverse province, British Columbia, has already increased its protected areas representation from 6.0 to 9.16 percent coverage since it initiated this effort in

²¹ This includes the Provincial Parks Act; the Wilderness Areas, Ecological Reserves and Natural Areas Act; the Willmore Wilderness Park Act; the Water Resources Act; the Forest Act; Department of Environment Act and the Wildlife Act.

²² The Willmore Wilderness Park Act, which had some weak management regulations in the beginning and has been recently revised, is an example of legislation that has clearer guidelines for protection and permitted uses. This act refers to a protected area north of Jasper National Park.

²³ Order-in-Council is a mechanism of governance in all Canadian provinces. What applies to Alberta, also applies to B.C.

²⁴ Many protected areas in B.C. were also established by an Order in Council. John Bergenske of the East Kootenay Environmental Society reports that "an OIC was used to protect the Purcell Wilderness Conservancy for almost 20 years despite an unfriendly government that followed the government order."

²⁵ In July 1993, B.C. adopted a new policy - "A Protected Areas Strategy for British Columbia: the Protected Areas Component of B.C.'s Land Use Strategy" (Province of B.C., 1996a).

1991. Optimistic members of the conservation community believe that the province will protect between 15 to 20 percent of the province's land area.

Implementation of this strategy varies within political regions of the province. In the Kootenays, the province's protected area goals were accomplished through the Commission on Resources and Environment (CORE) land-use planning process. CORE was established in June 1992 to develop regional land use plans for Vancouver Island, Cariboo-Chilcotin, and the Kootenays (West Kootenay-Boundary and East Kootenay). This roundtable process lasted over 18 months and CORE completed land-use plans in October 1994. The B.C. government approved these plans in March 1995 and CORE regions now begin the hard work of implementing the plans.

Through CORE, protected area coverage in the East Kootenays, a critical region for the Y2Y conservation strategy increased from 13.2 to 16.5 percent.²⁶ Seventy-four percent of the total land area was designated as Resource Development Zones and the remaining 9.1 percent as Private, Settlement Lands. Within the Resource Development Zones, there are Special Management Areas that do not have a defined land-use at this time but may, in some circumstances, act as buffer areas or connectivity zones. Depending on how they are managed, Special Management Areas could effectively increase landscape conservation.²⁷

Since the East Kootenay already has a high level of protection with three large national parks in the region (Yoho, Kootenay and Glacier National Parks²⁸), there is timber, mining and tourism industry resistance to increasing the protected area percentage beyond 16.5 percent. This demonstrates the two-edge effect of using percentage approaches to conservation. While percentages provide a concrete framework for dividing land-uses, they are indiscriminate when applied over a large landscape. Then, instead of opportunity, they create an artificial barrier. Although the East Kootenays may appear well protected, much of this protection is limited to higher elevation lands and thus preserves scenic and geologic features rather than areas of high biodiversity. Lower areas critical for maintaining the region's biological diversity lack sufficient protection. The Cummins River, one of the last untouched river valleys in the Kootenays, is in a classification limbo, Deferred Status, because of the 16.5 percent policy cap.

While CORE stands as a model of public participation, table members and government officials point out that it was an expensive, time-consuming and sometimes ineffective process.²⁹ For example, the East Kootenay roundtable representation was unduly weighted toward industry. And in the end, the decisions reached by the roundtables were not always matched by the political will needed to implement them. There was a unanimous decision by all stakeholders in the CORE roundtable process to protect an area twice the size of the newly created park boundary for Akamina-Kishenina Provincial Park. Allegedly, Crestbrook Forest Products Industry negotiated a backroom deal with the provincial government to make the park the same size as the existing recreational area.³⁰

²⁶ The West Kootenay-Boundary region increased its protected area land base from 5.5 percent to 11.3 percent during the CORE process (K. Lewis, pers. comm.).

²⁷ The East Kootenay Environmental Society reports that industry is lobbying for high levels of human-use in these Special Management Zones.

²⁸ Canadian Glacier National Park encompassing Rogers Pass in the northern Selkirk Mountains.

²⁹ Leslie Giroday, pers. Comm.

³⁰ Deni Gourdeau, pers. comm.

In the Y2Y region north of the Kootenays, the CORE process was replaced by Land and Resources Management Plans (LRMP) that allow for public input on a local and regional basis. Seven subregional plans were developed for northeastern B.C., and the B.C. Land Use Coordination Office established a 9 percent protected area target for these efforts (see Map 4).³¹

Besides the Protected Area Strategy, B.C. has other mechanisms for conservation. The recently adopted Forest Practices Code provides for biodiversity protection in the province's forested landscape.³² All public forest lands are being mapped using a formula of 10 percent high, 45 percent medium, and 45 percent low biodiversity value. How this formula is going to be apportioned in various regions of B.C., and what the management guidelines of high biodiversity areas will be, are major concerns of the conservation community. While the new Forest Practices Code clearly states that managing biodiversity is one of the Forest Service's primary mandates, some agency personnel view this goal as secondary to timber production. If implemented, the Code lays the groundwork for integrated land-use management. As part of its biodiversity conservation mandate, the code seeks to ensure landscape connectivity through the creation of Special Management Zones (SMZ) that may serve as corridors between protected areas and as buffer zones around them.

Another possible mechanism for conservation is the newly enacted Forest Renewal B.C. Act (FRBC), that creates a province trust fund using a percentage of the stumpage fee placed on timber cutting operations. The estimated revenues for FRBC will be around Cdn \$400 million per year. These funds will be used for restoration of lands, value-added enterprises, and silvicultural initiatives. The East Kootenay Environmental Society (EKES) hopes to have a conservationist represented in regional FRBC activities.

3.3.4 Federal Land Protection Strategy

The federal government of Canada is committed to setting aside at least 12 percent of all Canadian soil as protected space. Since the federal government owns only 4 percent of Canada's public lands below the 60th parallel, implementation of this goal will be pursued through federal-provincial negotiation. Alberta, with its strong anti-federal government attitude, is less likely than B.C. to respond to federal initiatives. Thus, the federal role in pushing a coherent protection strategy in the Y2Y region may be limited. Above the 60th parallel, the federal government has an opportunity to protect large blocks of land in the Yukon and western Northwest Territories. Whether it is planning or inclined to do so is unclear.

³¹ (e.g., Prince George, Robson Valley, Fort St. John, Fort St. James, Fort Nelson, Dawson Creek)

³² Forest Practices Code of British Columbia Act, 1994.

3.3.5 Recommendations for Alberta, British Columbia and Canadian Federal Land Protected Area Strategies:

Conservation action, for better or worse, is likely to be provincial. And there are specific issues within Alberta and British Columbia that require strategic conservation thinking and work. These do not necessarily reflect consensus of views among Canadian conservationists, but are issues that emerged during the research for this report.

1) Alberta needs to develop a forward looking protected area strategy for the province. This should include a comprehensive framework for how the various public land designations in the province fit together; a commitment to overall compatibility of land-uses; and priorities for added protection within this plan. Inconsistencies within and between land designations need to be systematically addressed. This effort would require new levels of cooperation among the province's land protection agencies. The Alberta Forest Service, which manages the majority of Alberta's public lands and now has a minimal conservation mandate, would have to shift both its policies and its practices.

There are partial solutions in progress. An advisory committee is presently drafting an omnibus bill (The Protected Areas Act) to remedy some of the land-use planning issues.³³ This nascent legislation is a supplemental effort of the Provincial Coordination Committee for Special Places 2000 and will probably not be acted on until the completion of Special Places 2000 in 1998.³⁴ The bill will address regulatory reform of Ministerial discretionary powers within existing statutes, but will probably not include ecological guidance on protected area design and management (e.g., ecosystem-based management and ecological connectivity). Resistance to this type of protected area reform is expected from extractive industries and from the off-road vehicle lobby which has a large presence in Alberta politics.³⁵

2) While measures to reform Alberta's protected area framework inch along, protective provisions within existing legislation require added enforcement. Many acts have clear protection language but are circumvented by non-compliance or a lack of enforcement. Mike Sawyer of the Rocky Mountain Ecosystem Coalition reports that the "Fisheries Act of Alberta is one of the strongest laws in the province, but there is hardly any enforcement." In part, this lack of enforcement is the result of unclear regulatory guidelines and of faltering government resolve to comply with environmental mandates. There are also institutional difficulties that hinder enforcement. Under the "Klein Revolution," Premier Ralph Klein's dramatic cost-cutting fiscal measures, government agencies in Alberta are being asked to do more with much less. A recent business plan for the Department of Environmental Protection calls for a 20 percent budget cut. The management implications are real. This comes as no surprise to the conservation community, which has always said that "What's on paper does not equal protection." New modes of compliance assurance will have to be addressed in any future conservation agenda.

³³ P. S. Elder (1996) refers to this as the Endangered Ecosystems and Natural Areas Reserve Act.

³⁴ Chris Wallis pers. comm.

³⁵ An Alberta Forest Conservation Strategy is being designed that provides for wilderness designation within forests managed under the Forest Act. This mechanism will mainly apply to the north of the province (Cliff Wallis and Peter Sherrington, pers. comm.).

3) The Southern Portion of the Eastern Slopes Region of the Rocky Mountain Forest Reserve from Kananaskis Country to Waterton Lakes National Park lacks sufficient protection. The Eastern Slopes region of Alberta is a large span of provincial public lands (90,000 km²) running from Grand Prairie (north of Jasper National Park and Willmore Wilderness Park) along the front range and foothills of the Rockies south to Waterton Lakes National Park (see Map 5). The value of the area has been known since the late 1800's, when the Canadian Federal Government established measures to protect the water catchment services of this predominately forested terrain, which later became the Rocky Mountain Forest Reserve. The southern portion of the Eastern Slopes, which includes the former Bow-Crow Forest District that is now called the Crowsnest and Bow Districts, has almost no ecological protection, although the Bow Forest District is the last large tract of relatively undisturbed habitat for grizzly bears and other large carnivores in southwest Alberta.³⁶ These lands, like the rest of the Eastern Slopes, are managed by the Alberta Forest Service with policies guided by Integrated Resource Plans (IRPs) that provide a multiple-use framework for land management.³⁷ Many land-use zones were determined by arbitrary elevation set-asides and not based on sound ecological understanding.³⁸

The Alberta Forest Service, which is the dominant public lands manager in Alberta, does not have a conservation mandate. Members of the Forest Service refer to themselves as "Fiberheads"-- meaning wood and pulp producers. Ray Luchkow, Bow District Superintendent, admits that the Forest Service is in transition. The service is trying to address the increasing importance of conserving non-timber and non-grazing needs through adaptive management and public participation initiatives. The lower elevations that are most important for sustaining biodiversity and wildlife, are areas where human uses now have priority. Much of the Southern portion of the Eastern Slopes is dedicated to lease-hold grazing which exacerbates livestock-wildlife conflicts and results in predator control measures. For example, from January 1994 to March 1995, 45 wolves were killed through poisoning, hunting and trapping within the Oldman River watershed and Chain Lakes area in the Rocky Mountain Forest.³⁹ Half of these killings were on public lands. As Americans spend millions of dollars to reintroduce gray wolves in Idaho and Yellowstone, Canadians are killing them in Alberta.⁴⁰

4) Parks are only a small contributor to the conservation landscape. Long term objectives will be only achieved through coordinated and cooperative efforts with all stakeholders in the entire region. How lands are managed outside of parks and protected areas will determine the success of any protected area strategy. This places a high value on creating conservation incentives with private landowners.⁴¹

³⁶ (Hummel and Pettigrew 1991)

³⁷ IRPs divide the landscape into eight zones of management: 1. Prime Protection, 2. Critical Wildlife, 3. Special Use, 4. General Recreation, 5. Multiple Use, 6. Agriculture, 7. Industrial and 8. Facility. Categories 1 and 2 provide for protection (Bramm, 1992).

