

# **Kootenai River Subbasin & KVRI - Part 2 -**

2021 IGBC Executive Cmte. Meeting  
June 15-17, 2021

Scott Soult, Kootenai Tribe of Idaho

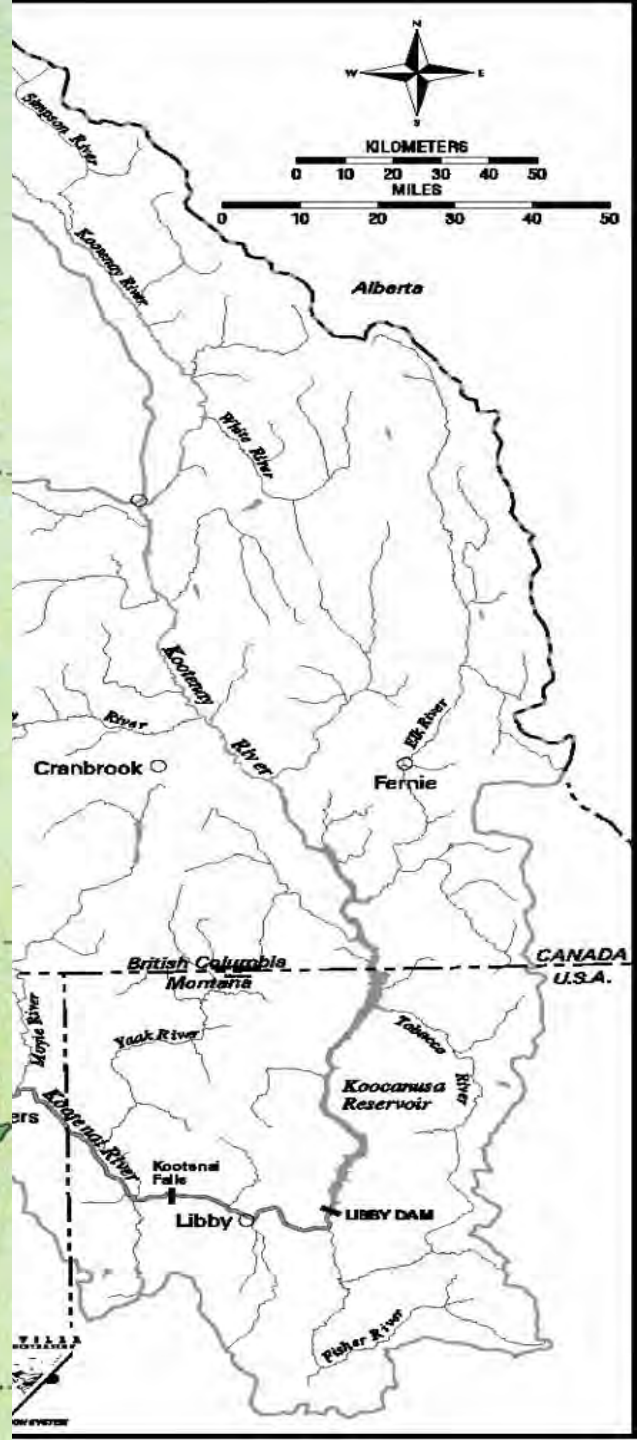


# Topics

Kootenai Valley Resource Initiative (KVRI) may be limited to Boundary County, but local community understands the Kootenai River (Subbasin/Watershed)

Considerations of Subbasin/Watershed issues:

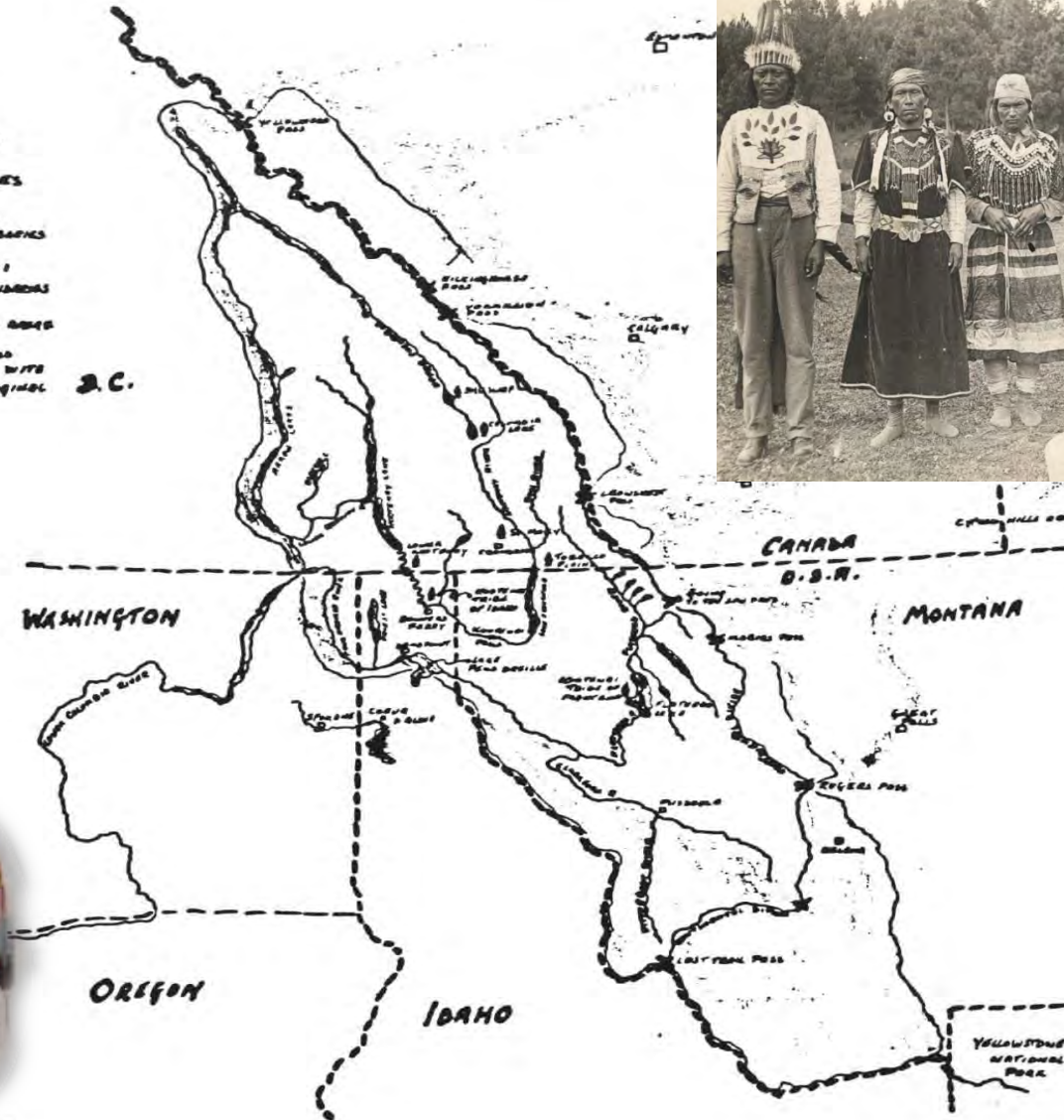
- History & European Settlement
- River Alteration and Regulation
- Affected Environments
- Diverse KVRI Committees and Interaction



