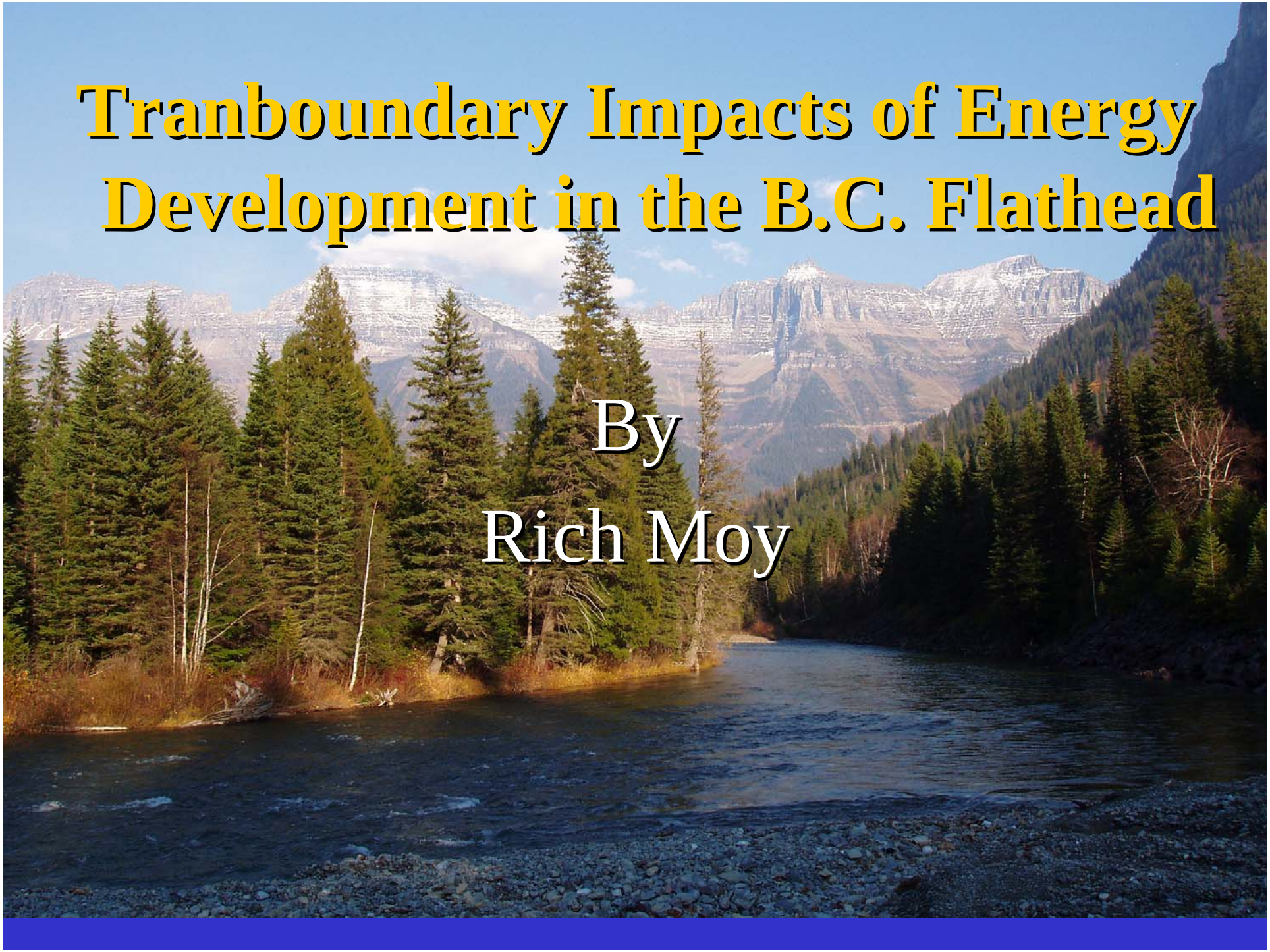

Tranboundary Impacts of Energy Development in the B.C. Flathead
By
Rich Moy

Objectives

- Describe the 1909 Boundary Waters Treaty
- Explain why the Tranboundary Flathead Basin and the Crown of the Continent are so important to Montana and the United States.
- Describe the proposed Cabin Creek Coal mine in the B.C. Flathead and the IJC process and recommendations to governments.
- Discuss recent resource energy extraction activities in the BC Flathead and potential impacts to Glacier National Park, the North Fork River and Flathead Lake.

The 1909 Boundary Waters Treaty

- The Treaty is between the United States and Great Britain and was created in large part, over a dispute on the use of waters from the St. Mary and Milk Rivers.

- The International Joint Commission (IJC) consists of 6 members, 3 appointed by the President of the U.S. and 3 by the Prime Minster of Canada.

- The Treaty is designed to have the IJC recommend settlement of water disputes to the U.S. and Canadian governments. Recommendations, however, are not binding on governments.

- Article IV of the Treaty states "..boundary waters and waters flowing across the boundary shall not be polluted on either side to the injury of health or property on the other."