³⁸ For example, Prime Protection Zones of IRPs which were established above 5,500 feet are not necessarily prime habitats for biodiversity conservation.

³⁹ One wolf which was shot in Crowsnest Pass was the alpha female that recolonized Glacier national Park in Montana (C. Stewart pers. comm.).

⁴⁰ Kevin Van Tighem of Waterton Lakes National Park says that many Albertans view "Yellowstone reintroductions as a wolf rescue program".

⁴¹ An Alberta Law Review article written by P.S. Elder (1996) states that Alberta's Habitat Program, a pilot initiative run from 1986 to 1989, was a model for using financial incentives to preserve wildlife habitat on privately owned or leased land in the province.

5) Land protection based on strict percentages creates barriers to effective conservation, especially when planners view them as targets rather than guidelines. In the East Kootenay, the 16.5 percent conservation cap is high as compared to provincial and federal land protection levels, but does not account for the high biological diversity and intense resource use of the region. Percentage-based conservation is too coarse a process for distinguishing between sensitive and robust habitats. Conservation issues are often qualitative and are not well served by strict numerical rules.

6) Special Management Zones in British Columbia need definable conservation criteria. The nebulous definition of this land-use designation will undermine the province's good faith efforts to involve stakeholders in regional land planning processes. Special Management Zones must move beyond the continuance of "business as usual" land-use, and provide definitive criteria for intensity of human use.

7) The Federal Government needs to show conservation leadership through action by demonstrating an ideal protected area strategy in lands under its direct jurisdiction. The Yukon and the Northwest Territories could become models of land conservation for the rest of Canada.

Below the 60th parallel, federal authority to influence provincial protected area strategies is tied to Canada's National Parks. "They account for over 70 percent of Canada's protected lands."⁴² And when looking at parks, the centerpiece of protected area strategies, a host of institutional and management issues arise.

4.0 Provincial and Federal Parks: Institutional and Management Issues

"If a national park is not protected, nothing is." - Harvey Locke

4.1 Park Protection History

The conventional wisdom is that once parks are created, they are permanently secure. But in the Y2Y area of Canada there is an astonishing history of park area excision. Banff, Jasper and Waterton Lakes National Parks in Alberta lost thousands of hectares of land during their first decades of existence. Banff National Park once extended south through Canmore and east into the foothills. Jasper also extend east into the foothills. Waterton lost the entire Castle-Crown wilderness area. Willmore Wilderness Park in Alberta, a provincial protected area, "has been reduced in size twice since its inception in 1959."⁴³ In British Columbia, the story of Hamber Provincial Park stands as a legacy to the ephemeral aspects of parks protection. Hamber Park once protected much of the Upper Columbia River watershed from Valemount, B.C. to Golden, B.C. along the Continental Divide (9,600 km²). In 1961, the B.C. government dissolved the area's park status and allowed logging in all but 243 km². Only a postage stamp of a protected park remains; the rest of the former park is designated forestry lands. The assumption of permanent security is contradicted by experience.

⁴² P.S. Elder, 1996, pg. 307

⁴³ Alberta Wilderness Association, 1993

4.2 Alberta Parks Service

The Alberta Parks Service manages 69 provincial parks. Roughly 1,500 km² of Alberta have been designated as provincial parks, with an additional 1,010 km² as strict wilderness. Only a handful of Alberta's provincial parks are greater than 100 km² and the total provincial park and wilderness area represents 1.14 percent of the province's land base. Alberta's Provincial Park Act is less clear than B.C.'s Park Act in its classification scheme, but its parks are managed similarly.

The Willmore Wilderness Park Act, once the bugs were worked out, is a model for provincial protected area designation with specified management guidelines. The "Wilderness Areas, Ecological Reserves and Natural Areas Act" that established the White Goat, Siffleur and Ghost River Wilderness Areas just east of Banff National Park includes management guidelines that are some of the most protective (on paper) in all of Canada, exceeding federal government guidelines for wilderness. No hunting, trapping, fishing, horses, motorized vehicles, garbage, collecting, or extractive uses are allowed. Only foot traffic is permitted. Since these areas also have no rangers, there is plenty of illegal use. And this restrictive designation has fueled an anti-wilderness political backlash. This shows that good policy can breed negative results if wilderness maintenance and education are not part of the conservation package.

4.3 British Columbia Parks (BC Parks)

BC Parks manages more than 600 provincial parks, including some 150 new parks created in British Columbia since 1991. The amount of land protected rose from 62,000 km² to almost 87,000 km², a 42 percent increase. With further legislation this year, 68 more parks will be added, not counting additional planned parks in northeast B.C. and the Kamloops area. British Columbia governs its parks with four primary legislative acts and a fifth statute in the works. **The Parks Act** is the primary parks legislation, "in which the minister has jurisdiction over, and shall manage and administer, all matters concerning parks." Most of the province's parks are classified as Class A parks which are the most protected and represent 79 percent of B.C.'s total protected land base.⁴⁴ The **Ecological Reserve Act** enables the creation of permanent sanctuaries to protect representative ecosystems for conservation, research and education. The **Park Regional Act** establishes by-laws for cooperation. And the **Parks Amendment Act 1995** is the enabling legislation for new parks, enacted in July, 1995 and established 62 new Class A parks. The **Parks Amendment Act 1996**, a new statute, has recently been announced and will establish an additional 68 parks.

While B.C. Parks is gaining terrain, it is losing money; its budget has decreased 6 percent since 1991. B.C. Parks has 1 full-time equivalent (FTE) employee per 2,000 km² of land managed; other B.C. resource agencies have 1 FTE employee per 500 km².⁴⁵ The message heard from Assistant Deputy Minister for B.C. Parks, Denis O'Gorman is that B.C. Parks needs help to manage its growing portfolio. In response, BC Parks initiated "Project Viability" to keep the

⁴⁴ Other park categories include Class B where commercial resource extraction may be allowed; only two parks in the province have this designation; Class C for community and municipal parks; Recreational Areas which is a temporary classification if a protected areas has resource extraction; and Ecological Reserves which protects specific areas for research, conservation and/or education.

⁴⁵ Dennis O'Gorman pers. comm.

park system afloat and to build institutional capacity. Project Viability will try to develop public and private partnerships in managing parks. There is an opportunity here for the conservation non-profit community to engage government on a cooperative and mutually productive basis.

4.4 Parks Canada

The federal government's role in the Y2Y area through Parks Canada is undergoing major institutional transitions. In the past, revenues earned by Parks Canada, as in the U.S., were returned to the national treasury and redistributed to other areas of government. As Charles Zinkan, Superintendent of Parks Canada, commented, "Parks Canada is one of the biggest revenue generators in the country, but we don't make money." Under a new policy established this year, Parks Canada will now keep its revenues and pay most of its own expenses. This goes hand-in-hand with federal government efforts to trim its support of the parks and to reduce its expenditures as a whole. In response, Parks Canada plans to become a more entrepreneurial agency, with more services being contracted out to the private sector. This strong corporate direction includes a proposed 50 percent staff reduction. Parks Canada anticipates that these former employees will keep working by becoming private sector contractors. Along with park management plans, there will be a new emphasis on park business plans.

An initial aspect of this policy change was a steep increase in park gate fees to Cdn \$5.00 per day per person. This action may decrease the day use of Banff National Park by Albertans, but it will put more pressure on Kananaskis Country, just south of Banff, which is free to the public. Banff National Park now has over 8 million people passing through the park each year via Trans Canada traffic with 4.5 million people visiting the park as their prime destination. Long range planning work by the Banff Bow Valley Study project predicts the number of Banff park visitors to rise above 21.6 million per year in the next 50 years. Higher gate fees may serve as one mechanism to limit human use, but this comes with some cost of public alienation.⁴⁶

The budgetary reorganization of Parks Canada comes at a time when the institution has firmly embraced an ecologically-based conservation mandate. The federal government amended the National Parks Act in 1988 to state that the "maintenance of ecological integrity through the protection of natural resources shall be the first priority when considering park zoning and visitor use in a management plan." As a result, many parks have restructured their resource management division into an integrated Ecosystem Secretariat. This policy shift will allow the parks to achieve conservation goals based on ecosystem management principles. And when Parks Canada was moved to the Ministry of Canadian Heritage, this policy focus was confirmed in the 1994 Guiding Principles and Operational Policies, which added that "decision-making associated with the protection of parks ecosystems will be scientifically based on internationally accepted principles and concepts of conservation biology."

In the Y2Y region, the four Rocky Mountain National Parks (Banff, Jasper, Yoho, and Kootenay) have coordinated management plans. These park management plans were completed in 1988 and are in the final stages of their 5-year mid-term revisions.⁴⁷ Management plans are to

⁴⁶ Fees are not the only tool to limit access (other options include permits, limiting passenger cars, reservation systems, etc.).

⁴⁷ Final revised plans (due in 1993) have been delayed until results of the Banff Bow Valley Study could be incorporated (Judy Otton pers. comm.).

be updated every ten years, with the next updated plans expected to be in force by 1999 or 2000. In the past five years, Geographic Information Systems (GIS) have fundamentally changed the planning process for parks. Future plans will incorporate more sophisticated data analysis and more understanding of the cumulative impacts of human use on parks. These enhanced plans can serve ecosystem-based conservation objectives.