# Kootenai Aboriginal Territory

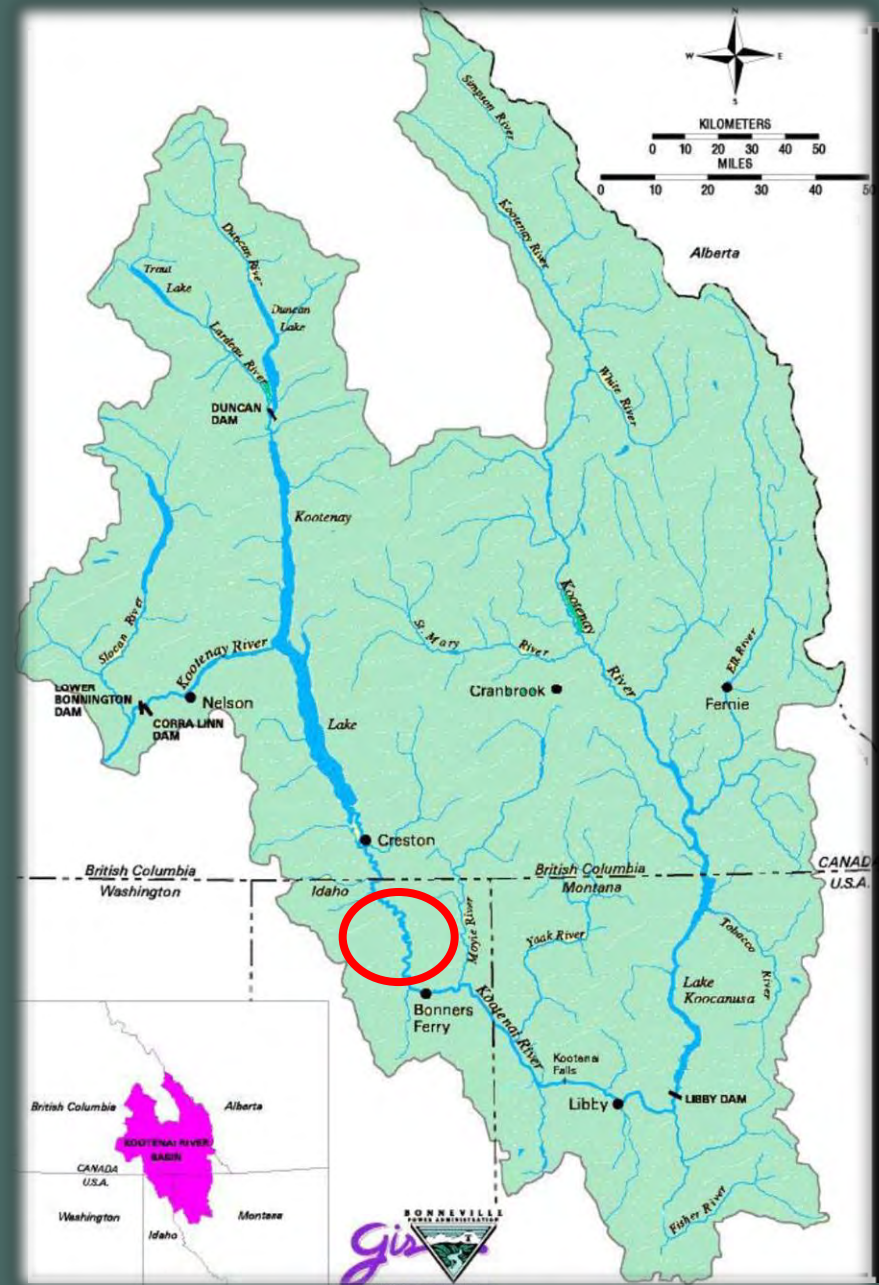
## LEGEND:

-  PRESENT-DAY KOOTENAI COMMUNITIES
-  SOLID LINES: NATURAL BOUNDARIES
-  DASHED LINES: ARTIFICIAL BOUNDARIES
-  GREEN SHADED AREAS ARE AREAS KNOWN PEACEFULLY WITH OTHER ADJACENT NATIONS.



# Kootenai River Subbasin

- 9 million acres  
(19,420 square miles)
- 480 miles long
- 2 Countries
- 2 States, 1 Province
- Endangered Species
- Hydropower
- Resource based economy





# Vegetation Classification Kootenai Subbasin

## Legend

Kbveg

- Agricultural
- Barren Alpine Tundra
- Bitterbrush
- Broadleaf Forest
- Cloud
- Cloud Shadow
- Cold Mesic Shrubland
- Douglas-Fir
- Douglas-Fir-Grand Fir Forest
- Douglas-Fir-Lodgepole Forest
- Engelmann Spruce
- Exposed rock
- Foothills Grasslands
- Grand Fir
- Lodgepole Pine
- Mixed Barren Land
- Mixed Mesic Forest
- Mixed Needleleaf/Broadleaf Forest
- Mixed Subalpine Forest
- Mixed Whitebark Pine Forest
- Mixed Xeric Forest
- Montane Parklands & Subalpine Meadows
- Ponderosa Pine
- Subalpine Fir
- Urban
- Warm Mesic Shrubland
- Water
- Western Hemlock
- Western Larch
- Western Larch-Douglas-Fir Forest
- Western Larch-Lodgepole Forest
- Western Red Cedar
- Western Red Cedar-Grand Fir Forest
- Western Red Cedar-W. Hemlock Forest
- No Data

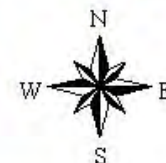
## Credits

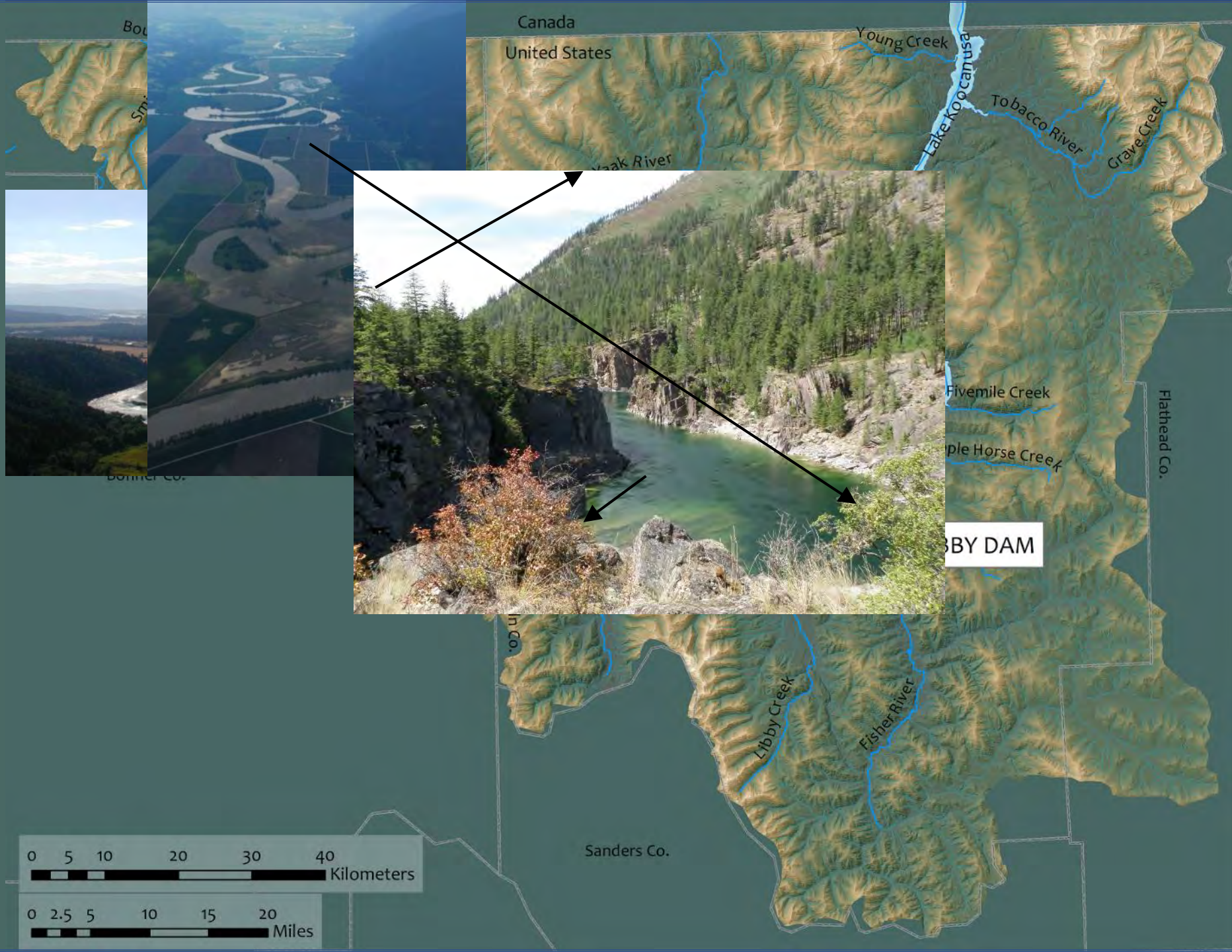
**Original Classification thanks  
to the University of Montana  
Spatial Analysis Lab**

Produced for the Kootenai Tribe of Idaho,  
Fish and Wildlife Dept by  
Pristine Spatial Technologies  
[www.pristine.com](http://www.pristine.com)