The Crown of the Continent is a Special Place

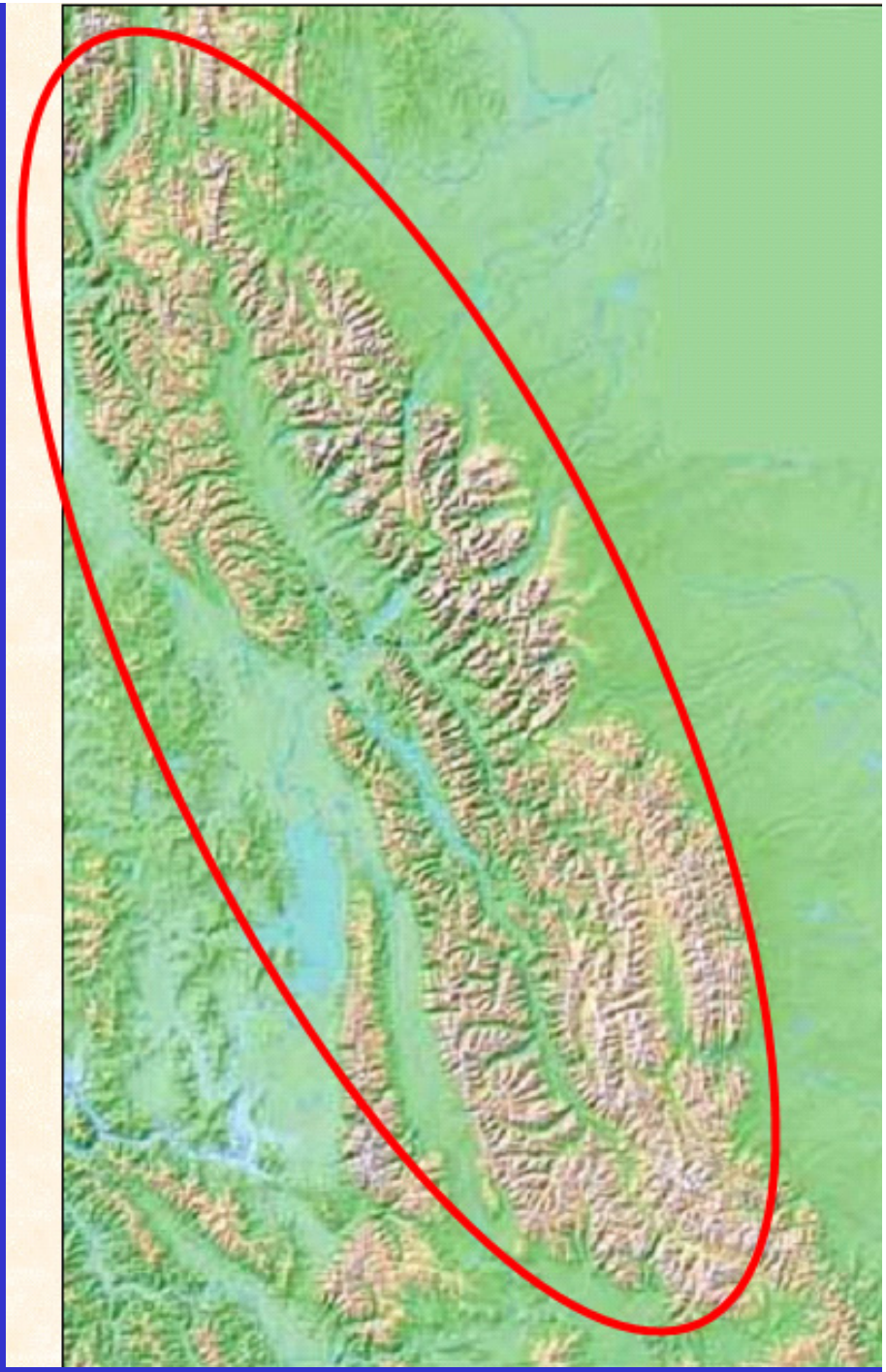
MAP WITHOUT BOUNDARIES

Blackfeet Nation called it the *Backbone of the World.*

George Bird Grinnell named Waterton-Glacier area the *Crown of the Continent* in 1901.

Triple Divide Peak provides headwaters for 3 of the world's oceans: Pacific, Atlantic, and Arctic.

The North Fork Flathead River is considered the heart of the Crown.



There are many Reasons to Protect the Crown and the North Fork Flathead River Basin

United States has been protecting the North Fork Flathead River Basin (called the Flathead in BC) for almost 100 years.

- Many special amenities
- Federal designations
- International designations

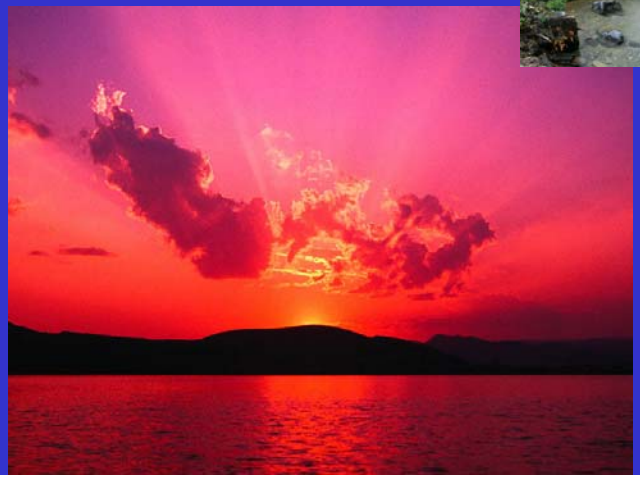
The Crown has:

- Spectacular scenery
- One of the largest intact ecosystems left in North America and especially in the lower 48 states.
- Plant communities ranging from old-growth cedar-hemlock rain forest in the west, to short-grass prairie in the east and high alpine meadows.

The Crown….

- Has some of the cleanest waters in North America.

- Includes Flathead Lake, one of the largest and cleanest freshwater lake in the world and the largest fresh water lake west of the Mississippi River.



Four major ecosystems converge in the Crown creating:

- The highest biodiversity of plant and animal life found in North American. There are about 1200 different species of vascular plants.
- More plant species exists in Waterton Lakes National Park than in Banff-Jasper National Parks combined.
- 16 different mid and large size carnivores species call the Crown and the NF Flathead River home.
- A region where both Lynx and Bobcat live.

Crown's Wildlife

- Unique predator - prey relationship exists between grizzly bears, mountain lion, and wolves, and moose, deer and elk that is unmatched anywhere in North American.
- Highest density of non-coastal grizzly bears in North America.
- One of few regions that has its original compliment of carnivore and ungulate species when Lewis and Clark passed through Montana.
- Five species are listed as Endangered--Grizzly Bear, Bull Trout, Gray Wolf, Lynx & Bald Eagle.

The Crown has important Federal Designations

- Glacier National Park, called the “Crown Jewel” of the National Park System “ was created in 1910 for the benefit of its people and to remain in a natural state, unimpaired for future generations.”

- If the B.C. Flathead was in the United States or Alberta, this region (at least to the middle of the NF of the Flathead River) would have been included in either Glacier or Waterton Lakes National Parks.

Waterton Lakes National Park, Alberta was created by Parliament in 1895

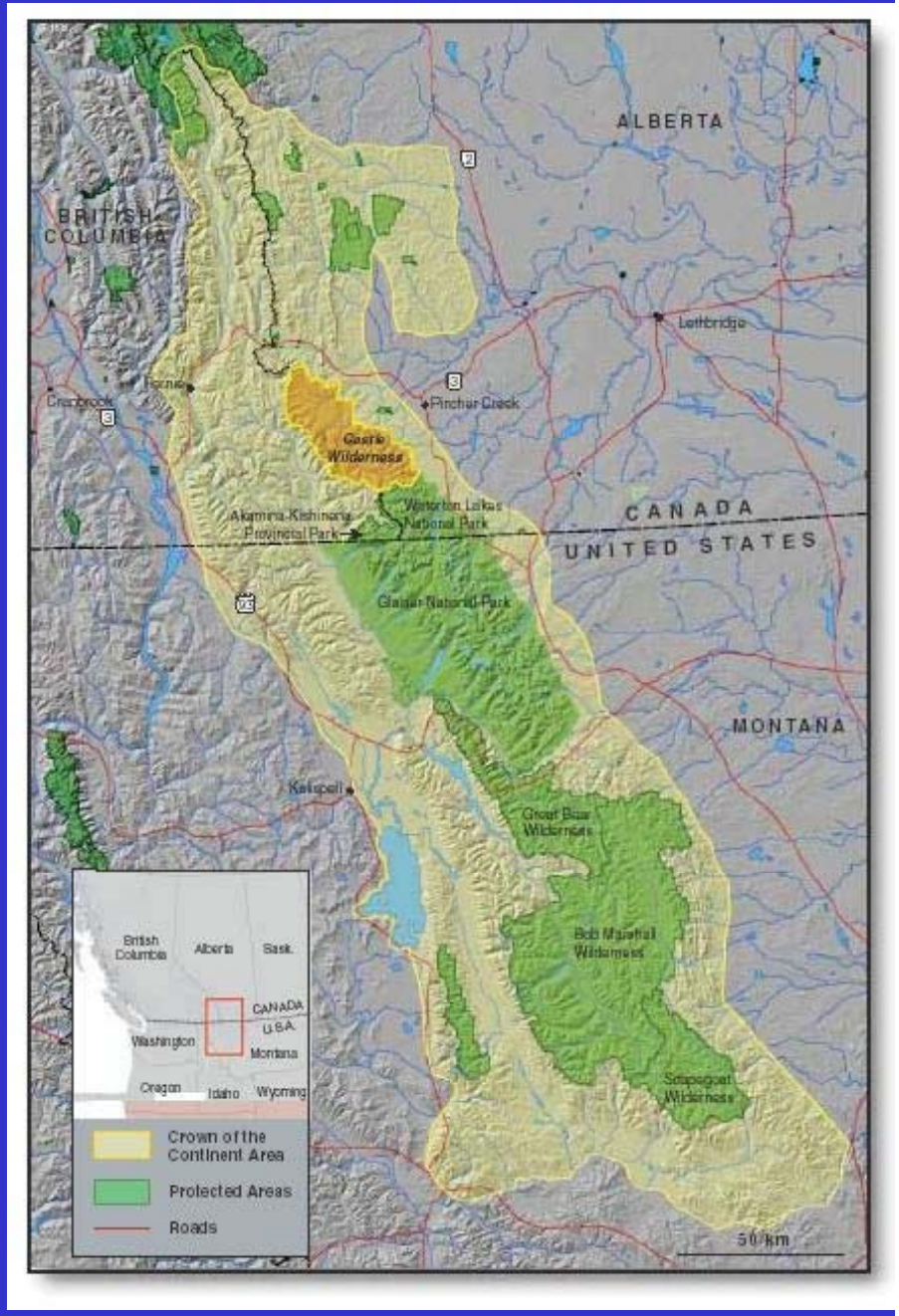
The first Superintendent of Waterton Lakes National Park, Kootenai Brown, noted after Glacier was created in 1910 that we have a two-legged stool and the third leg in B.C. needs to be added to the two parks.

