<u>Introduction</u>
- *Sean Finn* - USFWS, worked for GNLCC; was GIS analyst for USGS, now he's a science coordinator
- *Ken* - works for Miistakis; makes apps, websites, GIS, anything computer related
- *Phil Matson* - Research Coordinator at FLBS; Database Manager for CMP
- *Aubin* - Cartographer for USFWS; based in Lakewood, CO; background in landscape level planning
- *Danielle* - Environment & Parks, landscape prioritization analysis; lots of marxan work/background
- *Natalie* - Conservation Priorities Coordinator and Secretariat for the Crown Managers Partnership; mostly GIS in communications capacity with story mapping; helps coordinate working groups related to native salmonids, whitebark pine, invasive species
- *Adam* - Parks Canada; background in GIS, masters and PhD in remote sensing; database work
- *Matt Heller* - USFWS; Cartographer, located in Bozeman; former staff of GLNCC, does GIS administration, data management; managing conservation efforts database

<u>Existing Management Plans</u>
- Who is interested in what and where
- Action: **All**, help populate list of plans from mid 90s to present day
- All plans recommended on leadership team chat have been carried over

<u>Project Area</u>
- CMP has a polygon created - developed in 2008
  - Tracy from Mistakiis said on the leadership call that unless there is a really good reason to not use this geography, we should use it - it was designed collaboratively, has been around 12 years
    - At the end of the day, that line is based on who was in the room of experts when deciding
- What may be missing from the CMP boundary
  - *West of the boundary (MT)* - Potential conservation easements with Weyerhaeuser
  - *Eastern boundary (CA)* delineated by foothills Fescue Subregion - AB folks say they still use the subregions - but, everything N and E of waterton is mostly farm and ranch land - low function from ecological perspective, but economic considerations (ie. irrigation).
    - Potential stakeholders: large first nation reserve; grizzlies getting into livestock in that area
    - Action: **Adam** and **Danielle** consider the eastern boundary (both economic and environmental)
  - *Northern boundary (CA)* - could not find the place used for reference that is listed in the metadata
    - Maybe the way this was thought about in 2008 is different to how we think about it now

- ○ *Eastern Boundary (MT)* - follows the rocky mountains-ish/eco regions
- ○ *Southern Boundary (MT)* - considers the sub watersheds
- ○ Potential Alternative: Administrative areas around CCE - helps bring in social and economic aspects (counties and municipalities)
- What's the goal of the boundary - ecological, economic/social??
  - ○ Always best to start off with a larger area/landscape - if there need to be tweaks later on, you can make a quick adjustment in the model, rather than re-calibrating the model
  - ○ We could have one boundary for social economic and something else for ecological
    - ■ Subdivide our geography into smaller units
- Action: **Sean** will draft a paragraph as to why we may choose one geography over another

Crown LCD Technical Team call – 10 March 2020

Connection:

https://global.gotomeeting.com/join/176537133
Dial: 866-795-8047 Code: 6972717#

Agenda:

- Introductions (name, affiliation, job title/duties, experience with landscape analyses) [15 min]

- Existing Management Plans (google sheet and voluntary assignments) [15 min]

- Project Area: discussion leading to a technical recommendation for Leadership Team [30 min]

- Feature Selection: what this entails, emphasis on technical aspects

- Other topics

Existing Management Plans

https://docs.google.com/spreadsheets/d/1c7a6GhzbpEt4AnxgQsAjnzBl_VzloT8a_I8Gxkngi4I/edit

1) Catalog existing plans & analyses

2) Understand geographies, motivations, mandates, time horizons

3) **Identify/interpret high priority features – what and why?**

   1) Evaluate in terms of key attributes and indicators

4) Understand perceived limiting factors (i.e., "cost")

5) Summarize for Leadership Team

Project Area

- Naturally, every subsequent decision dependent on the 'where?'
- Crown Managers Partnership in collaboration with non-profits developed an 'ecological justification' for the Crown of the Continent Ecosystem (CCE) in 2008 … "to enable analysis and tracking of the ecosystem from an ecological health perspective"
- "CMP notes that this extent does not represent the true economic, social and cultural impact on the CCE from surrounding urban areas"