0

70 Kilometers





# Lower Kootenai River Watershed

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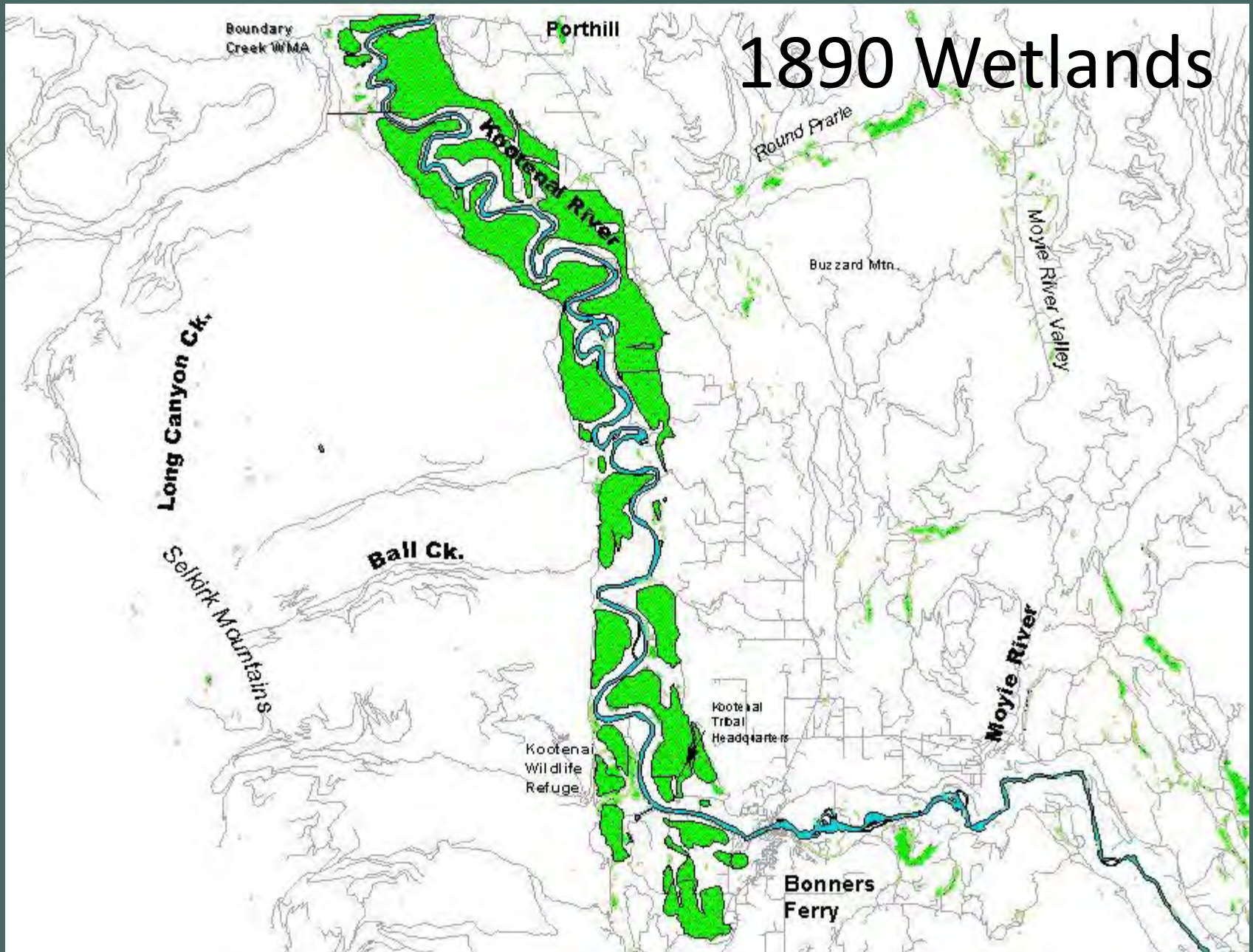
Prior to European settlement the Kootenai River watershed, with its riparian forest and wetland complexes, was one of the most productive in Pacific Northwest