A Large Portion of the Crown's Protected Lands are in Montana

• The U.S. Congress created five large wilderness areas south of Glacier National Park—Bob Marshall, Great Bear, Lincoln Scapegoat, Mission Mountain and Rattlesnake.

• You can hike south 175 miles from Waterton Lakes National Park, Alberta to the headwaters of the Blackfoot River in Montana and cross only two highways—Going to the Sun Highway inside of Glacier and Highway 2 south of Glacier.

• U.S. Congress and President Bush banded oil and gas exploration and drilling on the Rocky Mountain Front in 2006. Further, there are no active oil and gas exploration wells within the Flathead National Forest.



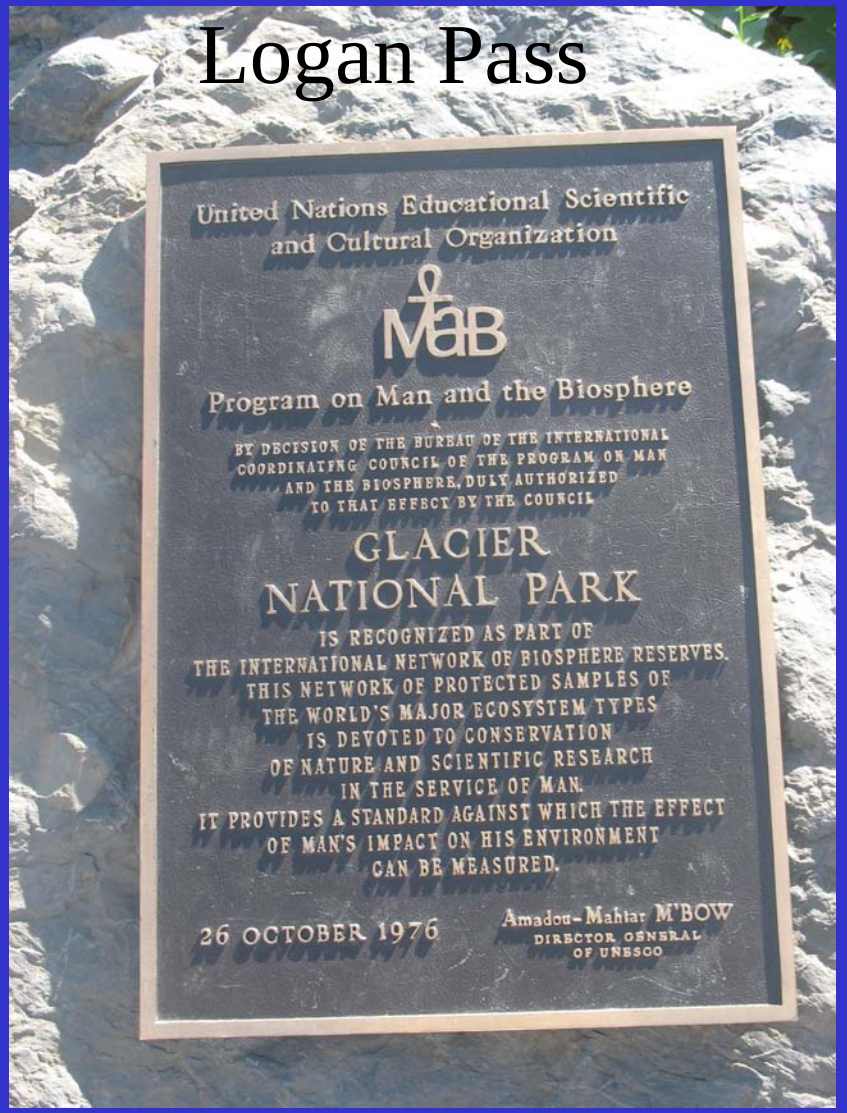
WATERTON-GLACIER INTERNATIONAL PEACE PARK

These two Park were designated in 1932 as the world's first International Peace Park.

The Peace Park "commemorates the peace and good will that exists between the people and governments of the U.S. and Canada."

Glacier National Park was designated a Biosphere Reserve in 1976.

Glacier "is recognized as a part of the international biosphere reserves. This network of protected samples of the world's major ecosystem types is devoted to conservation of natural and scientific research in the services of man. It provides a standard against which the effects of man's impacts on this environment can be measured."



Glacier and Waterton National Parks were jointly designated a World Heritage Site in 1995

The two parks were selected based on their values as “natural ecological preserves with outstanding universal significance” and “exceptional natural beauty.”

Crown of the Continent has

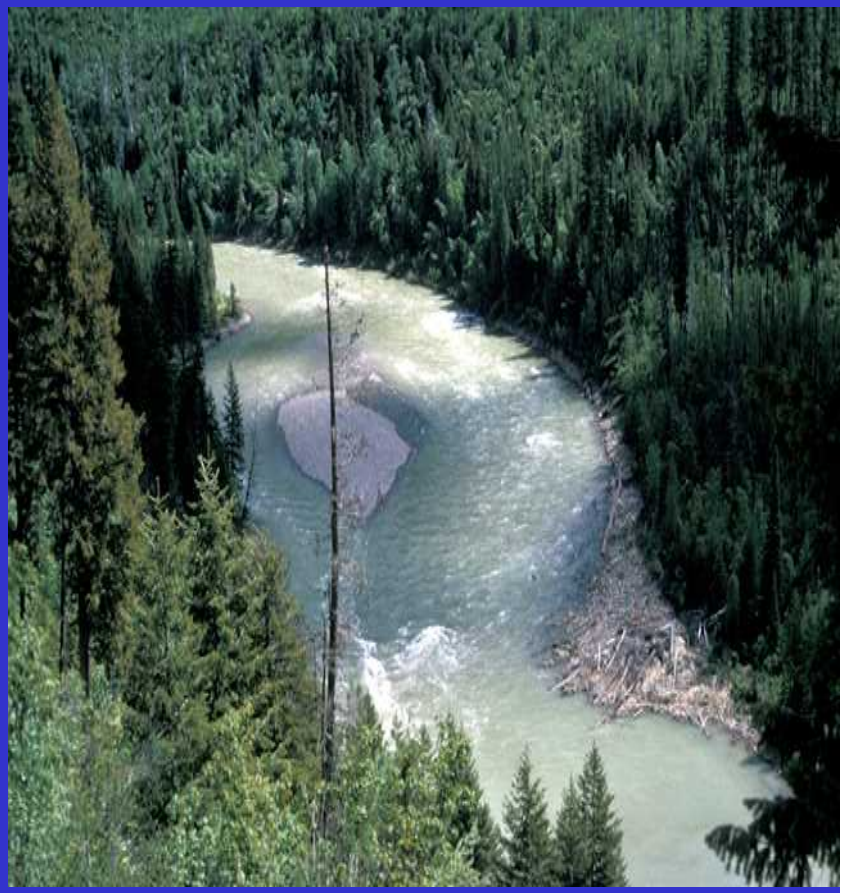
… strong native traditions

These lands are sacred to the Blackfoot Tribes in the east and the K’tunaxa Bands (called Kootenai in Montana and Kootenay in Canada) in the west.