From CCE_boundary_2008_metadata
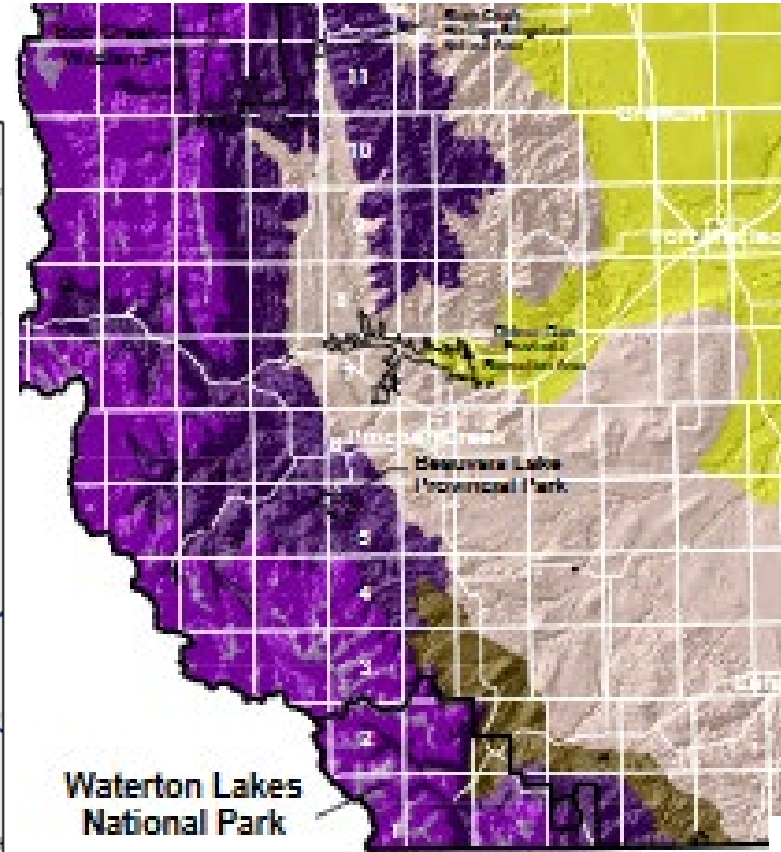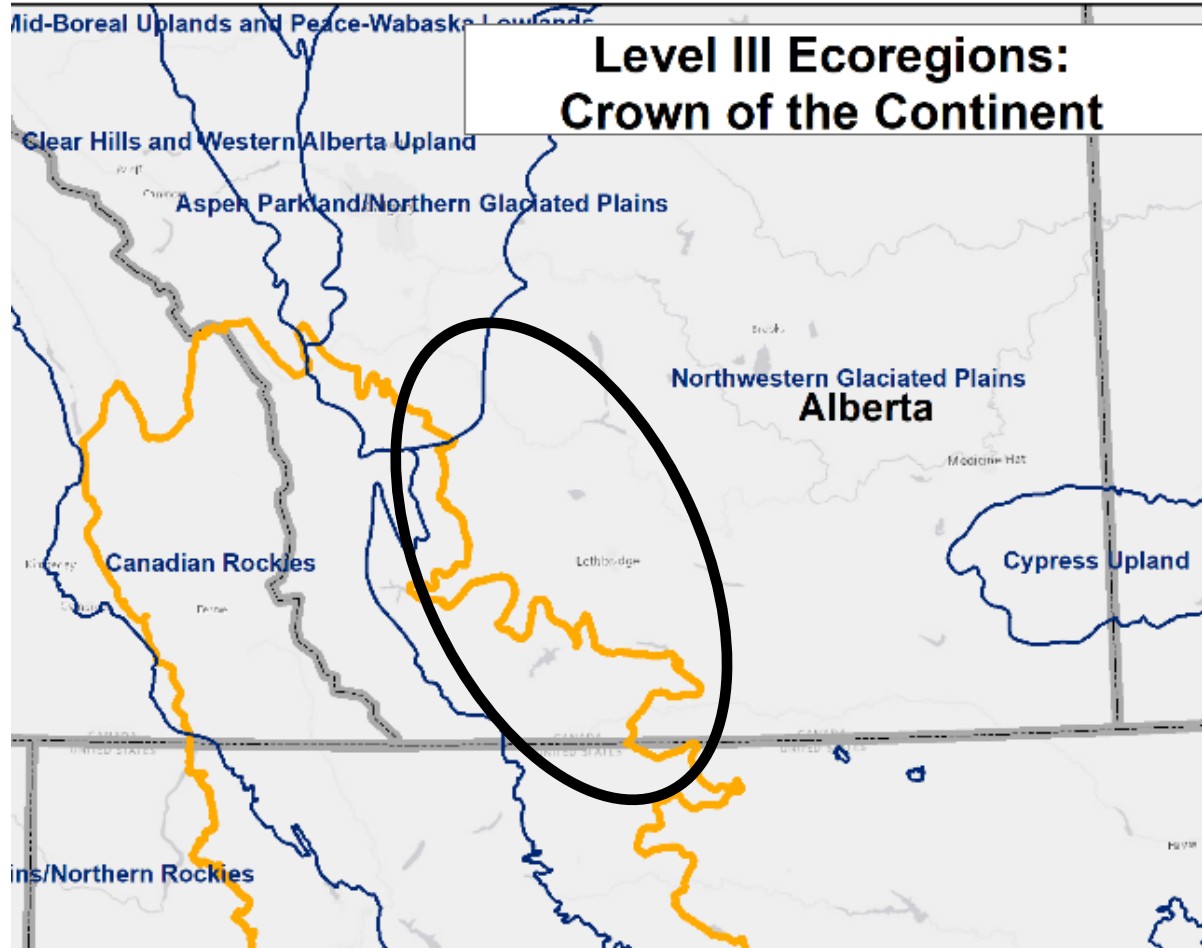
Description:
Abstract:

- In Alberta the eastern boundary was delineated by the Foothills Fescue Subregion as defined by Alberta Natural Heritage Information Center (ANHIC), while the northern boundary was delineated from Demarchi Northern Crown of the Continent ecoprovince.

- In British Columbia the boundary was delineated using along the Kootenay River.

- In Montana, the western and southern boundary was delineated using sub watersheds, while the eastern boundary represents the Montana Foothills grassland Ecoregion boundary.

Ecoregion?

Level III Ecoregions:
Crown of the Continent
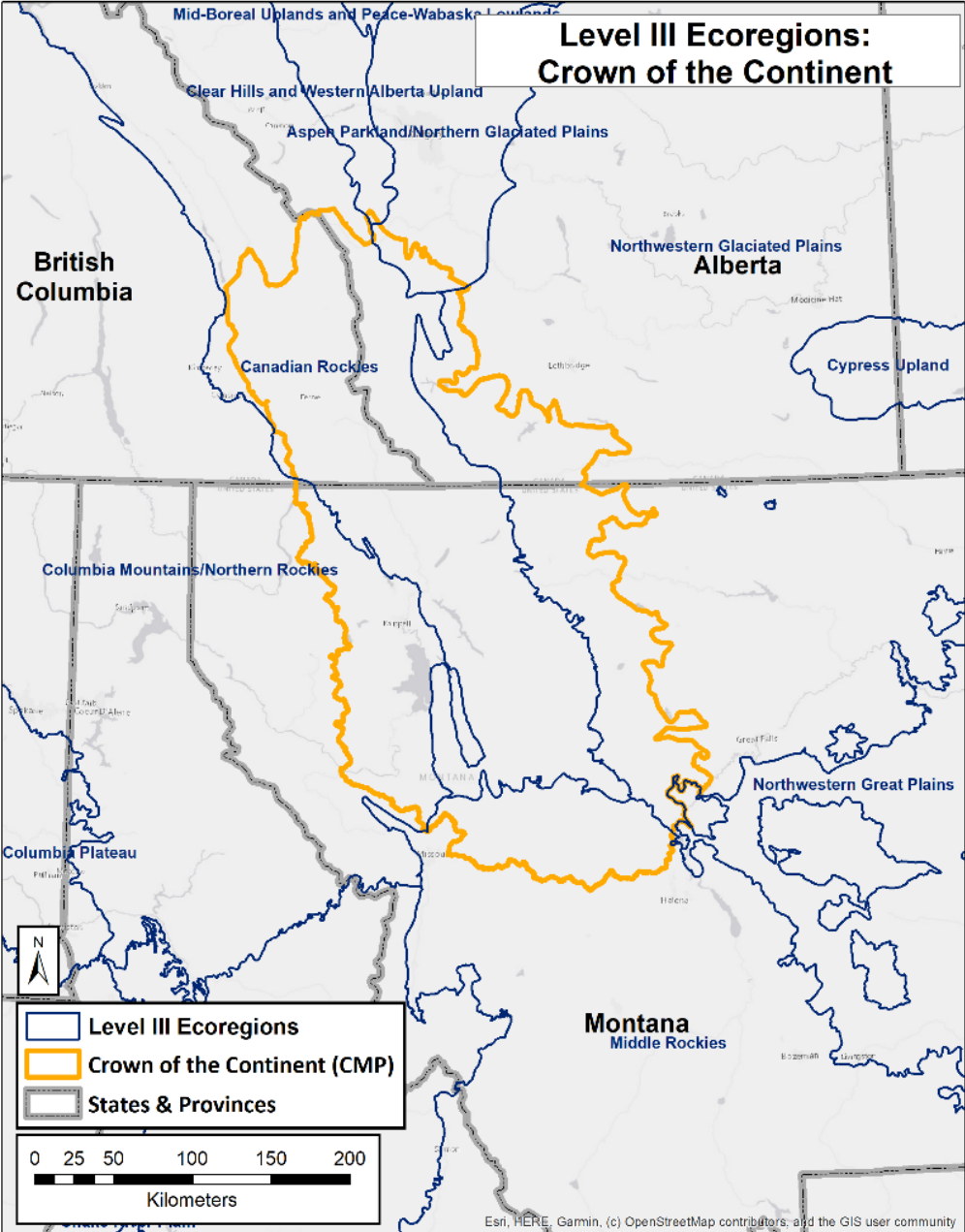
Ecoregion?
Alberta