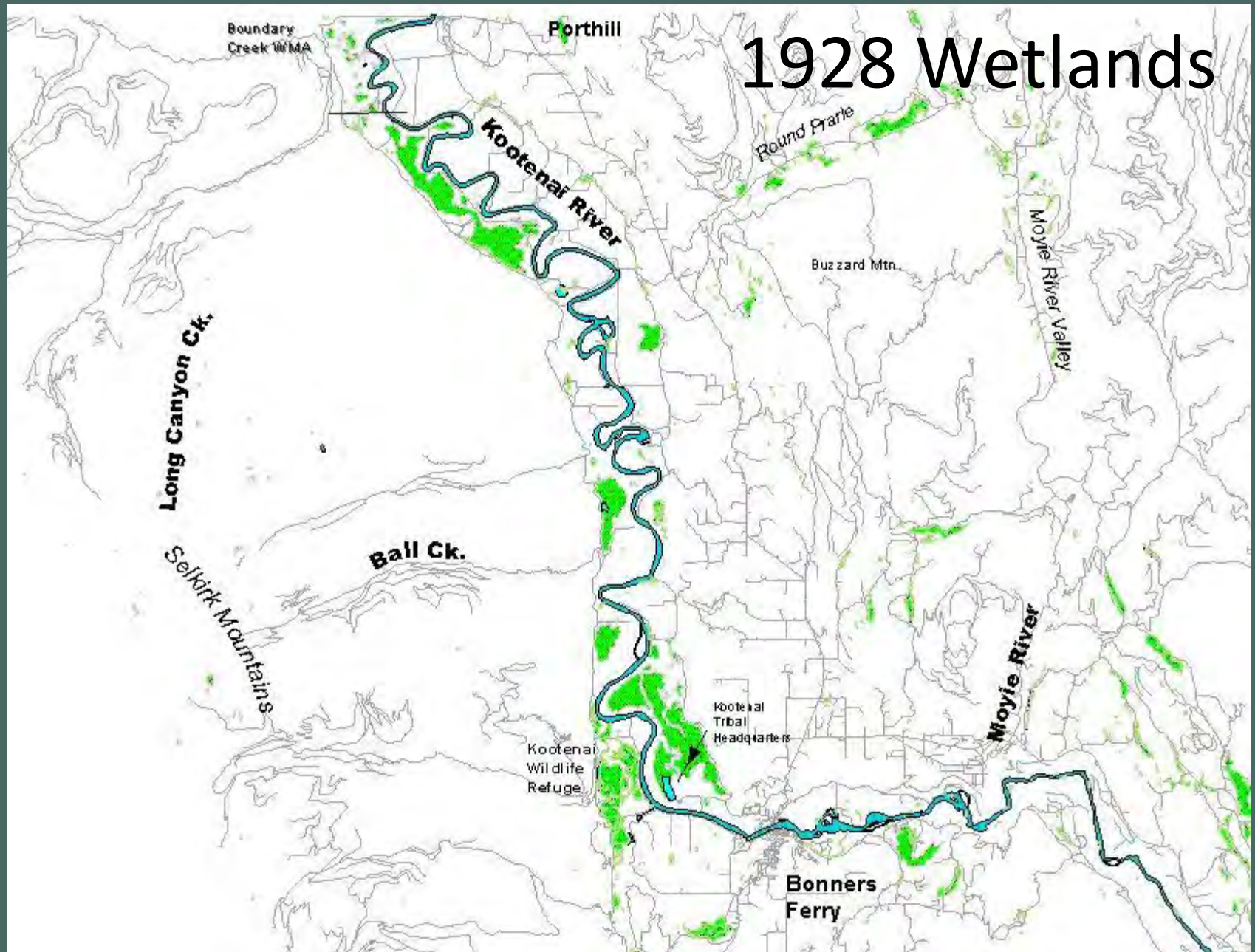


J. W. Alden del.

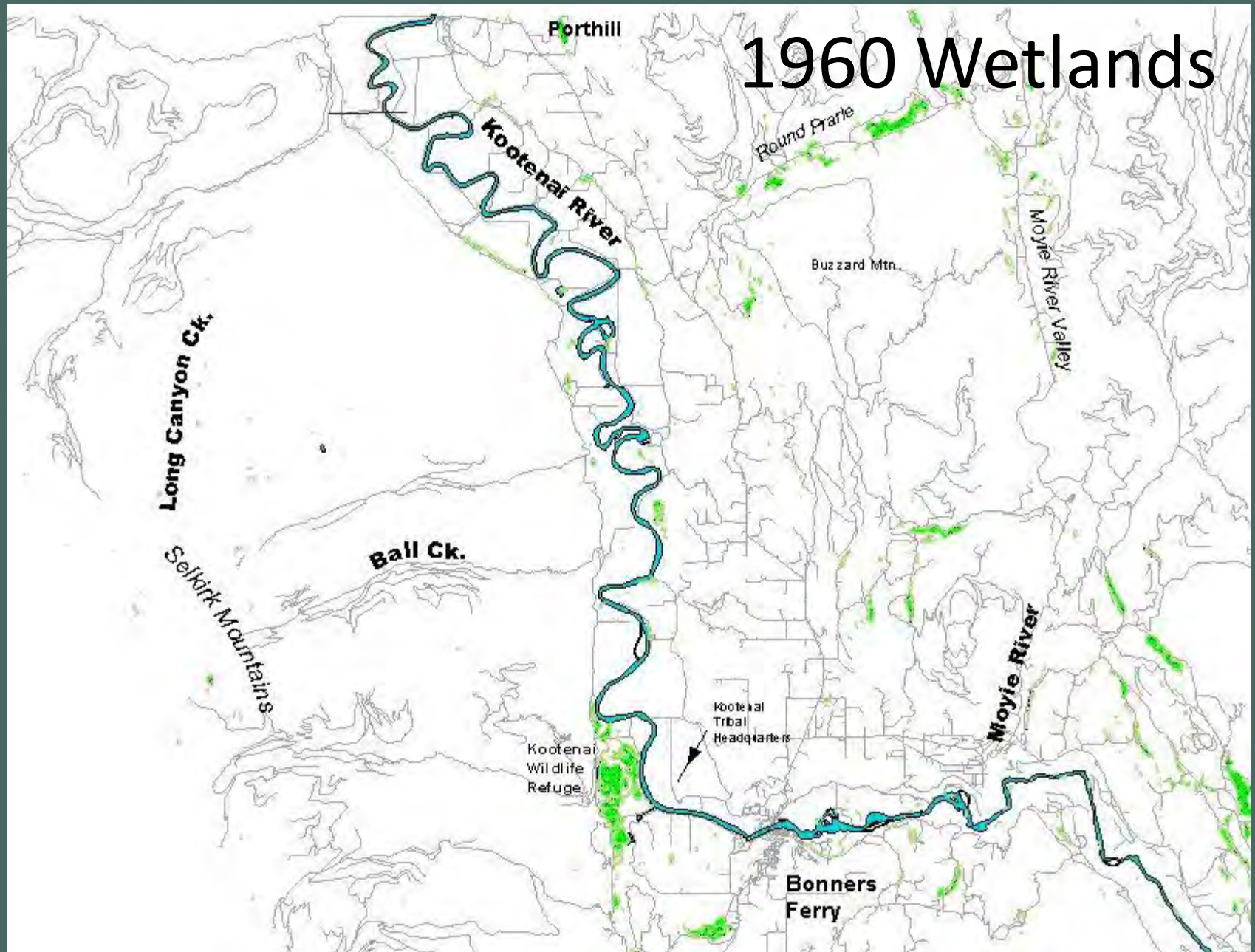
# 1890 Wetlands



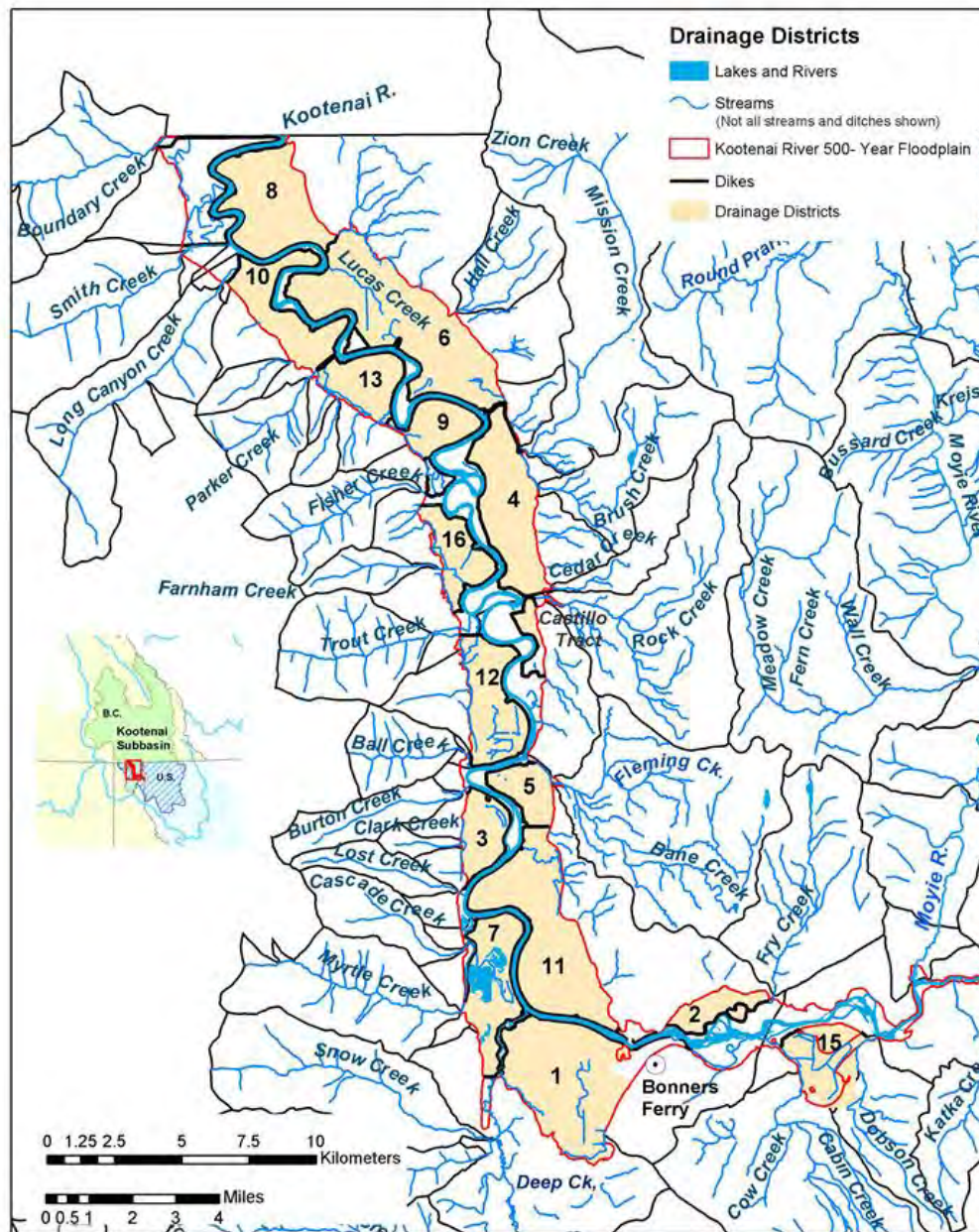
# 1928 Wetlands



# 1960 Wetlands



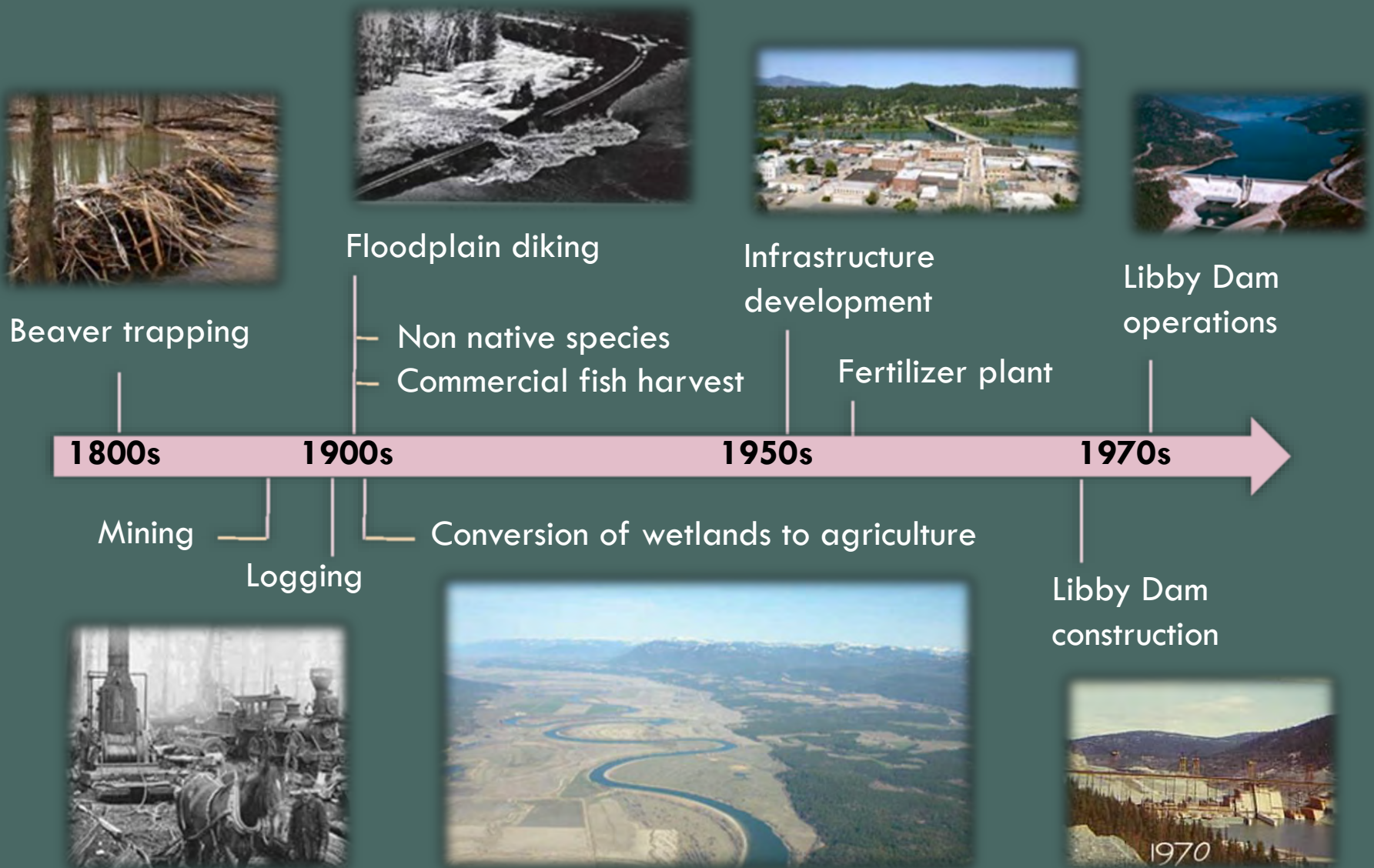
# Dike Districts



Districts:      Dates:

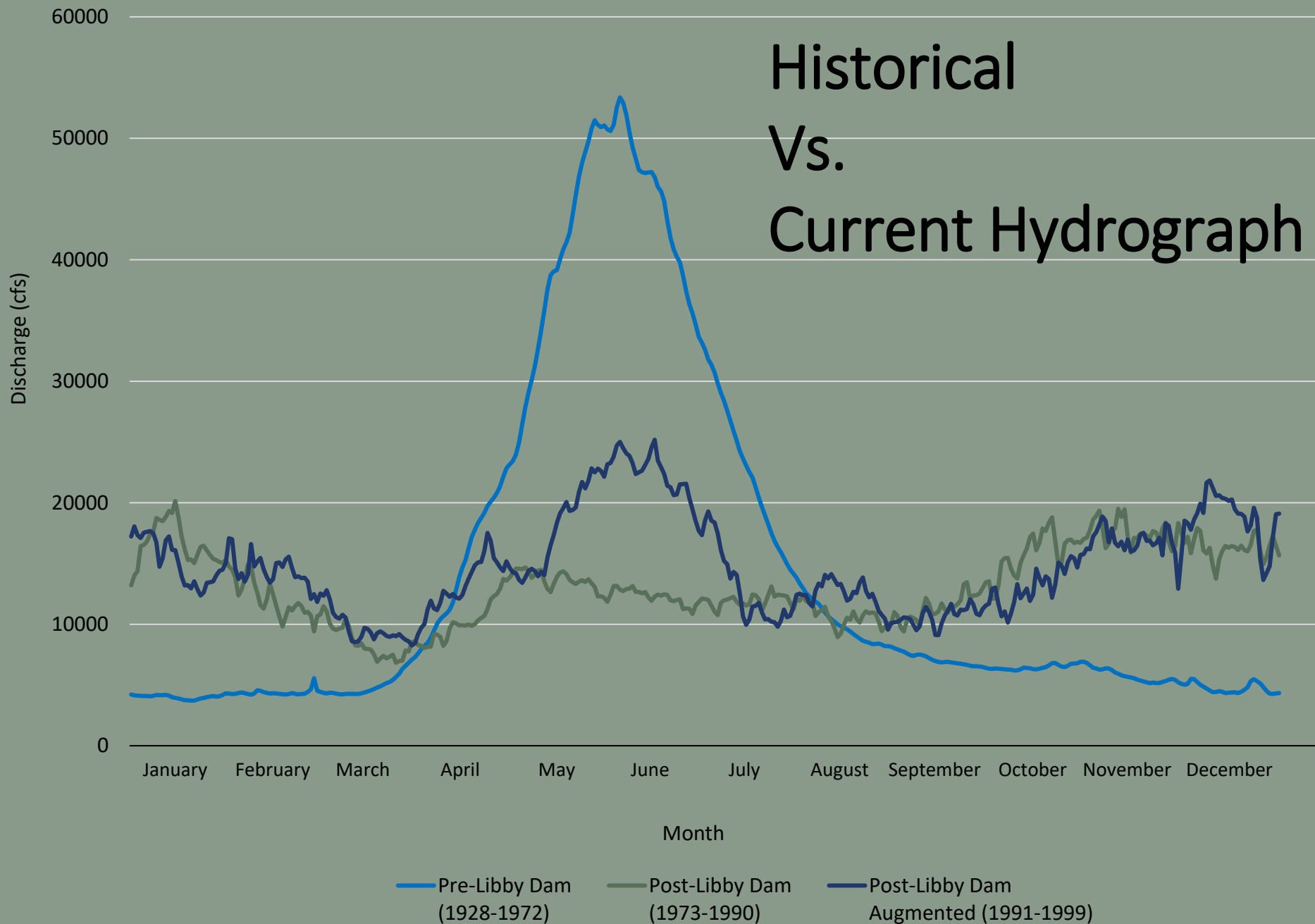
1.      Aug. 16, 1920
2.      June 7, 1924
3.      May 31, 1924
4.      June 7, 1924
5.      Nov. 17, 1924
6.      July 15, 1925
7.      Aug. 14, 1925
8.      Dec. 9, 1925
9.      Jan. 4, 1926
10.     April. 11, 1927
11.     Aug. 22, 1927
12.     Sept. 20, 1929
13.     Aug. 4, 1930
14.     Aug. 14, 1935
15.     Feb. 21, 1947
16.     Feb. 21, 1947