Few places in the Rocky Mountains remain so closely tied to native traditions.

The North Fork Flathead River is considered one of America's Wildest Rivers

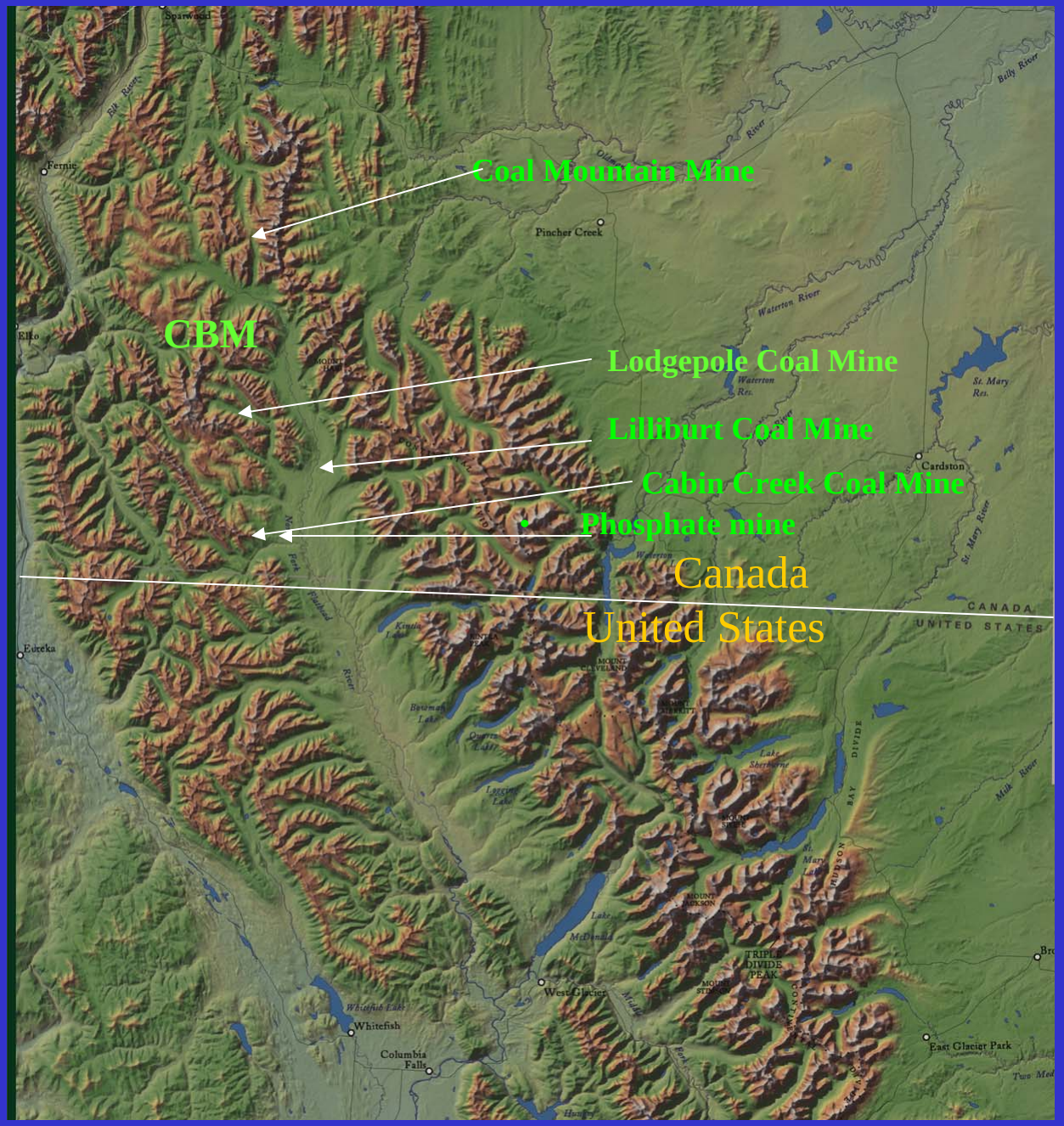
- Glacier National Park extends to the center of the North Fork River Flathead River.
- NF Flathead River was designation a Wild and Scenic River in 1976 "to preserve its free flowing condition and to protect its corridor for the benefit and enjoyment of present and future generations."
- Many species of wildlife move across the NF border making the basin a truly transboundary landscape that must be managed as one integral, ecological unit.
- Federal Reserved Water Rights "were quantified in 1992 to protect the natural conditions of the NF Flathead River and drainage in Glacier National Park."
- The NF Flathead River has a non degradation standard for water quality.



"The NF Flathead is probably one of the most protected rivers in the lower 48 states."