4.5 Interagency Cooperation

As a means of coordinating ecosystem management practices in the Canadian Rockies, three interagency working groups, composed primarily of federal and provincial government managers, have been established: Southwestern Alberta Ecosystem Management Council, the newly formed Greater Yellowhead Ecosystem Group and the Central Rockies Ecosystem Interagency Liaison Group.⁴⁸ As organizational bodies these groups do not have regulatory powers, and they serve as hubs for information exchange and research collaboration.

Of the three interagency groups, the Central Rockies Ecosystem Interagency Liaison Group (CREILG) is the largest and most active. The group has been meeting twice a year for more than two years and is developing common agendas for backcountry management, scientific research, land-use planning coordination, and data/information sharing. CREILG is reaching a point where the organization needs to decide whether to continue as an ad-hoc arrangement or become a more formal institution. CREILG has already taken an education leadership role by producing the *Atlas of the Central Rockies Ecosystem* and developing a cross reference key for understanding the levels of protection among federal and various provincial management designations of parks and wilderness.⁴⁹ In the central spine of the Canadian Rockies, CREILG can serve as the government's parallel organization to the Y2Y non-profit environmental community.

4.6 Commentary on Park Management and Institutional Issues

There is a tension between the increasing management portfolio of federal and provincial parks and decreasing budgetary support. As provincial and federal governments responded to public concerns for more land protection, they did so without concern for the institutions responsible for protection. While ecosystem management policies are being adopted and new protected areas are being created, institutions are being left behind. The maintenance of existing protected areas is likely to erode under this institutional burden, and there will be little to spare for new areas. This is not to say that provincial and federal institutions as they are set up now only need more appropriations. There are institutional reform issues from human resource management to organizational culture that need attention. The conservation community is failing to advocate as well for institutional reform as it has for land protection.

⁴⁸ The Southwestern Alberta Ecosystem Council includes Waterton Lakes National Park, BC Parks, Alberta Environment, Alberta Parks, Alberta Forests, Municipality of Pincher Creek and Alberta Public Land Services. The Greater Yellowhead includes Jasper National Park, Alberta Parks, Alberta Forests and Lands, BC Parks, BC Lands, BC Forests and possibly industry representatives (J. Christensen pers. comm.). The Central Rockies Group includes Banff, Yoho and Kootenay National Parks, Kananaskis Country, Alberta Forests and Lands, Alberta Parks, BC Parks, BC Lands, BC Forests, and BC Environment.

⁴⁹ Wilderness and park management varies between Parks Canada, BC and Alberta. Same names - different management provisions.

5.0 Hot Spots

Biodiversity Hot Spots are areas with high levels of endemic species and high threat. An initial list of hot spots was generated by the Y2Y Steering Council in April 1996 (see Map 6 and Addendum B) and I was able to reconnoiter some of them during my trip:

In British Columbia (moving from the U.S.-Canada Border to the North):

- **The North Fork of the Flathead River in Montana and British Columbia** may be the most critical habitat in the Y2Y landscape in terms of its international conservation value, its high density of grizzly bears, its aquatic diversity (e.g., bulltrout habitat) and its lack of protection. The North Fork is a true priority with high biodiversity and high threats including logging, roads, hunting and mining. The Flathead Basin Commission was established by the Governor of Montana to examine the health of the region, but only one Canadian representative is involved, a B.C. provincial government liaison who apparently “doesn’t take the process seriously” – perhaps for cause.⁵⁰ There is no Canadian federal participation. East Kootenay Environmental Society plans to develop an advocacy campaign for the Flathead from the Canadian side and wants to nominate the North Fork as a Heritage River within the B.C. Heritage Rivers Network.

- **Elk Valley**, just north of the Flathead River Basin in southeast British Columbia, is one of the richest wildlife areas in the Canadian Rockies. This rare interior cedar-hemlock watershed is threatened by some of the largest open pit coal operations in the world. At least five mines are working in this narrow valley. The area has some of the highest densities of grizzlies in North America. Elk Valley supports a population of 137 grizzly bears at a density of 3.8 bears per 100 km². In contrast, the East Kootenay Trench supports 26 bears or roughly 1 bear per 100 km².⁵¹ The towns of Sparwood and Fernie sit in the base of the valley and intersect wildlife movements. From 1990 to 1995, 37 grizzlies were destroyed in the Sparwood-Fernie landfills, which are not bear-proof, and an additional 146 black bears were shot. The Elk Valley is a mortality sink for grizzly bears.

- **Cummins River**, a tributary of the upper Columbia River and Kinbasket Lake in the Golden B.C. Forest Service District of the East Kootenay region is one of the last large pristine watersheds in the upper Columbia River Valley. Prior to 1961, the Cummins watershed was protected by the former boundaries of Hamber Provincial Park. But when the park was degazetted, all watersheds, except for Cummins, were opened to industrial forestry. The Commission on Resources and Environment (CORE) process has delayed a decision on the fate of the Cummins and the government has classified the area as “deferred status” for the time being.

- **Robson Valley** is the headwaters of the Fraser, Peace and Thompson Rivers.⁵² The area contains old growth forest habitat that is being heavily clearcut. One of the largest clearcuts in North America lies in this region on the north side of Bowron Lakes Provincial Park. Satellite

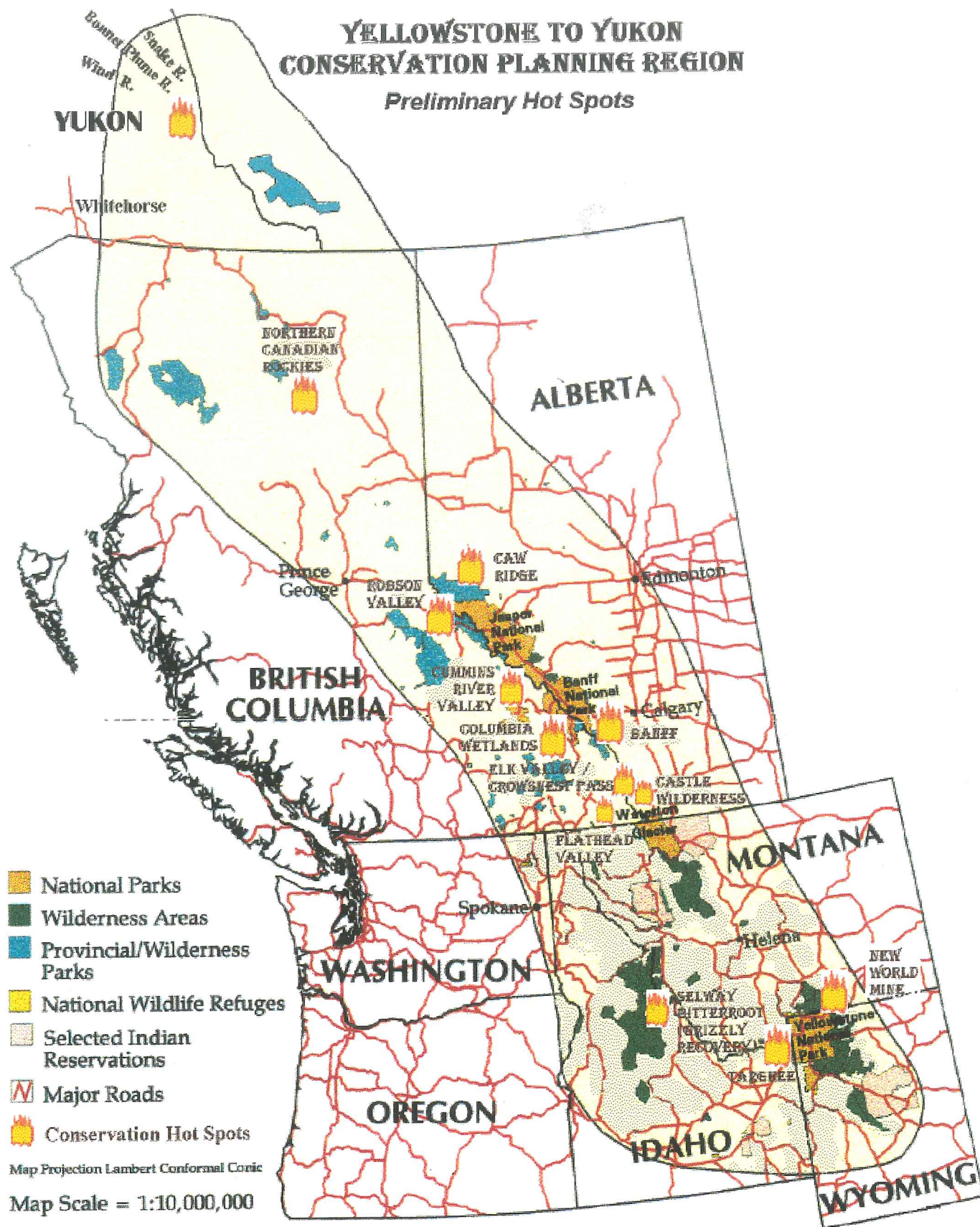
⁵⁰ Leslie Giroday pers. comm.

⁵¹ (Lashman and Simpson, 1996)

⁵² 42.2 percent of Robson Valley is public land and 57.8 percent private land and leases. 914.60 km² - total land use.

YELLOWSTONE TO YUKON CONSERVATION PLANNING REGION

Preliminary Hot Spots



Earth Design Consultants
Corvallis, Oregon

Map 6: Y to Y Preliminary Hot Spot Areas

Crown of the Continent
Electronic Data Atlas



photos of the region document a large clearcut region with a small handful of untouched sub-watersheds. In justifying the scale of cutting, Harry Barber, B.C. Forest Service District Manager for the Robson Valley, said, "We've very fortunate to have more flexibility than other timber supply areas, because we have a large inventory of old growth" – meaning that old growth is considered expendable.⁵³ Sixty percent of the area was recommended for protection under B.C.'s CORE process, but only 3 or 4 percent was protected by the end of the process. A region that has been largely overlooked by the conservation community, the Robson Valley may be a source area for large carnivores. A protected area in the Robson River valley would join Jasper National Park and Willmore Wilderness Park in Alberta with Mount Robson and Monkman Provincial Parks in B.C. – i.e., a connective corridor.⁵⁴

In Alberta (moving from the U.S.- Canada Border to the North):

- **Castle Wilderness** (proposed Castle-Crown Wilderness area) in southwestern Alberta is a critical wildland just north of Waterton Lakes National Park and south of Crows Nest Pass. Part of Waterton Lakes National Park from 1914 to 1921, the Castle Wilderness (795 km²), which includes the Upper South and West Castle Rivers and the Upper Carbondale River, is part of the underprotected Rocky Mountain Forest Reserve. The area is far from pristine and has been severely impacted by oil and gas development, logging, grazing, trapping, and off-road vehicle recreation, but conservationists believe that wilderness designation will provide the protection necessary to ensure its restoration. The headwall of the South Castle has the highest precipitation in Alberta and is an important area for biodiversity conservation in the province, including plant biodiversity. Fifteen percent of the Castle is montane, a critical habitat for Alberta, and the Castle is considered vital for the long term survival of perhaps 13 resident grizzlies between Crows Nest Pass and Waterton.⁵⁵ The conservation goal of the Castle-Crown Wilderness Coalition is to have the region protected through Alberta's Special Places 2000 program.