eastern boundary was delineated by the Foothills Fescue Subregion

Level III Ecoregions: Crown of the Continent

Mid-Boreal Uplands and Peace-Wabaska Lowlands

Clear Hills and Western Alberta Upland

Aspen Parkland/Northern Glaciated Plains

Northwestern Glaciated Plains
Alberta

Canadian Rockies

Cypress Upland

ins/Northern Rockies

Waterton Lakes National Park

Grassland Natural Region
- Dry Mixedgrass
- Foothills Fescue
- Northern Fescue
- Mixedgrass

ions of Alberta
Development and Agriculture and Agri-Food Canada, June 2005.
erta Natural Heritage Information Centre web page at:
/anhic/flashindex.asp
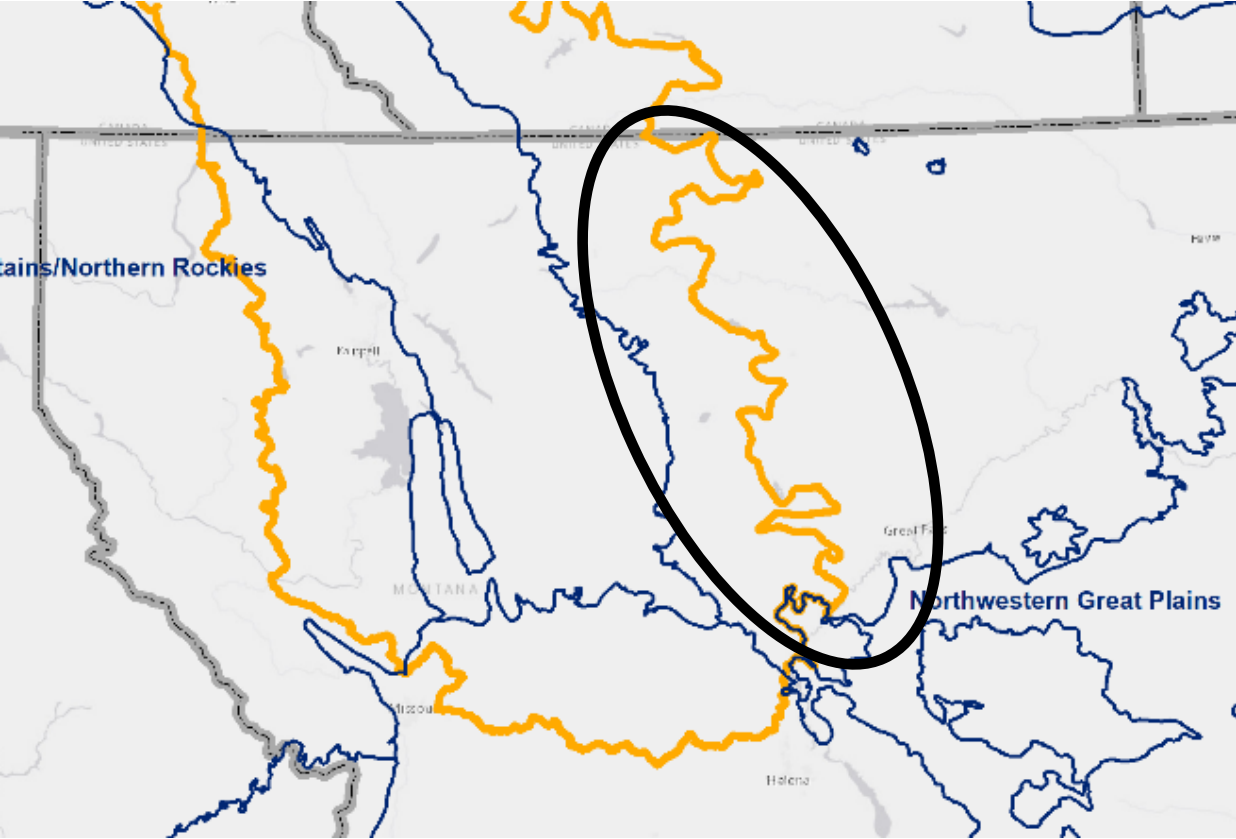
Ecoregion?
Alberta