# Changes to Kootenai River Subbasin



Mean Monthly Flow Patterns in the Kootenai River at Leonia, ID 1928-1999

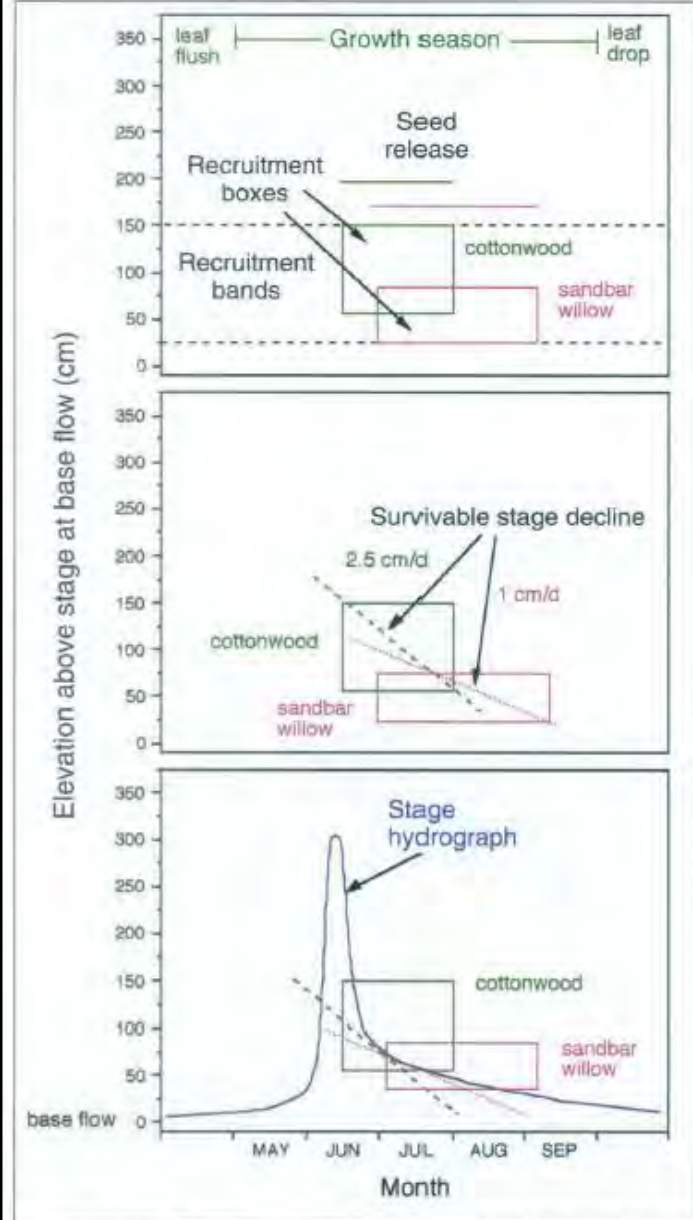
# Historical Vs. Current Hydrograph



# Recruitment Box Model



Figure from:  
 Rood, et. al. 2005. Managing river flows to restore  
 floodplain forests. *Frontiers of Ecology and The  
 Environment*.



**Figure 2.** The riparian "Recruitment Box Model" that describes the seasonal streamflow pattern, associated river stage (elevation), and flow ramping that will enable successful seedling establishment of cottonwoods and willows. Figure modified from Amlin and Rood (2002).

# Species of Concern



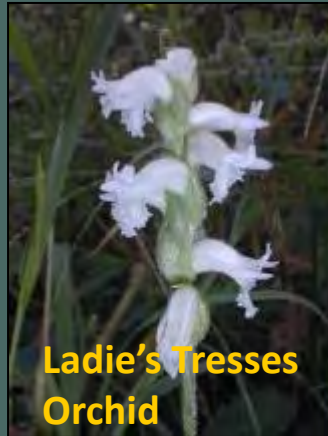
Burbot



Westslope Cutthroat



Woodland Caribou



Ladie's Tresses Orchid



Canada Lynx



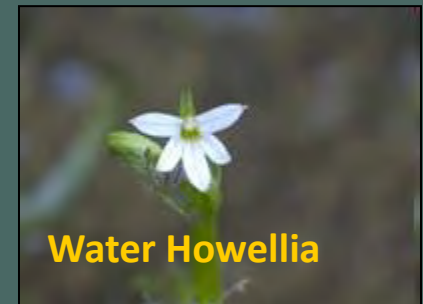
Redband Rainbow



Spalding's Catchfly



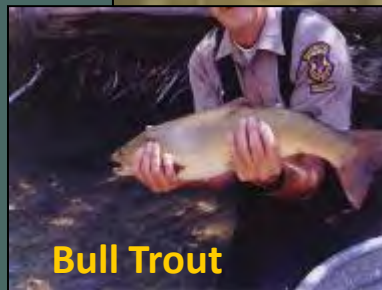
Grizzly Bear



Water Howellia



South Arm Kokanee



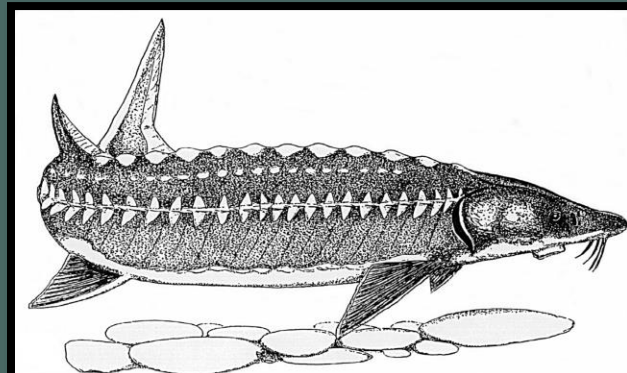
Bull Trout

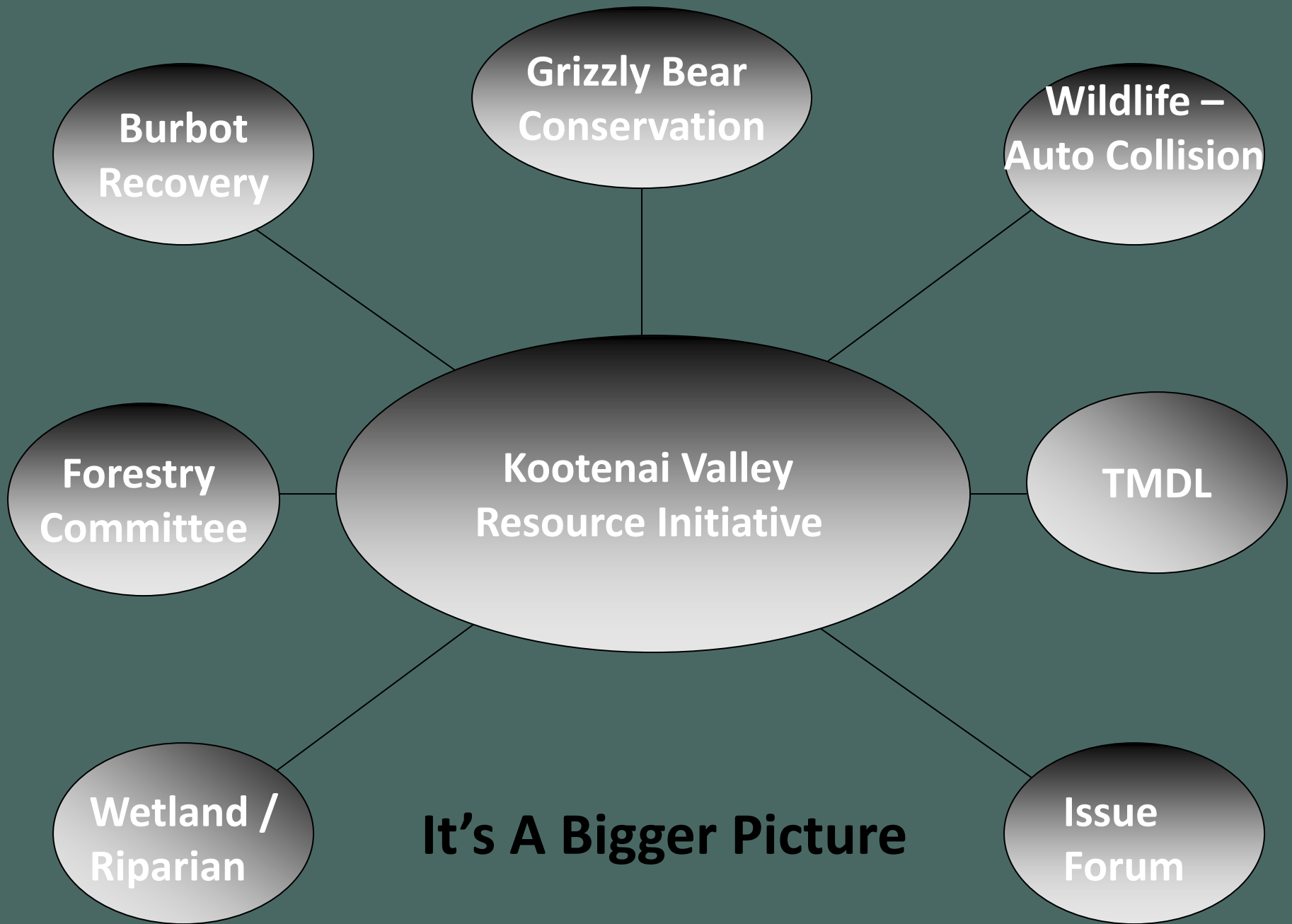


White Sturgeon

# Examples of Affected Environments

- Marginal recruitment/establishment of riparian hardwoods
- White sturgeon listed endangered in 1994
- Non-sustaining burbot and kokanee populations
- Significantly diminished grizzly bear spring range habitat
- Decrease in raptor and cavity nesting habitats
- Small isolated beaver populations
- Altered ecological functions in Riverine Wetlands (e.g. overland flows, sediment, carbon cycles)
- Alterations to Forested and Alpine ecosystems