- **Highway 3 -- the Crowsnest Pass** bisects the eastern range of the Southern Canadian Rocky Mountains. This area is a major transportation corridor and it is heavily settled on the Alberta side of the Continental Divide. The Crowsnest Municipal District includes four towns. Combined human development and transportation use essentially block wildlife movements (especially grizzlies) north and south along the eastern edge of the Rockies. Second to Banff, Highway 3 is the major cause of habitat fragmentation of the Y2Y landscape in Canada. Possible mitigating actions would include adoption of a growth management plan for the towns located in the pass; maintaining existing and restoring degraded corridors; construction of key highway overpasses for wildlife travel over roads; elevation of specific rail and highway areas for wildlife travel underneath; putting trucks on rails; and education for drivers and rail engineers to travel these transportation routes with wildlife and human safety in mind.⁵⁶

- **Whaleback** is Alberta's montane treasure. Located in southeastern Alberta, north of the Oldman River, the Whaleback (236 km²) is an area of folded ridges with grasslands and open stands of Douglas Firs and Limber Pines. Montane habitat occupies only a small portion of Alberta, less than one percent of the province. Montane habitats generally occur at elevations

⁵³ The Valley Sentinel (April 10, 1996)

⁵⁴ (Rick Zammuto from Y2Y minutes April 13-14, 1996)

⁵⁵ Dave Sheppard pers. comm.

⁵⁶ These recommendations also apply to Banff corridor.

between 1,300 and 1,600 meters and serve as "centres of ecological diversity and productivity within the Rocky Mountain Natural Region, providing important migration corridors for large carnivores, ungulates and songbirds, as well as critical reproductive and overwintering habitat for a variety of species," including grizzlies, wolves and elk.⁵⁷ The Whaleback region contains the most extensive and least disturbed montane habitat in Alberta and it is perhaps the largest elk wintering range in North America.

This rare landscape is presently under the authority of the Rocky Mountain Forest Reserve, which provides minimal protection. Extensive grazing, hunting and some logging occurs in the Whaleback. Amoco Canada was recently denied permission for an exploratory well. The Whaleback has been proposed as an area for protection under Special Places 2000. Since the Whaleback is a major elk wintering ground, it is also necessary to maintain elk summer habitat. This means that the Livingstone Mountains and the Upper Oldman watershed along the Continental Divide need to be part-and-parcel of Whaleback conservation. Conservation of hot spot areas like the Whaleback need to incorporate landscape connectivity in their protection.

- **Banff-Bow River Valley** contains perhaps the greatest threat to the Y2Y landscape because human activities in this critical valley may completely divide the bioregion. The valley has a major urban growth problem in the Banff townsite (population approx. 8,000)⁵⁸ within Banff National Park and in Canmore (population approx. 7,500) just outside the park. There are three ski resorts in Banff National Park and major resort developments in the town of Banff.

Harvey Locke refers to the Bow River Valley in Banff National Park as "the Berlin Wall of Biodiversity." The area has Canada's prime transportation corridor with the Trans Canada Highway, which is being widened from a single-lane to two-lane highway in each direction, and the Canadian Pacific Railway (CP Rail). The Trans Canada is the nation's primary east-west transportation route and the main access to the region's four Rocky Mountain national parks. Over 8 million visitors traveled through Banff National Park last year on the Trans Canada. The CP Rail mainline handles about 18 freight and 2 passenger trains a day. This heavy traffic flow has made the Bow River Valley within Banff National Park a "major mortality sink for wolves in the Central Canadian Rocky Mountains. Highway collisions account for 69 percent of wolf fatalities, while the railway is responsible for another 28 percent."⁵⁹

Combined transportation and urban development have greatly impacted the valley's precious montane areas. This rare and wildlife-rich montane habitat is associated with low valley bottoms and is found in only a handful of spots in the eastern slopes of the Rockies. Less than 5 percent of Banff National Park is montane, and it is found primarily in the lower Bow River.⁶⁰ Development within the Banff Bow River Valley has "physically removed 33 percent of

⁵⁷ Cliff Wallis in Alberta Environment Protection, 1995

⁵⁸ The impact of the town of Banff is a function both of its size and where it lies in the Bow Valley which is at the head of five watersheds - displacing and blocking wildlife movement (Dave Gilbride, per comm.). The town has its own government and maintains a General Municipal Plan that determines density and height limits (3.5 stories).

⁵⁹ (p. 20, Paquet and Hackman, 1995)

⁶⁰ Besides the lower Bow River Valley, there is a small montane parcel in the North Saskatchewan in the park. Ya Ha Tinda (40 km²), a ranch owned and managed by Banff National Park, is also an important montane area (Alberta Environmental Protection, 1995)

wolf habitat and obstructed movements of wolves and their prey.”⁶¹ There are 5 packs of wolves in Banff National Park – 35 to 40 individuals.⁶²

The conflict between conservation and development in this region led to the creation of a federal ministerial task force to study the impacts within the valley and develop recommendations for their resolution. The Ministry of Canadian Heritage is funding the Banff-Bow Valley Study as a serious attempt to move away from the polarizing rhetoric of development versus conservation. This two-year study ended in June 1996, and a final report will be submitted to the federal government. One element of this study’s “Strategic Goals for Ecological Integrity” in the valley is “to maintain healthy grizzly bear and wolf populations within Banff Bow Valley and Banff National Park as part of a viable and connected population of large carnivores within the Mountain Cordillera of Canada and the northern United States. The wolf and bear populations within Banff National Park will serve as one of the source populations for the regional ecosystem.”⁶³ The achievement of this goal is one of the purposes of establishing the Y2Y initiative. For now, the Banff-Bow Valley Study has accomplished two objectives: 1) It has demonstrated that the Bow Valley needs to be managed from an ecological standpoint, and 2) Members of the business community reportedly understand that there are limits to growth.

6.0 Cumulative Impacts:

While a “hot spot” focus draws attention to conservation problems in specific locales, a cross-cutting examination of the region yields a more comprehensive view of its major threats. Cumulative human impacts are transforming the landscape. They work in concert to undermine the resilient capacity of the ecosystem -- the ability to renew and adapt. In the Y2Y region, these threats include:

- **Industrial and agricultural activities** such as oil and gas development, logging and pulp mills, coal and mineral mining, livestock grazing, and hydroelectric dams. In the Foothills Natural Region of the Eastern Slopes of Alberta, for example “there were (as of November 16, 1995) 26,906 natural gas or petroleum wells.”⁶⁴
- **Road access and development** is one of the most serious issues in the region. “Roadlessness” can be viewed as an excellent proxy for wildlands (see Figure 1). Roads provide access to industrial, recreational and developmental opportunities. “Build it and they will come.” Oil and gas seismic exploration is perhaps the biggest threat. In the Foothill Natural Region of Alberta, for example, there are 26,025 kms of roads and 191,571 kms of seismic lines.⁶⁵ Many of the logging roads in the Y2Y region come on the heels of seismic exploration. The oil and gas industry is well aware of this issue and is trying to develop mitigating practices.⁶⁶ The problem is that while a seismic search may build a road for only a few weeks or months of work, the tracks left behind may last for decades. Conservation efforts need to “restore” and “reclaim” such sites and close off access. Of the

⁶¹ (p. 20, Paquet and Hackman, 1995)

⁶² Carolyn Callaghan, pers. comm.

⁶³ Draft Task Force Report, March, 1996

⁶⁴ Mike Sawyer, pers. comm.

⁶⁵ Mike Sawyer, pers. comm.

⁶⁶ This includes heli-drilling, horizontal drilling and road removal. Bill Harlan, pers. comm.

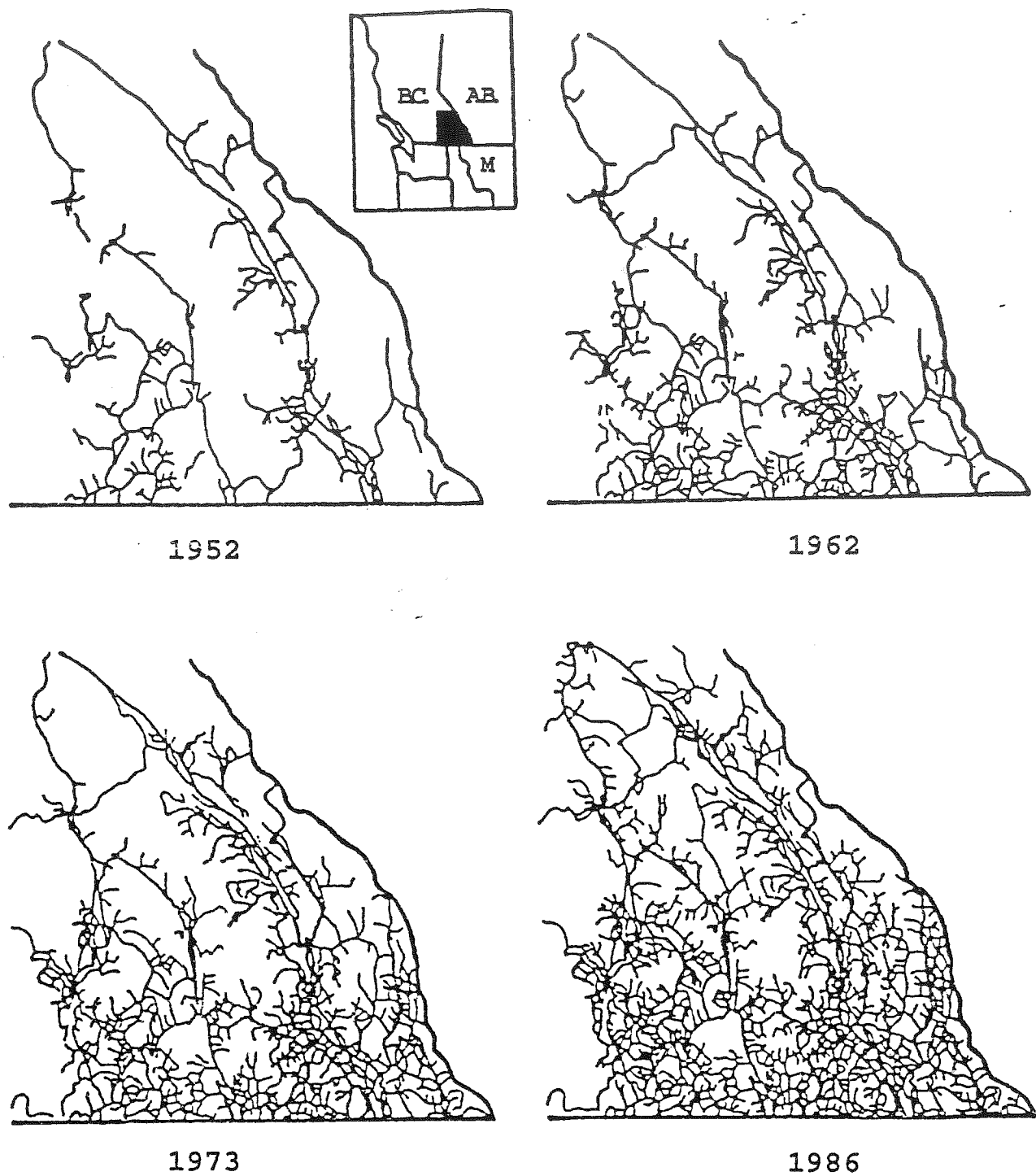


Figure 1: Increasing Road Density in the North Fork of the Flathead River in the East Kootenay (From: Dueck, H.A., 1990) Page 25a