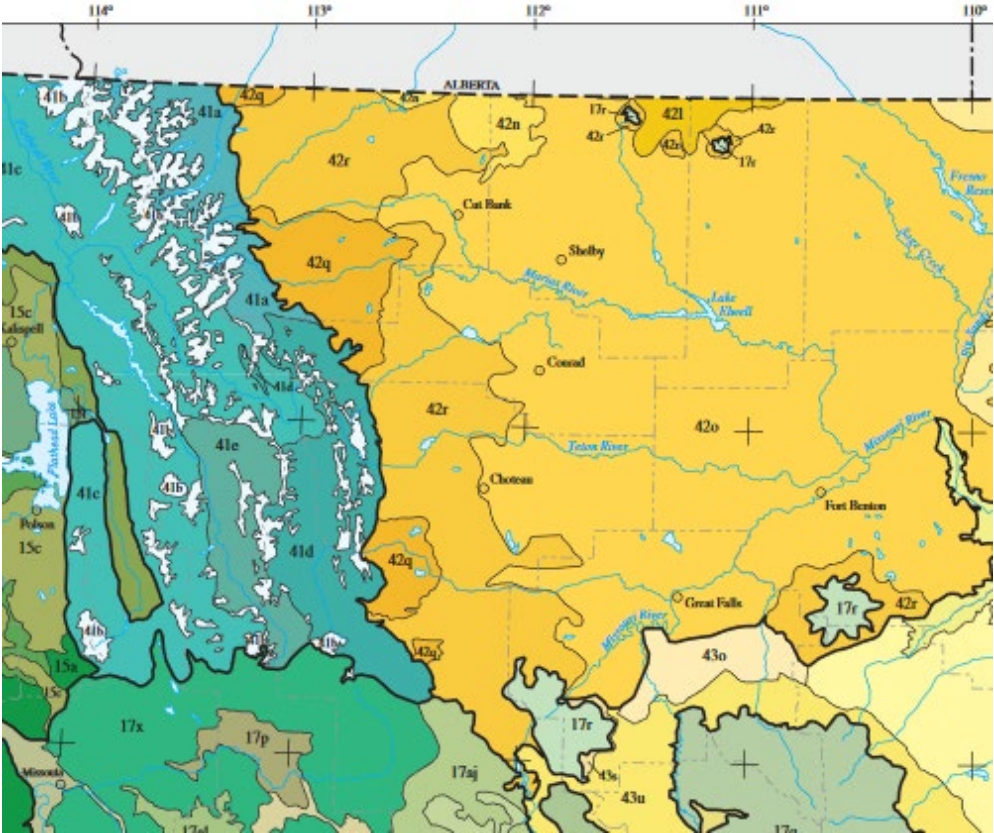northern boundary was delineated from Demarchi Northern