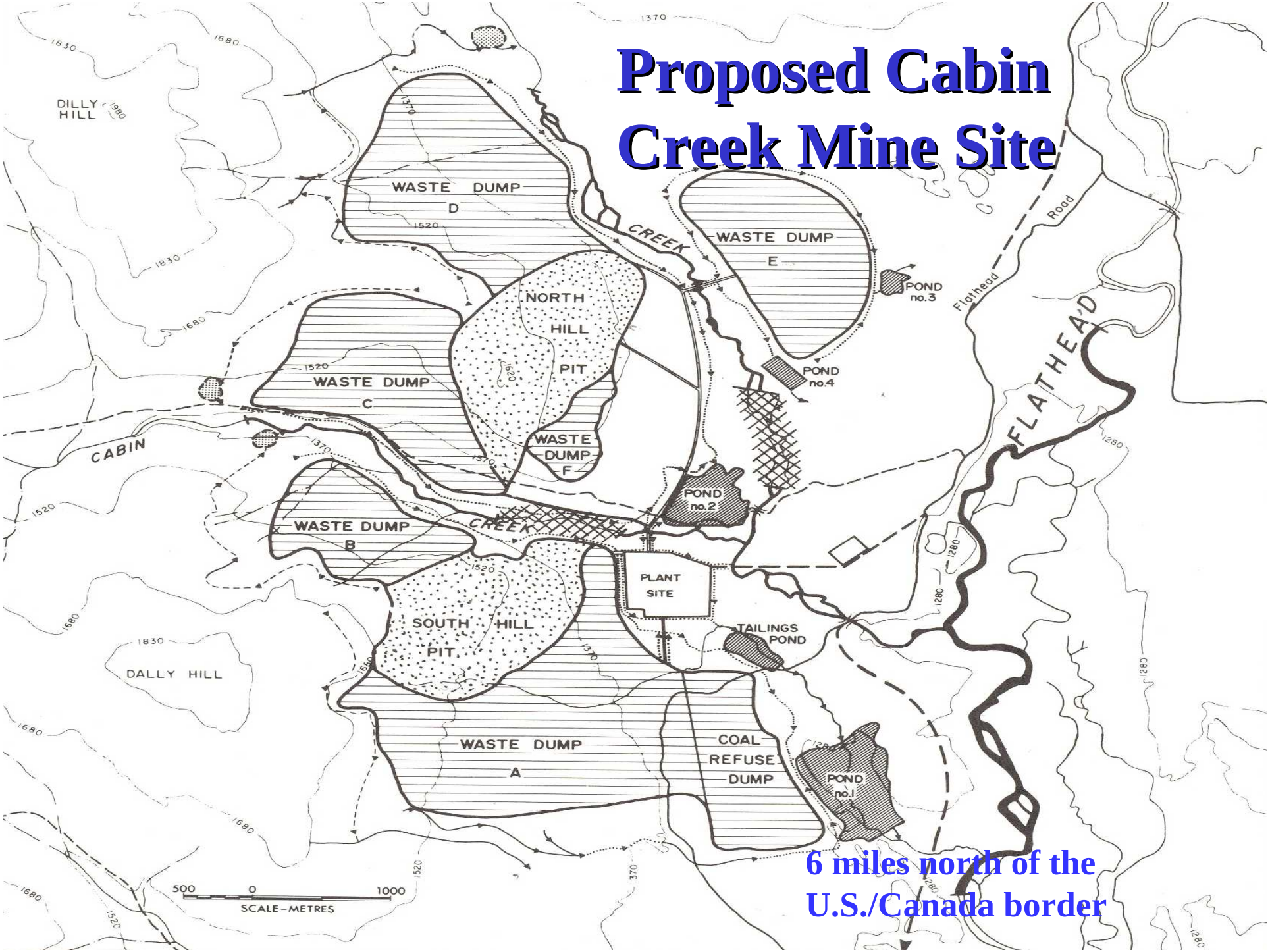
The North Fork Flathead River in B.C. has the highest diversity of caddisfly, mayfly and stonefly species found anywhere in North America

Mine Proposals in the North Fork Flathead River Basin in B.C.



Proposed Cabin Creek Coal Mine

- Mine site is located 6 miles north of the international boundary with two large open pit mines—one would extend 98 ft below Howell Cr. and the other 325 ft below Cabin Creek. Six major waste dumps would surround Howell and Cabin creeks.
- Mine site is greater than 4 miles by 2.5 miles or slightly greater than 10 square miles.
- Mine would extract 2.4 million tons/yr of high grade thermal coal for a 21-year period with the option of a 20-year extension. Mine would be operated 24 hrs/day for 355 days per year.
- Coal would be processed on site and hauled to Morrissey and shipped by rail to the coast for transportation to Japan for steel production.
- Over 400 people would be located near the mine site during construction.


Proposed Cabin Creek Mine Site
DILLY HILL
WASTE DUMP D
CREEK
WASTE DUMP E
POND no.3
Flathead Road
NORTH HILL PIT
POND no.4
FLATHEAD
WASTE DUMP C
CABIN
WASTE DUMP F
POND no.2
WASTE DUMP B
CREEK
PLANT SITE
SOUTH HILL PIT
TAILINGS POND
DALLY HILL
WASTE DUMP A
COAL REFUSE DUMP
POND no.1
6 miles north of the U.S./Canada border
500 0 1000
SCALE-METRES

IJC Process

- IJC created the Flathead International Study Board in 1985 and asked it to assess the impacts of the proposed mine on water quality and quantity of the North Fork Flathead River at the border, the fishery, current uses, and to the Flathead River and Lake.
- The Study Board created 4 primary technical committees: Mine Development, Water Quality & Quantify, Biological Resources and Water Uses.
- For three years, over 50 scientists from both countries worked within the different technical committees to prepare their findings.
- There was very little data available to project impacts in the B.C. Flathead so the technical committees; 1) used best professional judgment, 2) data from other coal mines in the Elk River valley and 3) stated we could not identify the impacts.
- Today, there is still very little data available.

IJC Study Board's Results

- The technical teams identified significant impacts to the bull trout and cutthroat fisheries in Howell and Cabin creeks and increased nutrient loading to the North Fork Flathead River.
- Realizing there were significant impacts, the IJC asked the Study Board to determine if the impacts could be mitigated and what it would costs to mitigate them. The results showed that most of the impacts could not be mitigated and the cost to try was not economically feasible.
- In 1988, the IJC used the above results from the board and technical committee reports to develop its recommendations.

The 1988 IJC Recommendations

"The Commission recommends that, in order that Governments can ensure that the provisions of Article IV of the Boundary Waters Treaty are honoured in the matter of the proposed coal mine at Cabin Creek in British Columbia:

1. The mine as presently defined and understood not be approved;

2. The mine proposal not receive regulatory approval in the future unless and until it can be demonstrated that:
    1. The potential transboundary impacts identified in the report of the Flathead River International Study Board have been determined with reasonable certainty and would constitute a level of risk acceptable to both Governments; and
    2. The potential impacts on the sport fish populations and habitat in the Flathead River system would not occur or could be fully mitigated in an effective and assured manner; and

3. The Governments consider, with the appropriate jurisdictions, opportunities for defining sustainable development activities and management strategies in the upper Flathead River basin."

The Outcome

- The B.C. provincial government did not accept the IJC recommendations.
- B.C. did not protest the recommendations as:
  - Coal prices were falling and Japan cancelled its contracts for thermal coal, and
  - B.C. had spent large sums of money developing the northeast coal fields and didn't need the additional competition.
- Montana has been pursuing IJC recommendation # 3 with B.C. for the past 19 years without success. That is, to find "opportunities for defining sustainable development activities and management strategies for the transboundary Flathead."
- Further, Montana has participated in three different land use processes in the B.C. Flathead and each had completely different outcomes—the CORE process, the Southern Rocky Mountain Wildlife Management Plan and the Southern Rocky Mountain Management Plan.
- In 2004, when Cline Mining Company proposed to reopen the Cabin Creek mine site, the U.S. State Department stated that the 1988 IJC recommendations on Cabin Creek still apply to all future mining ventures in the B.C. Flathead.
- B.C. than placed a 10-year moratorium on the Cabin Creek coal deposits in 2004. Less than seven years remain with the moratorium.

The Environmental Cooperation Arrangement

- In September 2003, the Environmental Cooperation Agreement was signed by B.C. Premier Campbell and Montana Governor Martz.