1,200 townships in Alberta's foothills, only three have no roads, logging, or oil and gas drilling.⁶⁷

Major transportation corridor expansion is changing the patterns of human settlement and economic development. Calgary, with its low land prices and "unlimited" room to grow in the foothill-prairies, is becoming a hub for warehouse storage units and trucking for western Canada. This phenomenon fuels increased truck and rail traffic through Banff and Crowsnest Pass. In terms of urban development, the town of Canmore (pop. approx. 7,500), just south of Banff National Park, will soon become larger than Banff townsite. Canmore is quickly becoming a bedroom community for Calgary, and second home sites for Calgarians are having a major impact in Canmore and the Rocky Mountain trench in B.C. The towns of Invermere, and Golden, B.C. are also seeing tremendous growth. The resulting increased road use has even changed the way people drive on the roads -- faster and less attuned to wildlife. Crossing the road is as dangerous for people as for wildlife.

- **Recreational concerns** include resort tourism operations (e.g., large capacity luxury hotels and amenities, ski resort expansions), off-road vehicle use, increased backcountry usage, and non-selective hunting and trapping.
- **Land management regimes** have altered ecological processes in much of the Y2Y region through fire suppression, predator control, hydrological changes, exotic species introductions, soil erosion, and the erection of wildlife barriers (fences, roads, causeways, dams). The question of what is natural and what is managed blurs in light of the cumulative impacts of various land-use regimes over time. In the Bow Valley in Banff, is the loss of aspen stands a result of excess consumption by herbivores, whose populations have expanded in the absence of predators, or the result of coniferous forest selection due to fire control, or both?⁶⁸ Which state of "naturalness" do conservationists desire for the future? This question indicates the complexity involved in developing a coherent conservation agenda.

⁶⁷ Peter Lee, pers. comm.

⁶⁸ Cliff White, pers. comm.

7.0 Conclusions

In the next century, ecological boundaries can help us reshape the way in which landscapes are defined and managed. Ecosystems and larger scale bioregions may supersede political boundaries in conservation thinking, and provide a framework for integrated land use management. For example, studies of wolf movements demonstrate that wildlife boundaries are not confined by state, provincial and international borders.⁶⁹ We need to manage landscapes as a coherent, complementary mosaic of land uses. If land managers protect or restore interconnectivity and landscape linkages, the ecological integrity of natural areas will be sustained as a result. The long term success of human economies and natural processes are both dependent on this vision of the future. The groundwork for this vision is being developed now by the Y2Y project and its collaborators. Conservation efforts in the Greater Yellowstone Ecosystem, the Crown of the Continent Ecosystem and the Central Canadian Rockies Ecosystem provide examples of far-sighted thinking.

The scale and complexity of this effort is ambitious, but we already have lessons learned and opportunities provided by existing cross-border initiatives. While protection of the Great Lakes stand out, there are other precedents for large scale Canadian and U.S. conservation cooperation. The North American Waterfowl Management Plan, a joint \$1.5 billion Canada and U.S. wildlife program to restore declining waterfowl populations, was predicated upon American understanding that U.S. waterfowl populations depended upon well protected Canadian breeding habitats. The program included strong linkages among governments, the non-profit conservation community and local land-owners. By 1994, eight years after the plan's implementation, waterfowl populations were already making a stunning recovery.

Charles Collins, in a report to the Kendall Foundation, states that the North American Waterfowl Management Plan, worked because:

- 1) Diverse, previously competing stakeholders came together;**
- 2) Interests outside the environmental community realized that public attitudes to nature were changing and that their interests were at risk unless they chose to collaborate;**
- 3) Those who benefited from the resource were willing to help pay to see the resource restored;**

⁶⁹ One female wolf, named "Pluei," was captured in Peter Lougheed Park in the Kananaskis of Alberta in June, 1991. She first traveled north to Banff National Park, before going south through the Elk Valley in B.C., crossing the U.S.-Canada border at the North Fork of the Flathead River, then proceeding south through the pan-handle of Idaho, and moving east along the southern border of Glacier National Park, then turning north through the Blackfeet Indian Reservation, back into Canada along the Blood Indian Reservation and Waterton National Park through the Castle Wilderness area in Alberta, then into British Columbia near Fernie, before being found shot in Invermere, B.C. five years later in January, 1996. "Pluei," meaning rain in French, was found associated with at least 4 packs of wolves and had a home range over 100,000 km² (Paul Paquet pers. comm.).

- 4) **Stakeholders recognized that the existing regulatory structure—managed by state and federal officials—could not provide a forum with enough flexibility and creativity to solve problems and then created their own; and**
- 5) **People did not allow themselves to be overwhelmed by the size and scope of the total problem.**

The lessons of this successful program can serve as touchstones for Y2Y's emerging efforts.

On the U.S. side of the border, Y2Y is largely a dream of restoration. Areas like the Greater Yellowstone ecosystem have become largely isolated. Many conservationists argue strongly for reconnection. On the Canadian side, Y2Y is about using the precautionary principle in saving connectivity in the landscape. Once gone it is difficult to reclaim.

Conservation efforts are like the landscapes that they seek to protect. Just as a weakened, isolated ecosystem is strengthened by connections to other land areas, separate conservation efforts can gain from the support provided by a larger network such as Y2Y. As Benjamin Franklin said, unless we are hang together, we may each hang separately. And each local effort contributes to the larger movement. Even a small program in the right place, such as the North Fork of the Flathead River Valley, can make an important contribution to protecting wildlife and wildlands in North America.

The strength of the Y2Y concept is that it gives context to local and regional conservation activities on both sides of the U.S.-Canada border. Local conservation efforts benefit when viewed within a broader ecological context. Y2Y could be as much about the Selway to Selwyn or the Peace Park to the Peace River as about the Yellowstone to Yukon. The alliteration is a metaphor for connectedness as well as a magnet for the curious, an opportunity for the energetic and a vision for future possibilities. And thus, Y2Y has the ability to attract new and larger constituencies to these efforts, and by connecting them, increase their effectiveness.

References

- Alberta Energy and Natural Resources, 1984. Ecological Land Classification and Evaluation/Kananaskis Country. Resource Evaluation and Planning Division. Government of Alberta. Edmonton, Alberta.
- Alberta Environmental Protection, 1995. Special Places – A Spectrum of Categories: Intent and Management. Draft Report #6 Prepared for Discussion of the Special Places Coordinating Committee. July 17, 1995. 49 pp.
- Alberta Environmental Protection, 1995. Alberta's Montane Subregion, Special Places 2000 and the Significance of the Whaleback Montane. Government of Alberta. November, 1995. 51 pp.
- Alberta Wilderness Association (AWA), 1995. The Willmore Wilderness Park. 42 pp.
- Bramm, S., 1992. Protecting Ecosystems in Alberta: A Survey of Government Mechanisms. Environmental Council of Alberta. Edmonton, Alberta. June 1992. 162 pp.
- Canadian Heritage, 1994. Parks Canada: Guiding Principles and Operational Policies. 125 pp.
- Christensen, J., K. Everts and C. White, 1995. Backcountry and Wilderness Issues in the Central Canadian Rockies. Central Rockies Ecosystem Interagency Liaison Group. Mount Engadine Lodge. Kananaskis Country. December 6-8, 1994.
- Collins, C. H., 1995. Beyond Denial Revisited –A Progress Report on the Northeast Fisheries Crisis. A report to the Henry P. Kendall Foundation. 30 June, 1995. 19 pp.
- Dolan, B.R., 1993. An Intervener Submission to the Natural Resources Conservation Board of Alberta on behalf of Environment Canada relating to Application # 9201 by Vacation Alberta Corporation - Recreational and Tourism Development, West Castle - Pincher Creek Area, Waterton Park, Alberta. 23 pp.
- Dueck, H.A., 1990. Carnivore conservation and interagency cooperation: A proposal for the Canadian Rockies. M.E. Des. Thesis, University of Calgary, Alberta 146 pp.
- East Kootenay Environmental Society, 1995. Annual Report :Kimberley-Cranbrook Branch. Kimberley, B.C. 36 pp.
- Elder, P.S., 1996. Biological Diversity and Alberta Law. Alberta Law Review. 34(2):293-351.
- Environment Canada, 1988a. Banff National Park Management Plan. Calgary: Canadian Parks Service.
- Environment Canada, 1988b. Jasper National Park Management Plan. Calgary: Canadian Parks Service.
- Environment Canada, 1994. Biodiversity in British Columbia: Our Changing Environment. Eds. Harding L. and E. McCullum. Canadian Wildlife Service.
- Gerrand, M. and D. Sheppard, 1992. Castle Wilderness Environmental Inventory - Summary Report 1992. Special Publication No. 2 of the Castle-Crown Wilderness Coalition.
- Government of British Columbia, 1995. The East Kootenay Land-Use Plan. March, 1995.
- Hummel, M. and S. Pettigrew, 1991. Wild Hunters, Predators in Peril. Key Porter Books Limited. Toronto. 224 pp.

Lashman, M. and K. Simpson, 1996. Potential Impacts on Wildlife of the Proposed Rankin Landfill in the Elk Valley. UMA Engineering. Calgary, Alberta. January, 1996.