**It's A Bigger Picture**

# Wetland and Riparian Committee

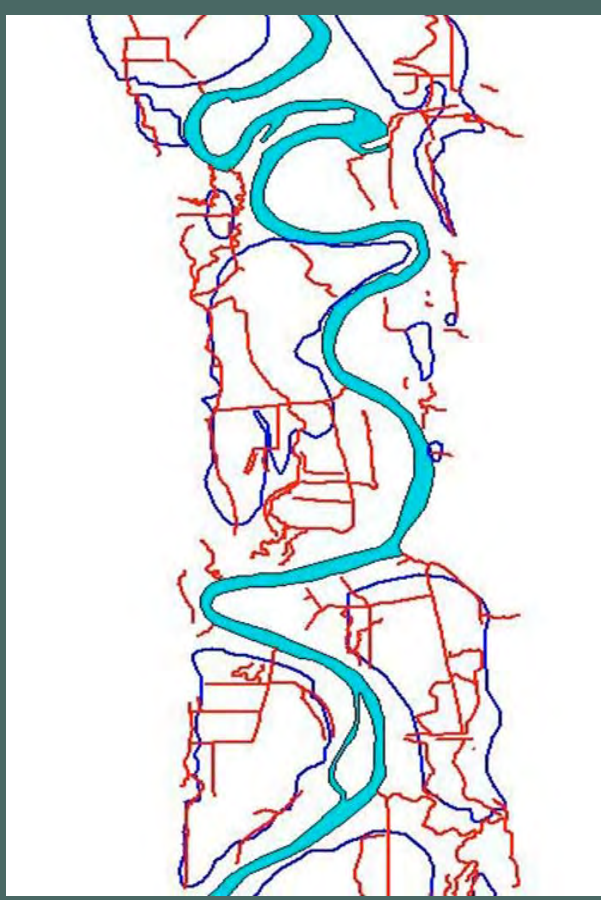
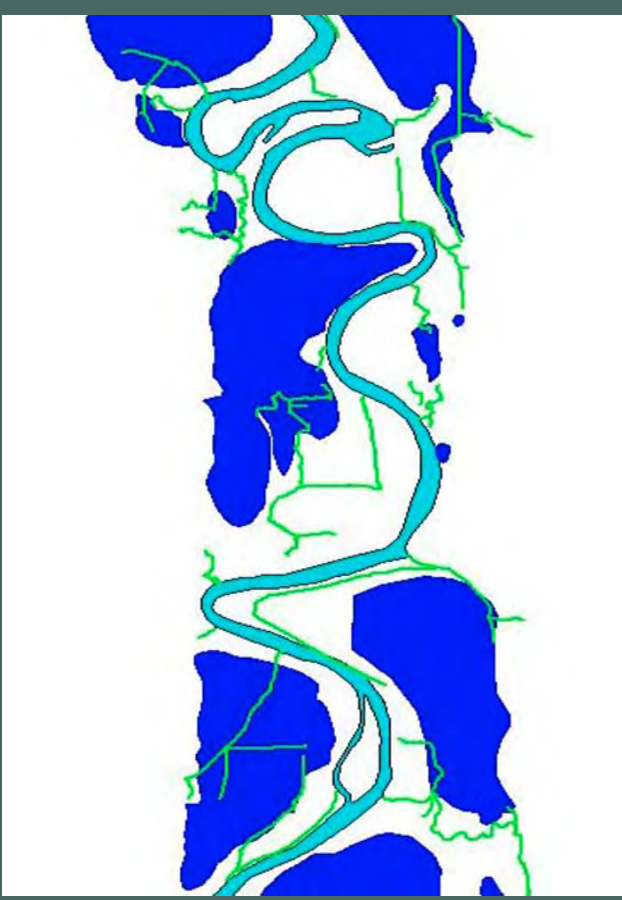
15-20 Members

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Balancing social, natural resources, and economic perspectives

- Links information about wetland and riparian areas to community values and issues of concern
- Support integration of community needs and values in development of projects and programs





# Forestry Committee

30 Members

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- Addressing forestry resources with our community using a landscape approach
- The long term goal is to make Boundary County National Forest lands ecologically, economically, and socially sustainable
  - Science-based Expertise
  - Partnerships – developing common ground, local/social support, and areas of agreement for management



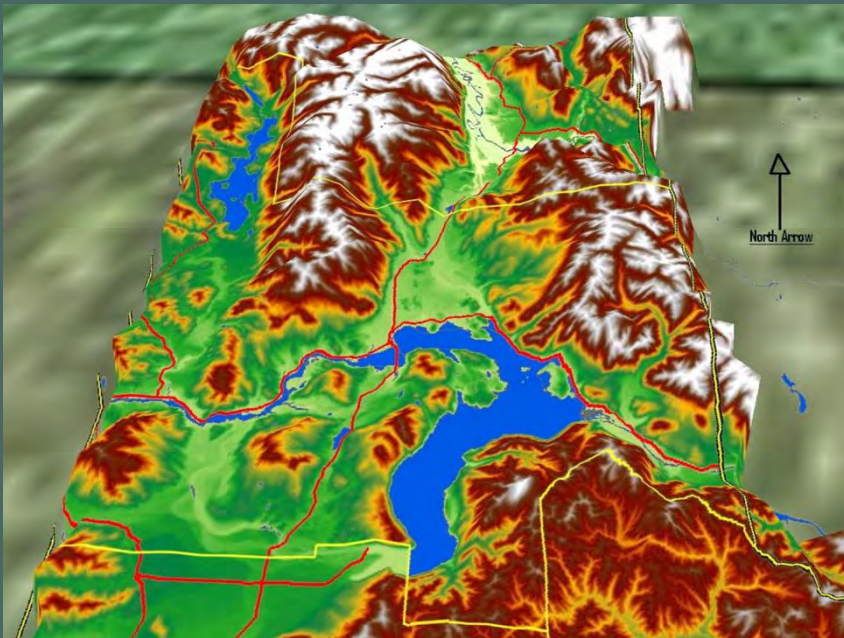
# Wildlife-Auto Collision Committee

30 Members

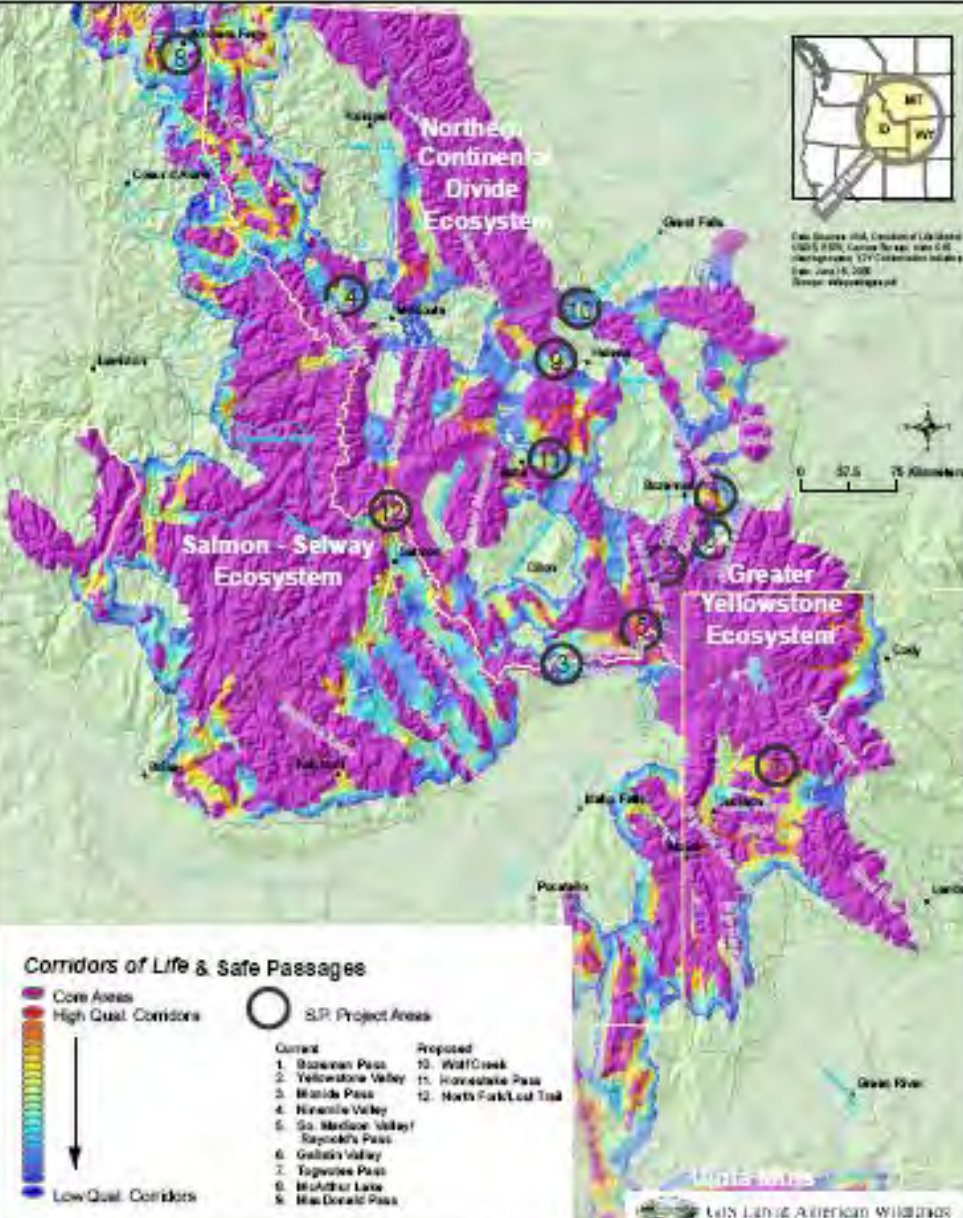
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KVRI provides an effective conduit for reaching out to the community for feedback and guidance in considering ways to reduce wildlife conflicts and build support for transportation mitigation efforts.