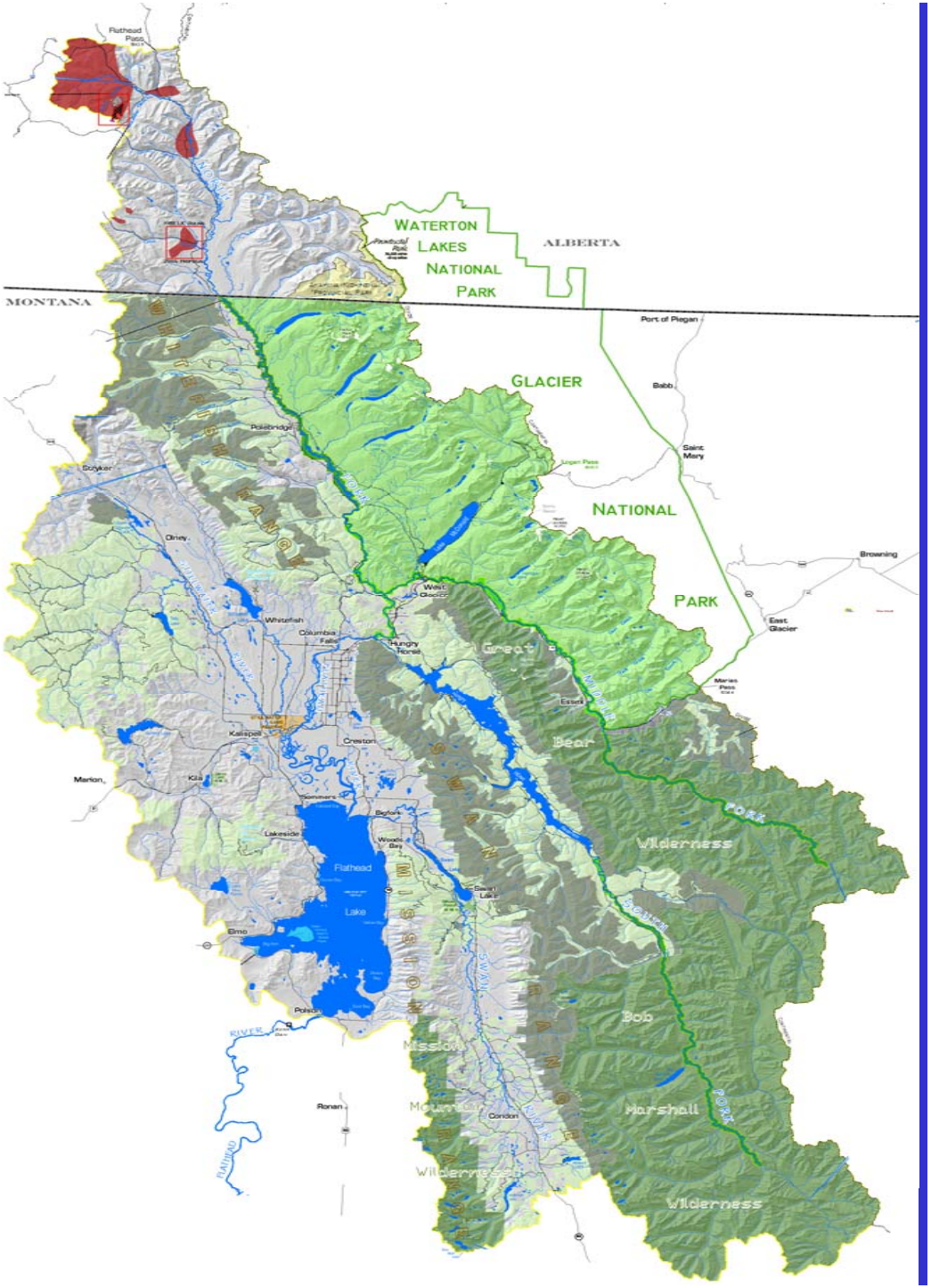
- The Agreement calls for the establishment of Initiatives

"to identify, coordinate and promote mutual efforts to ensure the protection, conservation and enhancement of our shared environment for the benefit of current and future generations".

Since signing the Environmental Cooperation Arrangement in 2003, British Columbia has proposed six new coal, CBM and phosphate mining projects in the B.C. Flathead.

Location of the proposed Lodgepole and Lilliburt coal mine sites

Coal Deposits in the BC Flathead River Basin in Relationship to Glacier National Park and Flathead Lake



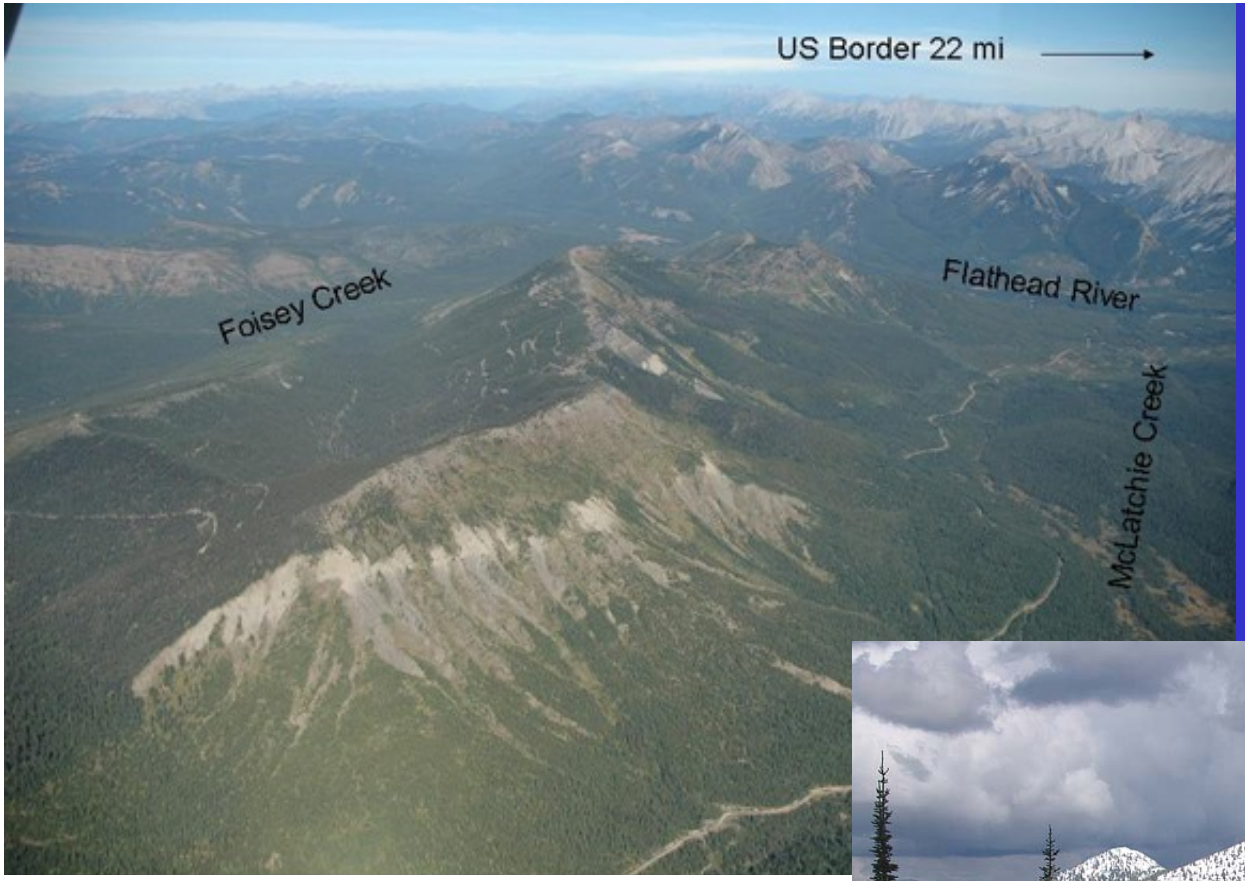
B.C. Process for the Lodgepole Mine

- Montana Governor Schweitzer and British Columbia Premier Campbell had a very positive meeting in August 2005. Because of the meeting, Montana was graciously invited to participate in the B.C. regulatory process for the proposed Lodgepole Mine project.