Noss, R. F. And A. Y. Cooperrider, 1994. Saving Nature's Legacy. Defenders of Wildlife. Island Press. Washington, D.C. 416 pp.

Paquet, P. and A. Hackman, 1995. Large Carnivore Conservation in the Rocky Mountains: A long term strategy for maintaining free-ranging and self-sustaining populations of carnivores. World Wildlife Fund publication. May 1995. 52 pp.

Province of British Columbia, 1996a. Provincial Overview and Status Report: A Protected Areas Strategy for British Columbia. Version 1. April, 1996 120 pp.

Province of British Columbia, 1996b. Reach Out: A Presenter's Kit for B.C. Parks. March 1996.

Salasan Associates, 1995. Community Resources Boards in the Kootenays - Summary Report of Participants, Comments from CRB workshops held in Cranbrook and Nelson, November, 1995. Report to the Government of B.C. December, 1995.

White, C., M. Scott-Brown, D. Gilbride and C. Stewart, 1995. Atlas of the Central Rockies Ecosystem. Status Report to the Central Rockies Ecosystem Interagency Liaison Group (CREILG). Prepared by Komex International, Calgary, Alberta. March 1995. 49 pp.

World Wildlife Fund, 1996. Endangered Spaces Progress Report 1995-96. Number 6. Toronto, Ontario. 66 pp.

Addendum A:

The Yellowstone to Yukon Biodiversity Strategy

By Harvey Locke

April 1996

The Yellowstone to Yukon Biodiversity Strategy is a vision for the future of the wild heart of North America. It is rooted in conservation biology and love of wild beauty. When realized, there will be a series of core protected areas, connected by movement corridors for wildlife, surrounded by buffer zones from the south end of the Greater Yellowstone Ecosystem in Wyoming to the north end of the Richardson Mountains in Yukon Territory. Recent research on animal movements and conservation biology theory indicate we must think on this scale if we are to sustain viable populations of large carnivores.

The core protected areas will provide large, secure refuges for all native species and accommodate non-industrial human use consistent with the refuge goal. The corridors will ensure the landscape is permeable so there are no barriers to genetic exchange among sub-populations of any species. The buffer zones (which can also be called zones of cooperation) will allow for human use of increasing intensity as one moves away from the core areas. Near core areas, buffer zones will allow a variety of low intensity uses such as restricted access, low density oil and gas wells, livestock grazing, selective timber extraction, roadless mining, hunting and fishing. Outer buffer zones will allow more high intensity human uses like internal combustion recreation, large scale mining, oil and gas processing facilities, intensely managed agriculture, and, on their outer edge, cultivation-based agriculture.

The area encompassed by the Yellowstone to Yukon vision includes the mountains and valleys of western Wyoming, Idaho, western Montana, the east and west Kootenay, the Robson Valley and the Northern Rockies of British Columbia, the Eastern Slopes of Alberta, southwest Northwest Territories and the southeastern Yukon to the north end of the Mackenzie Mountains.

These mountains and valleys are synonymous with wildlife and wilderness throughout the world and contain some of the most beautiful scenery on earth. The wild places of Yellowstone to Yukon have provided spiritual and emotional inspiration to native people, members of North America's industrial society, and others from every continent through the opportunity to experience unspoiled nature. The national park idea was first realized in Yellowstone. World Heritage Sites have been declared in Yellowstone, Waterton-Glacier, and in Banff, Jasper, Kootenay and Yoho National Parks.

The Yellowstone to Yukon Biodiversity Strategy will build on existing strengths of the region. A series of core protected areas (some with serious management problems like Banff National Park) already exist in the Greater Yellowstone, Crown of the Continent, Columbia Mountains (Greater Purcells, Selkirks and Cariboos), Central Canadian Rockies and Greater Jasper ecosystems.

In Canada, further large core areas are needed in the Muskwa-Kechika area of the Northern Rockies of British Columbia and the Wind, the Snake and the Bonnett plume drainages of the Yukon. Other small, but no less significant core areas are also needed in Alberta's montane ecoregion (like the Whaleback and Castle-Crown Wilderness) and in riparian and interior old growth forests in the east and west Kootenays and in the Robson Valley of British Columbia.

In the U.S., core areas such as the Greater Salmon-Selway, Crown of the Continent and Greater Yellowstone need to be better protected and expanded, and corridors must be established or identified. Within the cores, there is a need for identifying and restoring damaged areas. There is also a need for a protection strategy on private lands.

The vision is large enough to encompass initiatives such as the Northern Rockies Ecosystem Protection Act, Greater Yellowstone Blueprint, Alternative Grizzly Bear Recovery Plan, Large Carnivore Conservation Strategy in the Rocky Mountains, Corridors of Life, private lands conservation efforts, grassroots work, indigenous efforts and many more.

A Yellowstone to Yukon Biodiversity Strategy Council, consisting of a broad variety of conservation groups, biologists and others, has been established. It is a non-exclusive group which is open to participation by other like-minded groups. It, in turn, has established a coordinating committee whose job it is to move the strategy forward.

Our objective is immediate implementation of the Yellowstone to Yukon vision over the short term. Pressing needs include addressing and solving management problems in existing core areas and securing an undisturbed land base for the additional core areas. Also, there is an urgent need to find and implement a means to reduce wildlife mortalities and to eliminate the barriers to wildlife movement caused by the eight permanent highways and rail lines which run east-west across the Yellowstone to Yukon area.

The Yellowstone to Yukon Biodiversity Strategy is among the largest scale conservation initiatives ever undertaken in North America. However, if we are to ensure the long-term viability of large carnivore populations and the persistence of wilderness, it must be realized. If we cannot save wildlife and wilderness in the Yellowstone to Yukon region of Canada and the United States, there is little hope for them in the world.

Addendum B: "HOT SPOTS" IN THE Y2Y SYSTEM

(from Steering Council Meeting April 13-14, 1996)

1. Cummins River Valley

This eastern B.C. old growth valley is under immediate threat of logging by Evans Forest Products Ltd.. It once was in Hamber Provincial Park. It is a bowl-shaped, low elevation valley, unusual in this part of the system. It has a large wetland which gives it a greater biodiversity than elsewhere in the region. The valley is important for wildlife such as grizzly bear and moose, but has not been inventoried. The upper reaches of the valley have been protected. The East Kootenay Land Use Plan gave it a deferred status. Logging which has occurred in the past is extensive and brutal. The valley's future will depend on an upcoming B.C. provincial election.

2. Caw Ridge

This grassland ridge complex is known habitat to woodland caribou, mountain goats, bighorn sheep, and grizzly bears. It also is an important movement corridor for caribou between their wintering grounds in the forests and their summer ranges in the mountains. Smoky River Coal Ltd. proposes a series of open pit coal mines down the ridge over the next 20 years. The mitigation proposed for caribou is experimental and will not be tried until after approval for the mine is given. A public hearing looks likely this fall. Woodland caribou are under serious threat in the U.S. also. Some thought this was a possible topic for a regional rapid assessment.

3. Columbia River Wetlands, Purcell Mountain Caribou, Jumbo Creek Development

These areas all have international significance. The Columbia River wetlands are home to one of the major international waterfowl flyways in North America. It seems likely that they will be protected.

Jumbo Creek is a proposed international destination ski resort in the Purcell Mountains that threatens to disrupt a major regional movement corridors for grizzlies. It is undergoing an environmental assessment process. This issue should be of interest to the international grizzly bear effort.

4. Elk Valley and Highway 3

Elk Valley is a key north-south wildlife movement corridor that connects the Flathead Valley to the Kananaskis Valley, especially for grizzly bears. No research has been done in the Elk Valley. There are five open pit coal mines in the region. There has been no work to understand the impacts of this kind of human presence on wildlife.

Highway 3 is an east west route through southern Alberta and B.C. that is becoming a major barrier to north-south wildlife movements through this region.

5. Impacts of the Upstream Oil and Gas Industry

There are tens of thousands of oil or gas wells in the Y2Y axis. Associated infrastructure includes roads, pipelines, seismic lines, and processing facilities. The cumulative effect of this activity is tremendous. Mike proposes to establish a working group to deal with oil and gas issues across the Y2Y landscape.

6. Mining, Resort Development, Transportation and Logging

In addition to energy development, these are the other major threats to the integrity of the Y2Y system. Consideration should be given to hot spot themes around the impacts of these activities.

7. Targhee National Forest

This U.S. national forest is about to go through second-generation logging. There are serious concerns about harvesting methods. The deadline for responding to a draft plan is June 23rd. The management philosophy behind this proposal may be precedent setting. "Ecosystem management" is proposed to mean the forest will be healthy only if managed by humans.

8. Grizzly Bears

A recent court decision regarding the recovery plan challenged the assumption that there would be a never-ending supply of grizzly bears from Canada. The U.S. Fish and Wildlife Service is not appealing this portion of the decision. It would be helpful for Canadian groups to write the U.S. Fish and Wildlife Service and the Chair of the Interagency Grizzly Bear Committee pointing out threats to grizzly bears in Canada. A joint activist effort on grizzly bear issues, such as a rapid assessment approach, might be useful.

9. New World Mine

This gold mine is proposed by Canada's Noranda in the Beartooth Mountain Range between the Beartooth Wilderness and the northeast boundary of Yellowstone National Park. There are concerns about acid mine drainage into the Yellowstone River, which flows into the park, and about intensive industrial activity in the middle of a huge, pristine area.

10. Limits to Use in Yellowstone

The suggestion that there are limits to the number of visitors the Park can accommodate is being floated and is meeting with a lot of resistance. Support is needed for the idea that it is okay to set limits to use, even within national parks. There is no specific time frame for this initiative.

11. Robson Valley

1.5 million acres of rainforest were discovered here in 1995. It has the same biology as the west coast rainforests, but with tropical, boreal, and oceanic species. All large mammal species are found there. There is a lot of low elevation habitat left. Noranda is logging and has been given a 600% increase in its annual allowable cut. Slocan also is logging. At this rate, the integrity of the valley will be lost within five years. The calving grounds of the Willmore Wilderness Park (Alberta) caribou are in the Robson Valley. The Alberta and British Columbia caribou populations interact in a valley that is being cut. Because no people live here, it has been impossible to mount a broad campaign to raise awareness and concern. Rick has heard of and seen an unusually large, dark grizzly in the area that may be a new race or species. 60% of the area was recommended for protection under B.C.'s CORE process, but only 3% or 4% was protected by the end of the process. A protected area in the Roche River valley would join Jasper National Park and Willmore Wilderness Park in Alberta with Mount Robson and Monkman Provincial Parks in B.C. All of the tourism in the area is based on old growth forests. People working to protect the area are totally frustrated with process and are moving to direct action techniques.