Crown of the Continent ecoprovince
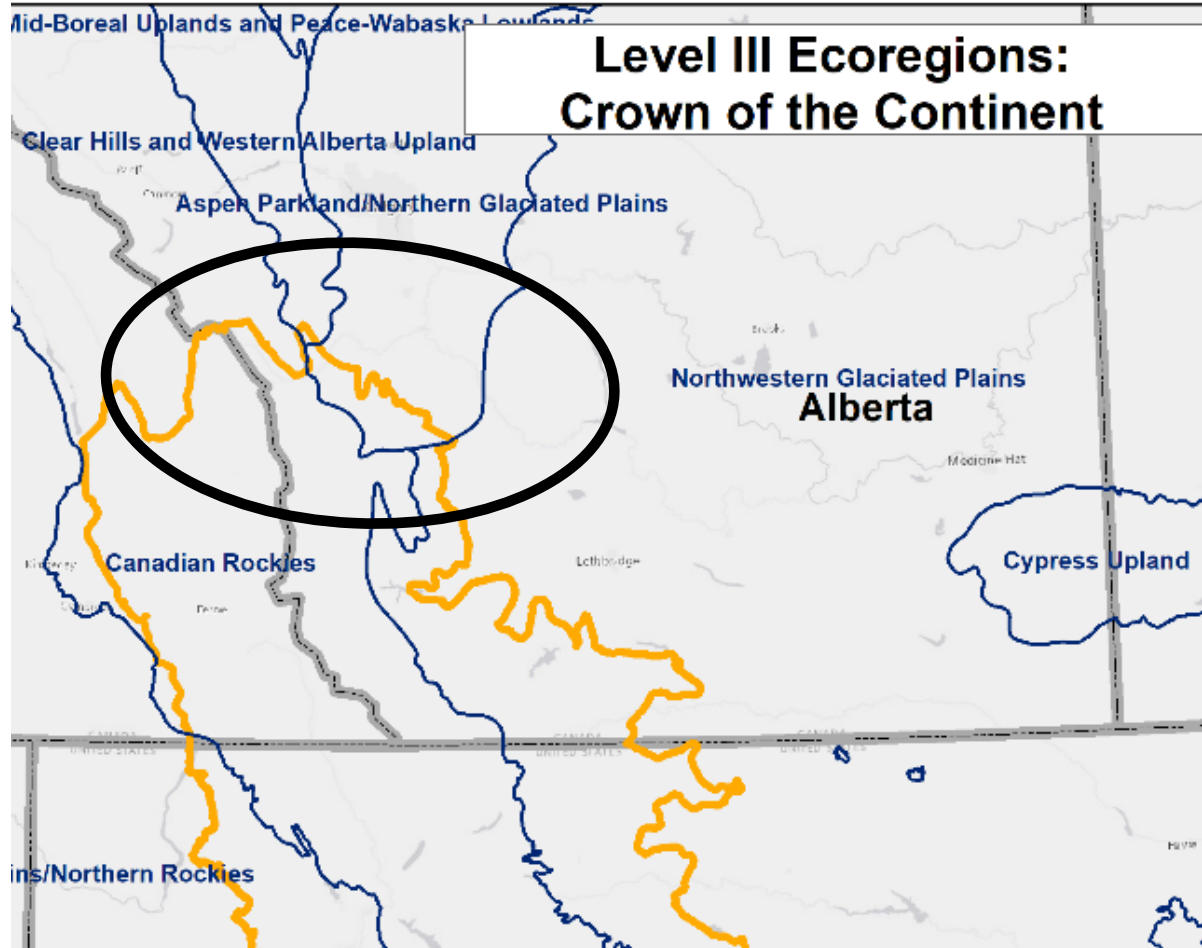
Ecoregion?
Montana