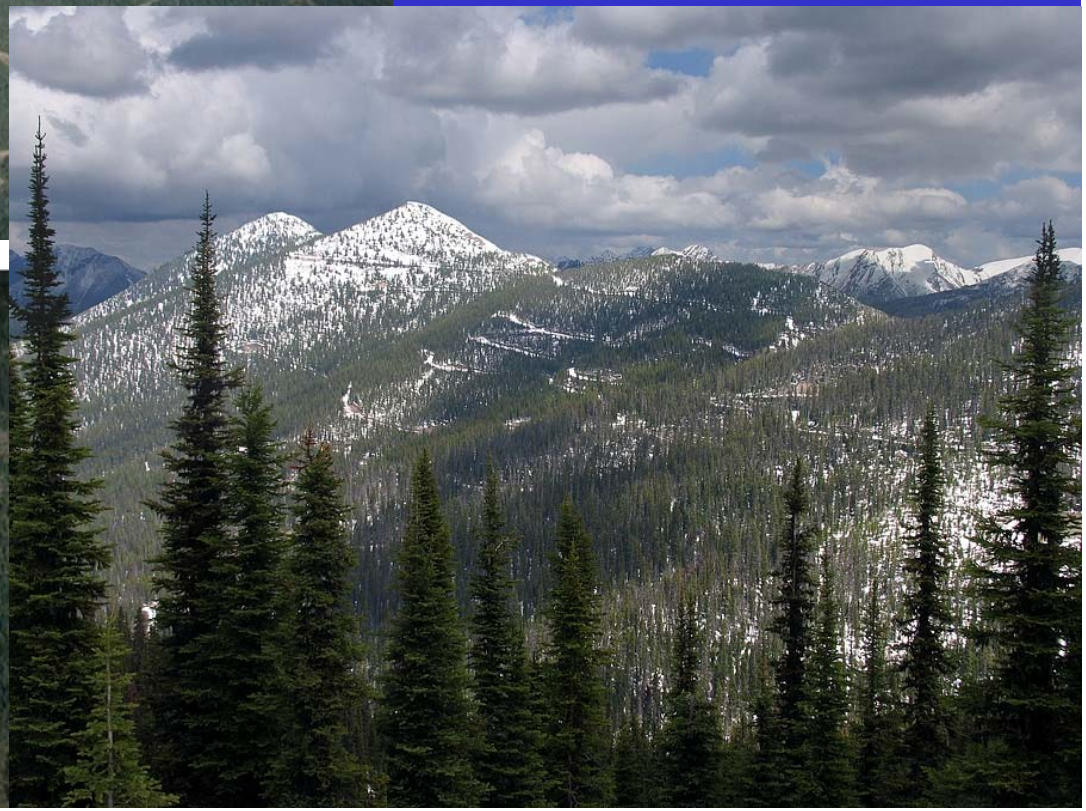
- The Terms of Reference (TOR) defines the environmental studies and requirements of the application that Cline will need to complete and include in its application. So far, the Montana Technical Team has submitted significant number of comments on the draft TOR and very few of our comments have been included into the draft TOR.

- Many of the comments and baseline studies recommended by Montana Technical Team were recommended by the Flathead River International IJC Investigative Board and its technical committees.

- The Proponent, Cline, may use the public comments to make modifications to the TOR. The mine application is scheduled for release in the fall of 2008 or later.



Lodgepole Mine Site

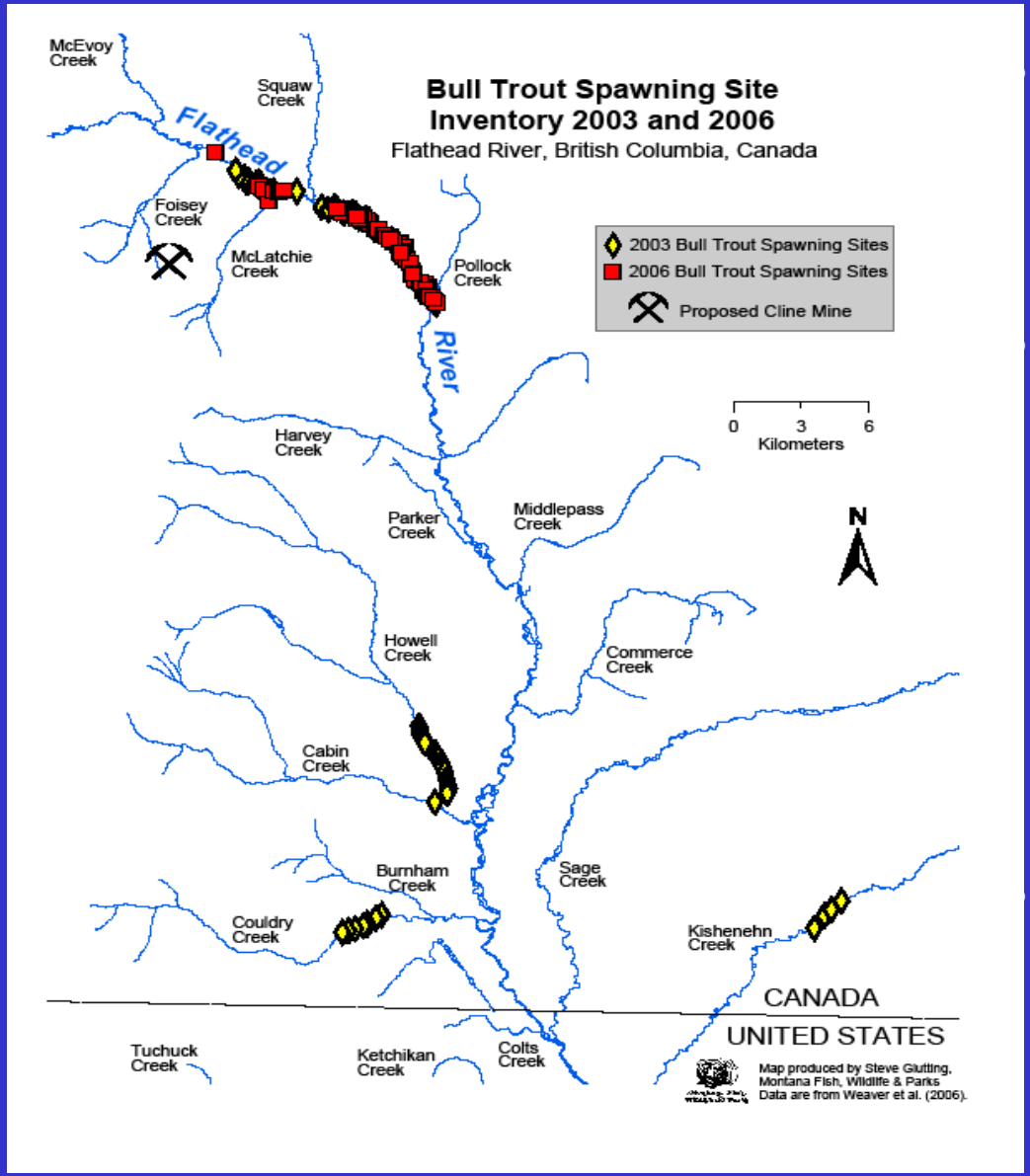


Proposed Cline Mine

- Cline Mining Company proposes to extract 2 million tons per year of low grade metallurgic coal and mix with a higher grade coal.
- The mine would operate 24 hours per day for 365 days per year for 20 years.
- Coal would be hauled by truck to Elko or another close location, railed to Vancouver and then shipped to China and other Asian countries for steel production.
- Cline funding is from Japan, Germany and other sources.