12. Northern Rockies

After 4 years of campaigning, the issue is at a critical point. A decision on a protected areas of nearly 9,000 sq.km. is needed before an anticipated B.C. provincial election. 2/3 of the region is being considered for protected areas and special management designations. Letters are needed immediately to Premier Glen Clark of B.C. The areas being considered for protection total 880,000 hectares, or 2.3 million acres. There is a great deal of support at the political level, within the oil and gas industry, and in local communities. Bureaucrats are not fully on side. Contact George Smith at george_smith@sunshine.net. (A letter to Premier Clark was signed by most representatives at this meeting.)

13. Banff National Park

An international campaign, initiated by CPAWS, has been ongoing for three years. An 18-month study has been examining the issues and threats in Banff, and included a round table process. Ecological integrity goals were set as part of the process. Final recommendations are expected to be sent to the federal minister responsible, Sheila Copps, by June 30th. A scientific technical committee unanimously concluded that Banff's ecological integrity is at risk. Further industrial tourist developments still are proposed, including a further nine holes of golf, 200 more rooms at the Banff Springs Hotel, and more rooms and a conference center at the Chateau Lake Louise. Once the study is complete, a barrage of

international letters will be important this summer. This is a watershed issue for national parks in North America.

14. Chinchaga River Basin

Government biologists have concluded that this is the only area in Alberta's foothills ecoregion that is intact enough to support a protected area. It is under threat from oil and gas development. Mike will post information on the Y2Y list server about where to send letters.

15. Selway-Bitterroot Grizzly Bear Recovery Plan

The government is trying an experimental designation under the Endangered Species Act for the recovery of grizzly bears in the central Idaho area. The population is not considered "endangered" because it is connected to a Canadian population. The experiment is to manage bears under forest plans, which essentially don't address bears' needs. New regulations will take management out of the hands of federal recovery teams and establish a new, untried management regime. Concerns are: the area proposed is not big enough; no habitat protection is proposed; a citizen management committee will make decisions. John would like help reviewing the plans when they are published. Canadians should suggest they are not interested in exporting bears into this kind of process, and that the Canadian population has its own problems. The Alliance for the Wild Rockies has a list server on which information regarding this issue is posted.

16. Corridor between Yellowstone and the Bob Marshall

This is a giant "hot spot", where reconnecting these two core areas is a complex, mammoth issue.

17. Flathead Valley

This is the most significant, trans-boundary issue from a connecting corridor basis. It is the major source population for wolves and grizzlies. Only one headwaters remains unaccessed and unlogged. There are no human settlements in the region, so carnivores still are following natural patterns of use and distribution.

Addendum C: Contact List

Conservation and University Contacts:

Clayton Apps *

Faculty of Environmental Design
University of Calgary
Calgary, AB
capps@acs.ucalgary.ca

Brian Benn *

East Slopes Grizzly Project
benn@evds.ucalgary.ca

John Bergenske *

Director
East Kootenay Environmental Society (EKES)
Box 84
Skookumchuck, BC V0B 2E0

Tel/fax: 604-422-3566
anlevesq@kootenay.awinc.com

Carolyn Callaghan *

(Wolf Researcher - Guelph University)
Box 1224
Canmore, AB T0L 0M0

Tel: 403-678-9633

Ric Careless ***

BC Spaces For Nature
WWF/Canada
Box 673
Gibsons, BC V0N 1V0

Tel: 604-886-8605
Fax: 604-886-3768
bcspaces@web.apc.org

Lance Craighead *

American Wildlands
40 E. Main Street, Suite 2
Bozeman, Montana 59715
Tel: 586-8175
Fax: 406-586-8242
amwild@mcn.net

John Craighead *

Craighead Wildlife - Wildlands Institute
5200 Upper Willow Creek
Missoula, Montana

Tel: 406-251-3869
cwwi@selway.umn.edu

Peyton Curlee

Northern Rockies Conservation Cooperative
Box 2705, Jackson, Wyoming 83001

Tel: 307-733-6856
Fax: 307-733-6574
pcurlee@wyoming.com

Dominick Della Sala *

WWF/US
1250 24th Street NW
Washington, DC 20037-1175

Tel: 202-822-3465
Fax: 202-287-8205
DellaSala+r%WWFUS@mcimail.com

Rhonda Douglas

East Kootenay Environment Society
Kimberley-Cranbrook Branch
Box 8, Kimberley, BC V1A 2E4

Tel: 604-427-2535
Fax: 604-427-3535

Marcie Fofonoff *

Chetwynd Environmental Society
P.O. Box 2049
Chetwynd, BC V0C 1J9

Tel/fax: 604-788-2685

Wendy Francis *

CPAWS
1019-4 Avenue SW
Calgary, AB T2P 0K8

Tel: 232-6686, 287-3863
Fax: 232-6988
cpaws@cadvision.com

Y2Y Meetings - April 11 to 14, 1996*

Central Rockies Ecosystem Interagency Liaison Group Meeting - April 26, 1996**

B.C. Parks - Purcell Wilderness Management Workshop - April 26 to 27, 1996 ***

Lesley Giroday *

East Kootenay Environmental Society
1020 Hand Ave.
West Fernie, BC V0B1M1

Tel: 604-423-3012

Fax: 604 423-3932

Kent Goodwin

East Kootenay Environment Society
Kimberley-Cranbrook Branch
Box 8
Kimberley, BC V1A 2E4

Tel: 604-427-2535

Fax: 604-427-3535

Deni Gourdeau

Crown of the Continent Electronic Data Atlas
2331 2nd Avenue NW
Calgary, AB T2N 0H3

Tel/fax: 403-220-8968

gourdeau@rockies.ca

Mary Granskou *

CPAWS
401 Richmond Street West - Suite 380
Toronto, Ont M5V 3A8

Tel: 416-979-2720

Fax: 416-979-3155

cpaws@web.apc.org

Arlin Hackman *

Director, Endangered Spaces Program
WWF/Canada
Suite 504, 90 Eglinton Avenue East
Toronto, Ontario M4P 2Z7

Tel: 416-489-8800

Fax: 416-489-3611

Arlin@web.apc.org

Marlene Hass *

Ecology Centre
1519 Cooper Street
Missoula, Montana

Tel: 406-728-5733

Fax: 406-728-9432

haas@wildrockies.org

Steve Herrero

Faculty of Environmental Design
University of Calgary
2500 University Drive NW
Calgary AB T2N 1N4

Tel: 403-220-7436

Fax: 403-284-4399

Wendy Holding *

40 East Main Street, Suite 2
Bozeman, Montana 59715

Tel: 406-586-8176

Fax: 406-586-8284

wholding@aol.com

Klaus Jericho

President
Castle-Crown Wilderness Coalition
Box 2621
Pincher Creek, AB T0K 1W0

Tel: 403-627-5059

Gunnar Kahn *

East Kootenai Environmental Society
Box 430
Elkford, BC V0B 1H0

Tel: 604-865-7606

Fax: 604-865-4311

gunnar.kahn@rmin.net

Ann Lemorande *

CPAWS
1019-4th Avenue SW
Calgary, AB T2P 0K8

Tel: 232-6686

Fax: 232-6988

cpaws@cadvision.com

Anne Levesque *

BC Environmental Network
Canadian Environmental Network
East Kootenai Environmental Society
Box 84
Skookumchuck, BC V0B 2E0

Tel/fax: 604-422-3566

anlevesq@kootenay.awinc.com

Y2Y Meetings - April 11 to 14, 1996*

Central Rockies Ecosystem Interagency Liaison Group Meeting - April 26, 1996**

B.C. Parks - Purcell Wilderness Management Workshop - April 26 to 27, 1996 ***

Ed Lewis *
Box 1316
Bozeman, Montana 59771

Tel: 406-585-5987
Fax: 406-527-9464

Harvey Locke *
MacKimmie Matthews
401- 9th Avenue SW
700 Gulf Canada Square
Calgary, AB T2P 2M2

Tel: 403-232-0780
Fax: 403-232-0888

Hugh MacPhersin *
EKES
706 13 Avenue S.
Cranbrook, BC V1C 2W6

Tel: 604-489-6267
Fax: 604-489-5723
hmacpher@cln.bc.ca

David W. Mayhood
Freshwater Research Limited
1715 Seventh Avenue NW
Calgary, AB T2N 0Z5

Tel: 403-283-8865
Fax: 403-283-9446
fwr@nucleus.com

Allan McDonell *
BC Wild
Box 2241
Vancouver, BC V6B 3W2

Tel: 604-669-4802
Fax: 604-669-6833
mcdonell@hexix.net

Sandy McIntyre *
The Wilderness Society
105 W. Main Street, Suite E
Bozeman, Montana 59715

Tel: 406-586-1600
Fax: 406-586-4700
Sandy_McIntyre@twsw.org

Mike McIvor *
Bow Valley Naturalists
Box 114, Banff, AB T0L 0C0
Tel/fax: 403-762-4160

Troy Merrill *
Cooperative Fish and Wildlife Unit
University of Idaho
Moscow, Idaho 83843

Tel: 208-885-5788
Merrill@felis.wildlife.uidaho.edu

Ray Rasker *
The Wilderness Society
105 W. Main Street, Suite E
Bozeman, Montana 59715

Tel: 406-587-7331
Fax: 406-586-4700
Ray_Rasker@TWS.org

Matt Reid *
Great Bear Foundation
P.O. Box 1289
Bozeman, Montana 59771-1289

Tel: 406-586-5533
greatbears@aol.com

Bart Robinson *
1105-15th Street
General Delivery
Canmore, AB T0L 0M0

Tel: 678-9496, 678-2872
Fax: 678-9496
brobinson@awinc.com

Wayne Sawchuk *
Chetwynd Environmental Society
P.O. Box 2049
Chetwynd, BC V0C 1J9

Tel/fax: 604-788-2685
wsawchuk@helix.net

Mike Sawyer *
Rocky Mountain Ecosystem Coalition
921-610 8th Avenue SW
Calgary, AB T2P 1G5

Tel: 403-266-2486
Sawyer@rmec.org

Y2Y Meetings - April 11 to 14, 1996*

Central Rockies Ecosystem Interagency Liaison Group Meeting - April 26, 1996**

B.C. Parks - Purcell Wilderness Management Workshop - April 26 to 27, 1996 ***

Peter Scherington *

Alberta Wilderness Association
RR2 Cochran, AB T0L 0W0

Tel: 403-932-5183

Fax: 403-77 -8372

Michael Scott *

Greater Yellowstone Coalition
Box 1874
Bozeman, Montana 59771

Tel: 406-586-1593

Fax: 406-586-0851

mscott@gyc.desktop.org

Dave Sheppard

Information Officer
Castle-Crown Wilderness Coalition
Box 2621
Pincher Creek, AB T0K 1W0