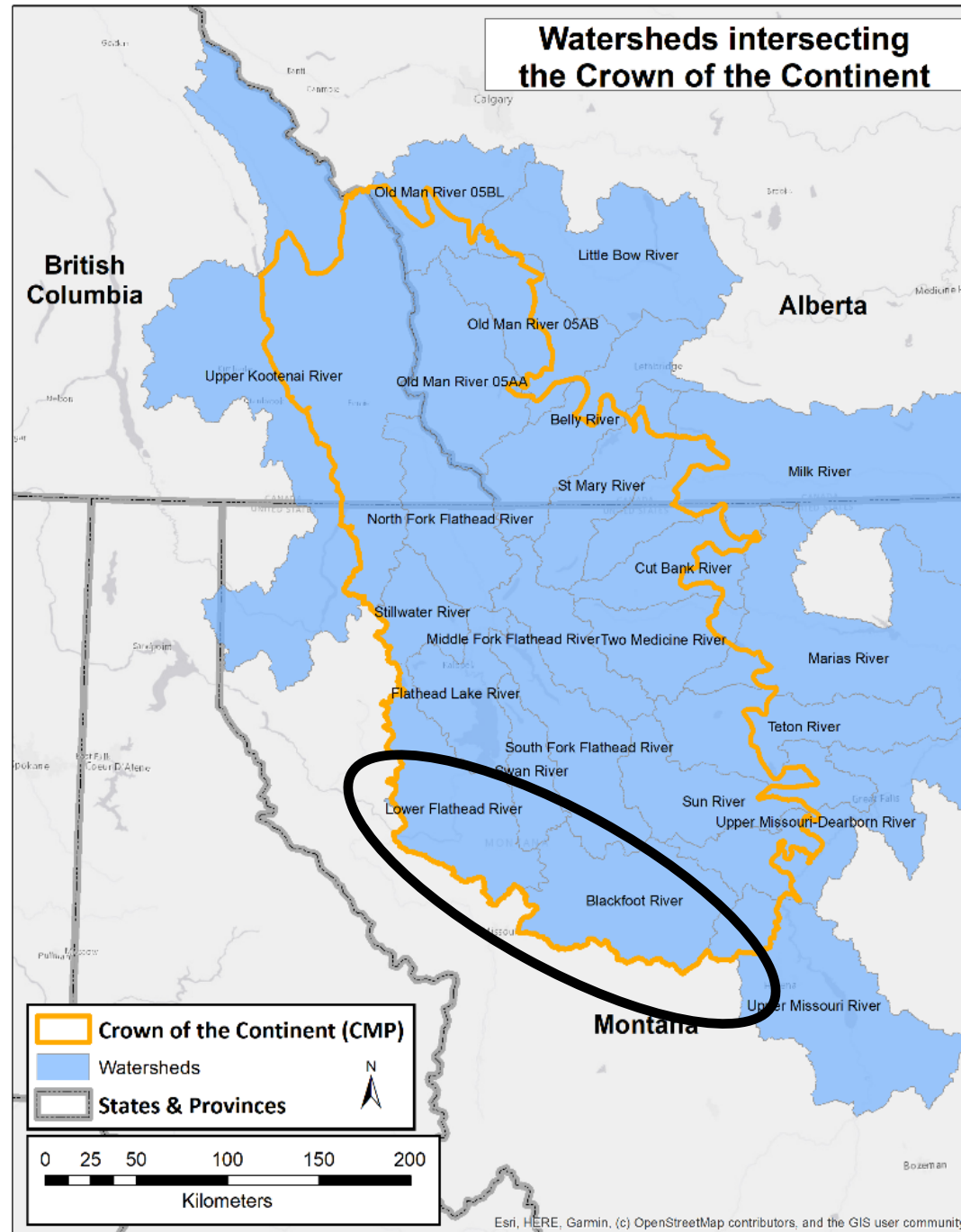eastern boundary represents the Montana Foothills grassland Ecoregion boundary