Proposed Lilliburt Mine Site in the Flathead River Corridor

Bull Trout Studies



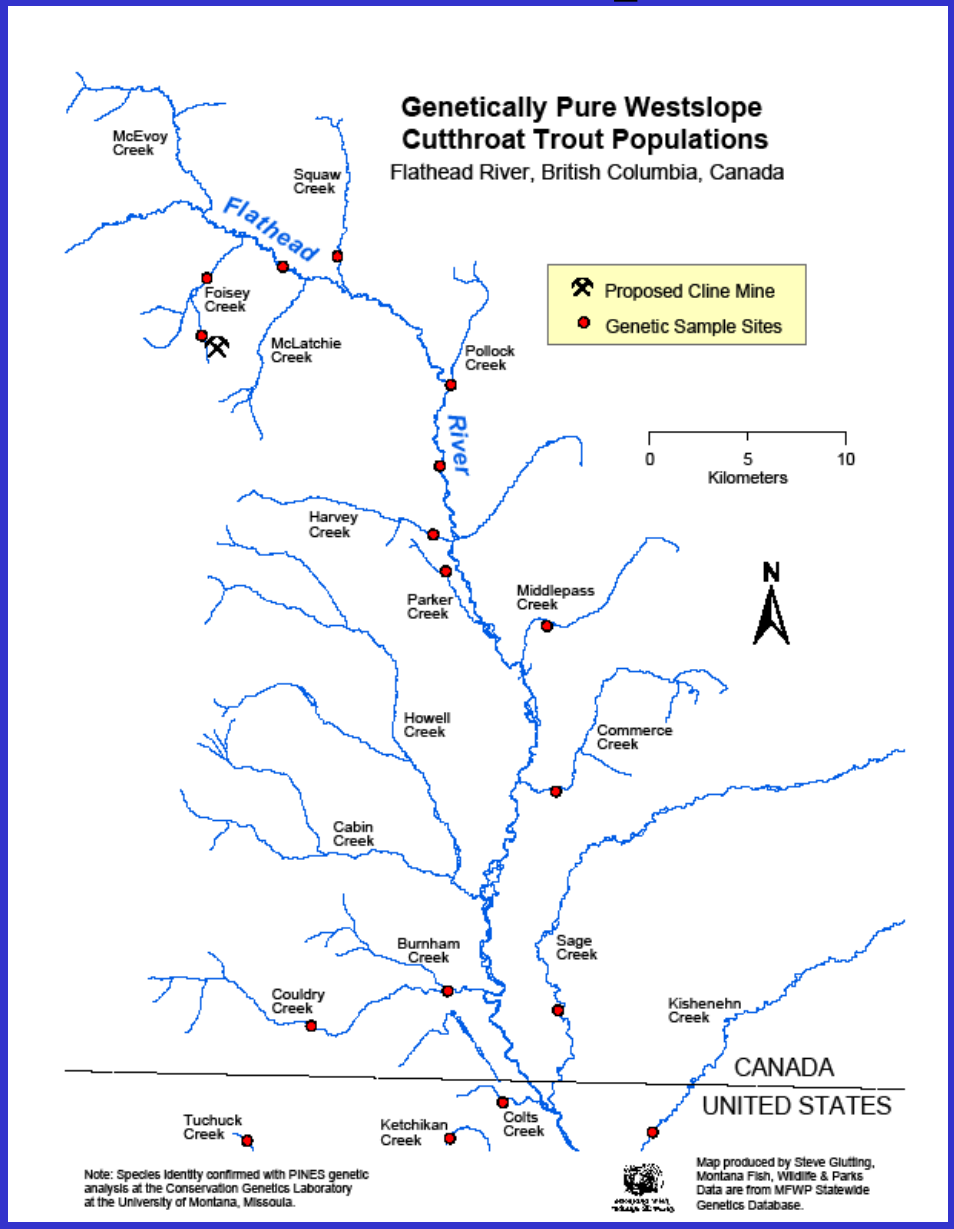
Bull trout migrate from Flathead Lake to spawn in British Columbia

In 2003, there were 62 bull trout redds in the upper reach that:

- represent 37% of spawning in the North Fork
- represent 21% of bull trout spawning from Flathead Lake

In 2006, there were 78 redds in the upper reach

Westslope Cutthroat Studies



- Genetically pure westslope cutthroat trout inhabit between 10 to 20% of their historic range.
- Cline fishery biologist told us there were only rainbow-cutthroat hybrids in the upper Flathead—no pure westslope cutthroat trout and no trout resided in the headwaters of Foisey Creek.
- MT DFWP found no hybridization in the upper B.C. Flathead—only pure westslope cutthroat.
- MT DFWP documented data that Westslope cutthroat trout migrate from Flathead Lake to spawn in British Columbia and that they are found in the headwaters of Foisey Creek.

Other Significant Impacts

- Mid and large size carnivores will be impacted such as the grizzly, lynx and wolverine. The North Fork Flathead River Basin in Montana and B.C. are critical connectivity zone and security areas for these species.
- A winter range of Mountain goats will be destroyed.
- Sumer ranges for elk and moose will be impacted and/or lost.
- Groundwater discharge and recharge zones into the NF Flathead River will change causing water quality to deteriorate.
- NF Flathead River riparian corridor will be impacted significantly. In some reaches in B.C., the river corridor is ½ mile wide. Sedimentation will become a problem.
- Recent information from mountaintop coal mines in Kentucky and West Virginia concluded that most of the impacts will be irreversible.
- The Montana Legislature granted $300,000 to the Flathead Basin Commission to fund collection of relevant data in both the Elk and Flathead River drainages: to establish the baseline conditions in the NF Flathead and to define impacts from the existing Elk River mines on the Elk River.


US Border 22 mi
Coal Mountain Mine &
Michel Creek
Foisey Creek
Flathead River
Proposed Lodgepole
mine site
McLatchie Creek

Coal Mountain Mine

Comparing Water Quality of Michel Creek & Flathead River

SULFATES 18X higher (91.3 mg/L vs. 5.1 mg/L)

NITRATES 650X higher (2.6 mg/L vs. 0.004 mg/L)

SELENIUM 57X higher (17.3 mg/L vs. 0.3 mg/L)

Coal Bed Methane Development

- British Columbia asked British Petroleum to mine CBM in the Elk and Flathead River basins.

- CBM land use disturbances will impact security areas and connectivity zones for critical wildlife species such as grizzly bear, wolverines and lynx.

- CBM wastewater produced from the Elk Valley coalfield (just north of the Crowsnest Coalfield and part of the same geological formation as the Flathead) has the following characteristics:
  - High concentrations of **Barium, Copper and Iron**, relative to the receiving watershed.
  - All of these metals pose a clear threat to the water quality and associated trans-boundary fisheries of the Flathead River.
  - Stormcat has been surface discharging since 2001 and have exceeded the Provinces guide-lines for Barium and Copper and have killed 100% of rainbow trout in their bioassay toxicity tests, due to toxic levels of ammonium in the treated wastewater.

Proposed Phosphate Mine at the Cabin Creek Mine Site.

- In the 1980s, the Flathead Basin banned phosphate detergents to protect water quality of the basins lakes and streams.
- The phosphate ban, better municipal treatment in the Flathead and around Flathead Lake and the effects of Mysis Shrimp have cause primary production of algae in Flathead Lake to level off for the past decade, but nutrient loading is still too high.
- Much of the time, phosphate is the limiting factor for greening of Flathead Lake.
- With increased phosphate releases from the mine site, the North Fork Flathead, Flathead River and Lake will likely increase in algae blooms.
- The bottom line is when the first mine goes in, we will see a domino effect and all the mines proposed in the B.C. Flathead will be built.


Any Questions?