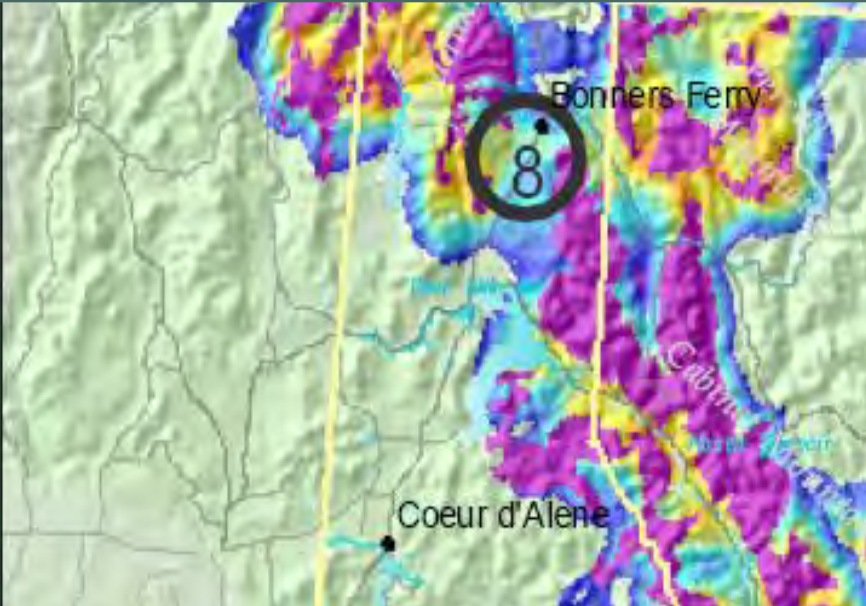
Much of the County is a wildlife corridor



## Safe Passages - Securing Highways for Wildlife and Human Travelers



- **Connectivity**
- **Genetic Interchange**
- **Migration**
- **Permeability**



# American Wildlands Corridors of Life

# Grizzly Bear Committee

30 Members

Committee formed to serve as a forum to educate ourselves and our community on Grizzly Bear Management and to determine opportunities for a role in that management.

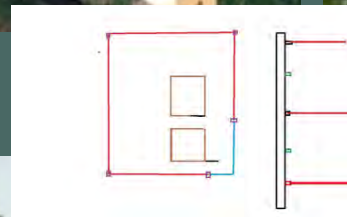
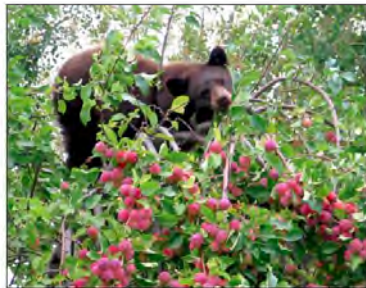




CITY OF BONNERS FERRY



**Bears and Electric Fencing:**  
A starter's guide for using  
electric fencing to deter bears



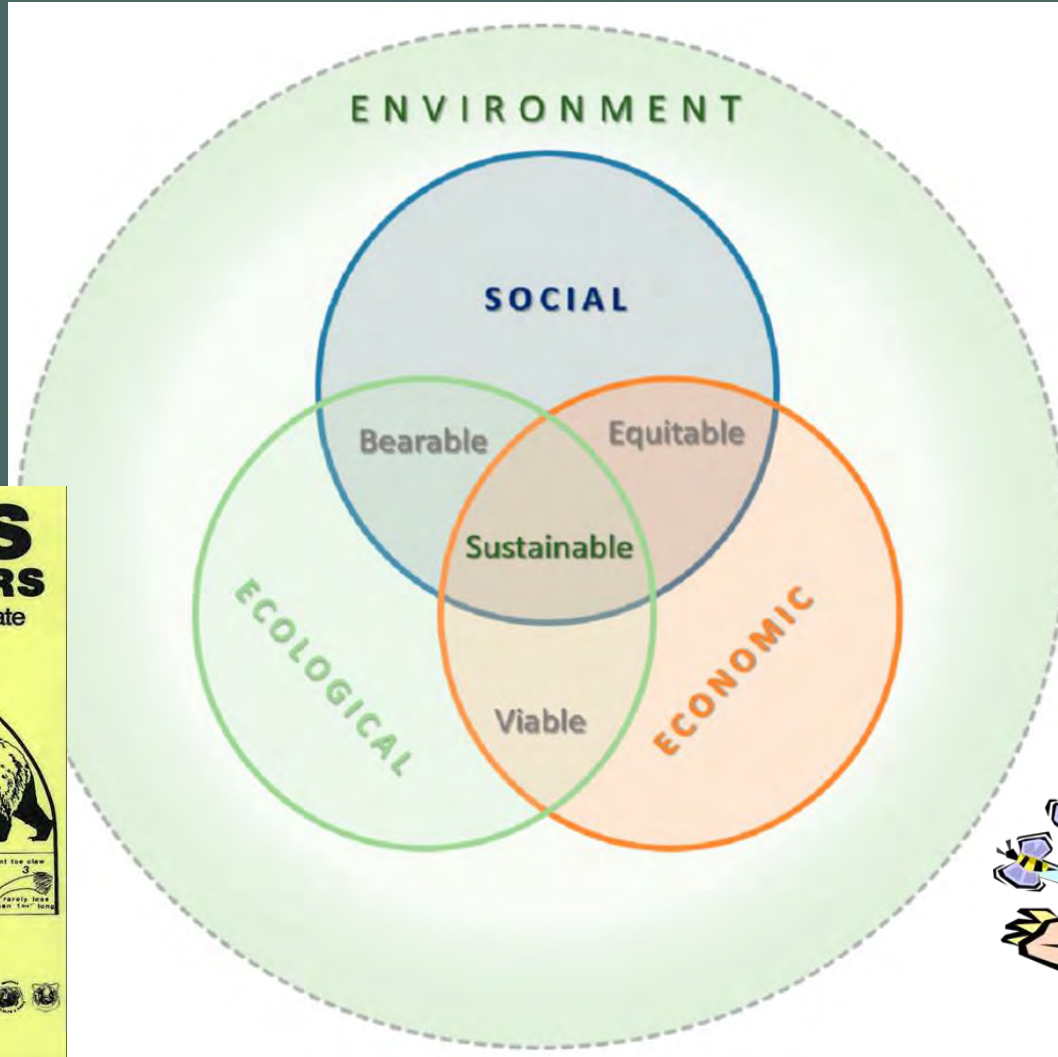
**Living  
In  
Bear  
Country**

**Be Bear Aware**  
Register to Receive Bear Info in Your  
Area  
<https://local.nixle.com/boundary-county-sheriffs-office/>



# Prospective Realization

## Kootenai Valley Resource Initiative (KVRI)



Living  
In  
Bear  
Country



### HUNTERS KNOW YOUR BEARS

Grizzlies are PROTECTED by State  
and Federal Law



COLOR and SIZE are not Reliable Indicators.

Bear  
US IN MIND

**The End**



**...OR**  
**Just the Beginning**