Ecoregions
Second

Sub Watersheds

Watersheds intersecting the Crown of the Continent

Administrative

Administrative Areas around the Crown of the Continent

Feature Selection

Analysis / Project	Bob Creek/Black Creek (AB)	Livingston/Porcu pine Hills (AB)	Montana Action Plan - SO 3362	Flathead Subbasin Assessment	Kootenai Forestlands Conservation Project
COST LAYER		percent area per planning unit with human footprint from the ABMI Human Footprint layer			
Target Species (77 terrestrial species)			X (cross check as table expands)		
native grasslands	x				
Elk	x	x	x	x	
Other ungulates	x	x (wintering, calving)			
Bighorn Sheep		x			
Mule Deer		x	x	x	
Moose		x		x	
Mountain Goat		x			
Pronghorn			x		
Grazing (legimitate and traditional us	x				
West Slope Cutthroat Trout		x		x	
Rare Plants		x			
Butterflies		x			
CC refugia		x			
Surface water		x			
Grizly bear		x		x	x
fish bearing streams		x			
Rough Fescue		x			
Bull Trout		x		x	x
Western Toad		x			
Wolverine		x		x	
Trumpeter Swan		x		x	
Sharp-tailed Grouse		x		x	
Sprague's Pipit		x			
Pileated Woodpecker		x		x	
Peregrine Falcon		x		x	
Norhtern Leopard Frog		x		x	
Long-toed Salamander		x		x	
Loggerhead Shrike		x			
Harlequin Duck		x			
Ferruginous Hawk		x			
Long-billed Curlew		x			
Clark's Nutcracker		x			

Feature Selection

Viability and Integrity Summary

Focal System or Species	Landscape Context	Condition	Size	Viability/Integrity
Shrub Steppe and Dry Grasslands	Fair	Fair	Poor	Fair
Riverine Systems	Unknown	Unknown	Unknown	Unknown
Depressional Wetlands	Fair	Fair	Fair	Fair
Dunes	Poor	Fair	Poor	Poor
Transitional Woodlands	Fair	Fair	Poor	
Cliffs, Talus and Caves	Good	Unknown		Good
Grouse	Poor	Poor [2]		Poor
Burrowing Animals	Poor	Poor		Fair
Overall Viability/Integrity				

[1] This overall rank assumes that the condition of the vegetation in and around cliffs, talus and cave systems is no worse than oth
[2] Population growth rates for Sharp-tailed Grouse are high, due in part to translocation of birds from other states. However, natu particularly in the Joint Base Lewis-McChord Yakima Training Center population.
[3] The overall viability/integrity of the system would be considered "fair" under all possible scenarios of integrity of the riverine s were found to be poor, fair, good or even very good).

Shrub-Steppe

Key Ecological Attribute	Indicator	Poor	Fair	Good	Very Good	Information Source
Absolute Size	Patch size (acreage of shrub steppe)	Small (<40 ac; 16 ha)	(40-500 ac; 16-202 ha).	Large (500-1,000 ac; 202-405 ha)	Very Large (>1,000 ac; 405 ha)	Expert opinion (ALI 2014)
Landscape Pattern and Structure	Acreage of land surrounding large patches that is in semi-natural condition	Relictual: Natural or semi-natural habitat makes up <20% of land in a 500 m buffer around the patch	Fragmented: Natural or semi-natural habitat makes up 20-60% of land in a 500 m buffer around the patch	Variegated: Natural or semi-natural habitat makes up 60-90% of land in a 500 m buffer around the patch	Intact: Natural or semi-natural habitat makes up 90-100% of land in a 500 m buffer around the patch	Faber-Langendoen et al. 2008; Comer and Hak 2009
Connectivity	Acreage of land in large patches connected to other large patches	Isolated: No patches within 20 km cost weighted distance (100% dispersal capacity of grouse - larger movement species target)	Partially connected: One or more patches are within 20 km cost weighted distance (100% dispersal capacity of grouse - larger movement species target)	Connected: Two or more patches are within 1 km cost weighted distance (~100% dispersal capacity of burrowing animals - smaller movement species target). [3]		Follows rationale developed for WWHCWG's Statewide Analysis (WHCWG 2010)
Fire Regime	Departure from historical fire regime	>50% of total acreage of patches is in LANDFIRE Vegetation Condition Class (VCC) 3	Most (>60%) of total acreage of patches is in LANDFIRE VCC 2; <30% of total acreage of patches is in VCC 3	Most (≥60%) of total acreage of patches is in VCC 1; <10% of total acreage in VCC 3 [4]	>80% of total acreage of patches is in VCC 1	Based on ALI calculations; see ALI 2014 for details.
Relative Size	Acreage in shrub steppe ecological systems	Shrub steppe (target) is severely reduced from its original natural extent (<50% remains)	Shrub steppe (target) is substantially reduced from its original natural extent (50-80% remains)	Shrub steppe (target) is only modestly reduced from its original natural extent (80-95% remains)	Shrub steppe (target) is not reduced or is minimally reduced from natural extent (>95% remains)	Faber-Langendoen et al. 2008