Tel: 403-627-5059

George Smith *

Conservation Director - CPAWS
RR#4, Franklin Road S-19, C-43
Gibsons, BC V0N 1V0

Tel: 604-886-7633

Fax: 604-886-0455

george_smith@sunshine.net

Ted Smith *

Henry P. Kendall Foundation
176 Federal Street
Boston, Massachusetts 02110

Tel: 617-951-2525

Fax: 617-951-2556

Tedkendall@aol.com

Bob and Hopie Stevens *

Fanwood Foundation
P.O. Box 5027
Helena, Montana 59604

Tel: 406-442-9424

Craig Stewart *

Crown of the Continent Atlas
2331 2nd Avenue NW
Calgary, AB T2N 0H3

Tel/fax: 403-220-8968

cstewart@acs.ucalgary.ca

Jim Strittholt *

Earth Design Consultants
1130 NW Walnut Blvd
Corvallis, Oregon 97330

Tel: 541-752-1337

Fax: 541-752-6975

stritt@earthdesign.com

Gareth Thomson *

Box 2225
Canmore, AB T0L 0M0

Tel: 403-678-6575

Fax: 403-678-1712

thomson@banffcentre.ab.ca

James and Judy Tweedie

Friends of the Whaleback
Pincher Creek, AB

Tel: 403-628-2422

Rich Walker *

American Wildlands
40 E. Main Street, Suite 2
Bozeman, Montana 59715

Tel: 406-586-8175

Fax: 406-586-8242

amwild@mcn.net

Cliff Wallis

Kanata
Heritage Research and Presentation Corp.
Cottonwood Consultants Ltd.
615 Deer Croft Way SE
Calgary, AB T2J 5V4

Tel: 403-271-1408

Louisa Willcox *

3 Sule Creek
Livingston, Montana 59047
Tel: 406-222-1485
Fax: 406-2229561

Y2Y Meetings - April 11 to 14, 1996*

Central Rockies Ecosystem Interagency Liaison Group Meeting - April 26, 1996**

B.C. Parks - Purcell Wilderness Management Workshop - April 26 to 27, 1996 ***

Rick and Julie Zammuto *
Save-the-Cedar League
General Delivery
Crescent Spur, BC V0J 3E0

Tel/Fax: 604-553-2325

Ellen Zimmerman *
East Kootenai Environmental Society
Box 1496
Golden, BC V0A1H0

Tel: 604-344-2000, 348-2225

Fax: 604-344-5225

Government Contacts:

Ed Abbott **
Warden
Kootenay National Park
Invermere, BC

Jeff Anderson
Park Planner
Jasper National Park
P.O. Box 10
Jasper, AB T0E 1E0

Tel: 403-852-6108

Fax: 403-852-5601

AndersonJ@pksjnp.dots.doe.ca

Derry Armstrong **
Regional Planner
Alberta Parks Service

Dave Butler
BC Lands

Glenn Campbell **
Ranger
BC Parks

Joel Christensen **
Education
Kananaskis Country
Alberta Parks Service
Canmore, AB T0L 0M0

Tel: 403-678-5508

Fax: 403-678-5505

Dennis Demarche
Ministry of Environment, Lands & Parks
Wildlife Branch
780 Blanchard Street
Victoria, B.C. V8V 1X4

Tel: 604-387-9772

Fax: 604-356-9145

Mike Dillon **
Backcountry Warden
Jasper National Park
Jasper, Alberta T0E 1E0

W.R. (Bill) Dolan
Chief Park Warden
Waterton Lakes National Park
Waterton Park, AB T0K 2M0

Tel: 403-859-2224

Fax: 403-859-2650

Steve Donelon **
Resource Coordinator
Kananaskis Country
Alberta Parks Service
Canmore, AB T0L 0M0

Tel: 403-673-3663

Fax: 403-678-5505

Doug Eastcott **
Backcountry Warden
Banff National Park
P.O. Box 900
Banff, AB T0L 0C0

Tel: 403-762-1510

Fax: 403-762-1583

Pat Field
Habitat Biologist Kootenay Region
BC Environment
Nelson, BC

Ted Flanders **
Alberta Forest Service

Fred Flint ***
Zone Resources Forester
Glacier View & Hungry Horse Ranger Districts
Flathead National Forest, Montana

Y2Y Meetings - April 11 to 14, 1996*

Central Rockies Ecosystem Interagency Liaison Group Meeting - April 26, 1996**

B.C. Parks - Purcell Wilderness Management Workshop - April 26 to 27, 1996 ***

Dave Gilbride
Information Warden
Banff National Park
P.O. Box 900
Banff, AB T0L 0C0

Tel: 403-762-1495
Fax: 403-762-3240

Perry Jacobson **
Chief Park Warden
Kootenay National Park

Ida Kiel
BC Parks
Box 118
Wasa, BC V0B 2K0

Tel: 604-422-3212
Fax: 604-422-3326

Peter Lee
Heritage Protection and Education
Alberta Environmental Protection
10405 Jasper Avenue
Edmonton, AB T5J 3N4

Tel: 403-427-5209
Fax: 403-427-5980

Kaaren Lewis
Land Use Coordination Office
Province of British Columbia
2-836 Yates Centre
Victoria, B.C. V8V 1X4

Tel: 604-953-3479
Fax: 604-953-3481

Ray Luchkow
District Superintendent
Bow District Office
Alberta Forest Service
Box 70028 Bowness Postal Outlet
8660 Bearpaw Dam Road NW
Calgary, AB T3B 5K3

Tel: 403-297-8806
Fax: 403-297-8865

Jim Murphy **
Land Manager
Kananaskis Country
Alberta Environmental Protection
Canmore, AB T0L 0M0

Tel: 403-678-5508
Fax: 403-678-5505

Glenn Naylor **
Ranger
Kananaskis Country
Alberta Parks Service
Canmore, AB T0L 0M0

Tel: 403-678-5508
Rob Neil
Habitat Biologist
BC Environment
Cranbrook, BC

Denis O'Gorman
Assistant Deputy Minister
Parks Department - BC Parks
4th Floor
810 Blanshard Street
Victoria, BC V8V 1X4

Tel: 604-387-9997
Fax: 604-387-5669

Judy Otton **
Rocky Mountain Parks Planner
(Yoho, Kootenai, Waterton, Banff, Jasper)
Banff National Park
P.O. Box 900
Banff, AB T0L 0C0

Tel: 403-762-1510
Fax: 403-762-1583

Charlie Pacas **
Coordinator - Banff/Bow Valley Study
Banff, AB T0L 0C0

Derek Peterson **
Conservation Biologist
Yoho National Park

Roger Reilander **
Alberta Parks Service
Calgary, AB

Y2Y Meetings - April 11 to 14, 1996*

Central Rockies Ecosystem Interagency Liaison Group Meeting - April 26, 1996**

B.C. Parks - Purcell Wilderness Management Workshop - April 26 to 27, 1996 ***

Cathy Scott May
Interagency Management Committee
Land Use Planning Process
BC Environment

Wayne L. Stetski **
District Manager, East Kootenai
BC Parks
Box 118
Wasa, BC V0B 2K0

Tel: 604-422-3212
Fax: 604-422-3326

Jerry Stokes ***
National Program Leader
for Wilderness, National Wild and Scenic Rivers
USDA Forest Service
P.O. Box 96090
Washington, D.C. 20090

Ian Syme
Superintendent
Waterton Lakes National Park
Waterton Park, AB T0K 2M0

Tel: 403-859-5121
Fax: 403-859-2650

Derek Thomson
Assistant Deputy Minister
BC Ministry of Environment, Lands and Parks
810 Blanshard Street
Victoria, BC V8V 1X4

Tel: 604-387-4509

Kevin Van Tighem
Conservation Warden
Waterton Lakes National Park
Waterton Park, AB T0K 2M0

Tel: 403-859-5121
Fax: 403-859-2650
Kevin_Van Tighem@pch.gc.ca

Cliff White **
Ecosystem Warden
Banff National Park
Box 900, Banff, AB T0L 0C0

Tel: 403-762-1422
Fax: 403-762-3240

John Wilsgaard **
Recreation
BC Forests
Golden, BC

Charles Zinkan
Superintendent
Banff National Park
P.O. Box 900
Banff, AB T0L 0C0

Tel: 403-762-1510
Fax: 403-762-1583

Other Interested Parties:

Ray Collingwood
Spatsizi Wilderness Vacations
P.O. Box 3070
Smithers, BC V0J 2N0

Tel: 604-847-2909
Fax: 604-847-9039

Bob Enagonio
Canmore, AB

Saul Greenberg
Department of Computer Science
University of Calgary
Calgary, Alberta

William C. Harlan
Vice President
Environment and Operations
Canadian Association of Petroleum Producers
2100, 350 - 7 Avenue SW
Calgary, Alberta T2P 3NP

Tel: 403-267-1125
Fax: 403-261-4622

Bob Jamieson
(Rancher/Ecologist)
Box 73
Ta Ta Creek, BC V0B 2H0

Tel: 604-422-3322

Y2Y Meetings - April 11 to 14, 1996*

Central Rockies Ecosystem Interagency Liaison Group Meeting - April 26, 1996**

B.C. Parks - Purcell Wilderness Management Workshop - April 26 to 27, 1996 ***

Martha McCallum
Larry Stanier
McCallum and Paquet Associates
Canmore, AB

Rob McManus
Manager, Environment & Safety
Canadian Association of Petroleum Producers
2100, 350-7 Avenue SW
Calgary, AB T2P 3N9

Tel: 403-267-1148
Fax: 403-266-3214

Pat and Baiba Morrow
Canmore, AB

Peter Tucker
Manager
Mountain Equipment Co-op
1009 4th Avenue SW
Calgary, AB T2P 0K8

Tel: 403-269-2420
Fax: 403-262-5958

Art Twomey
Margie Jamieson
(Purcell Wilderness Group)
Ptarmigan Tours
Box 11
Kimberly, BC V1A 2Y5

Tel: 604-422-3270
ptarmigan@cyberlink.bc.ca

Y2Y Meetings - April 11 to 14, 1996*

Central Rockies Ecosystem Interagency Liaison Group Meeting - April 26, 1996**
B.C. Parks - Purcell Wilderness Management Workshop - April 26 to 27, 1996 ***