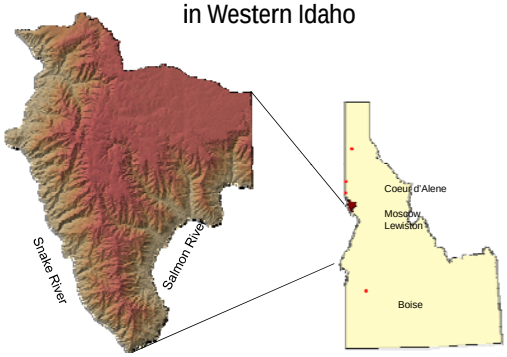
Landscape Analysis Project: Craig Mountain Wildlife Management Area

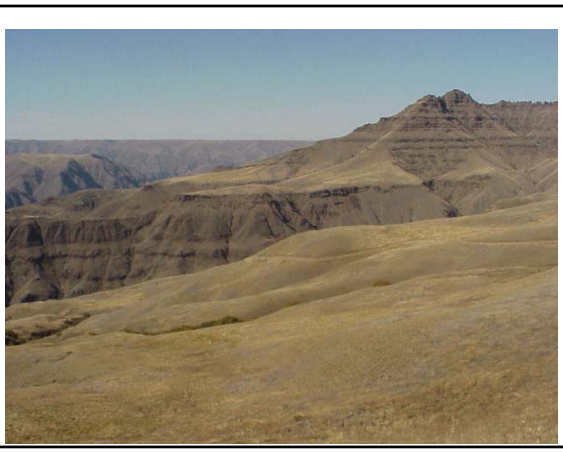
For/Range 527 Landscape Ecology

Your assignment

- Compare and contrast 3 watersheds.
- Predict the changes in vegetation and landscape composition resulting from the 2007 wildfire
- Identify and analyze an additional ecological question

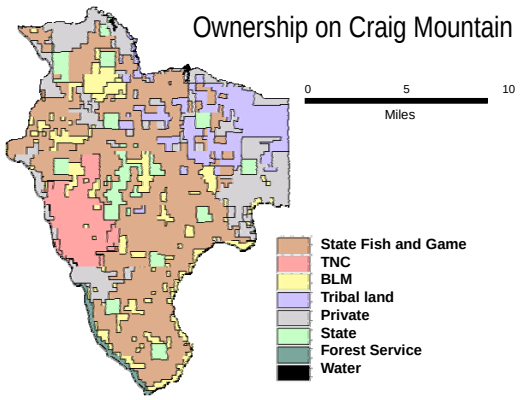
Craig Mountain Wildlife Management Area in Western Idaho





Biologically Rich

- More than 200 different bird and mammal species are found here.
- Riparian areas are the richest in animal and bird species.
- Some streams support steelhead and red-banded trout.
- Numerous plant taxa found only in Hells Canyon.



Land Ownership (Percent area)

Idaho Fish and Game	45
Bureau of Land Mgt	10
Forest Service	1
The Nature Conservancy	8
Idaho Department of Lands	9
Nez Perce Tribal lands	11
Private	18

Management issues

- Changing focus from individual game species to multiple species and biodiversity
- Sensitive species
- Wildfire and the use of prescribed fire

Invasive species

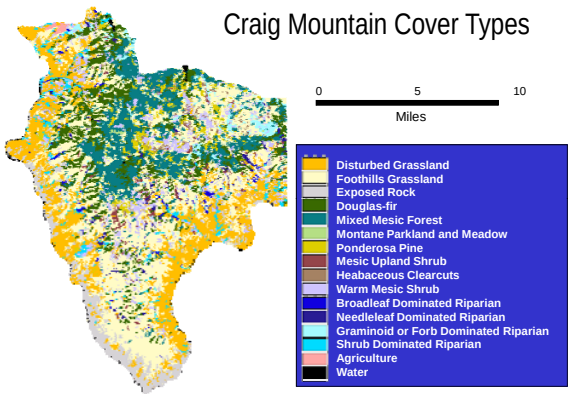
- Weeds threaten ecological integrity
  - grasslands and open forests
  - invertebrate and vertebrate species dependent on those habitats
- Currently, invasive species include: yellow starthistle, common crupina, leafy spurge, Scot's thistle, cheatgrass, and medusahead

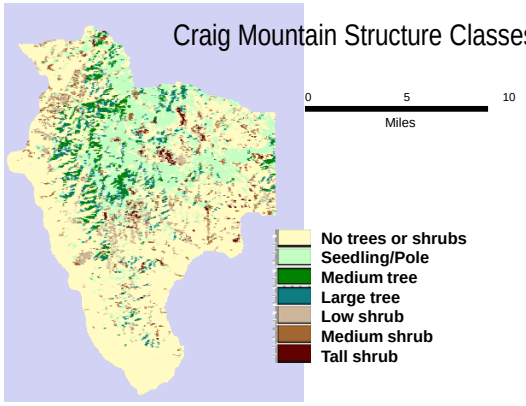
Legacy of the past

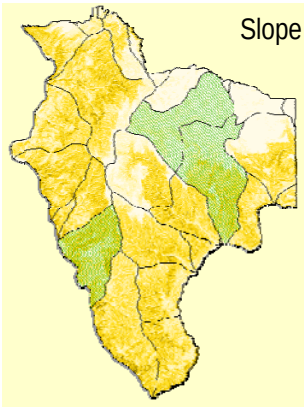
- Riparian and flatter areas were once homesteaded and used for cattle grazing, pasture, crops.
- In the 1930s, there were several post offices, 5 schools and up to 50 homesteads in Hells Canyon.

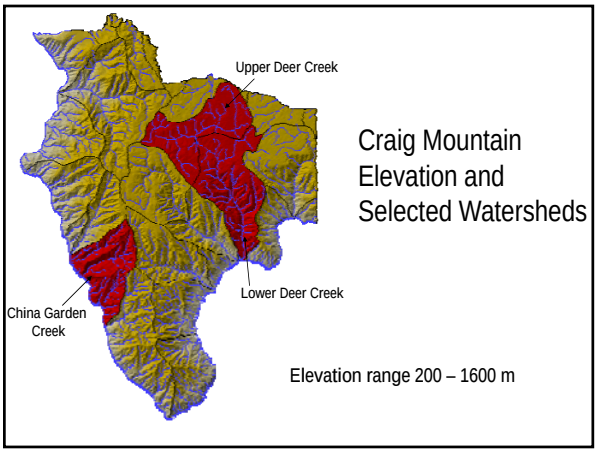
Data for analysis

- Vegetation
  - Current and historical cover type (1km2)
  - Current cover types (30 m)
  - Current tree and shrub size class
- Topography
- Roads and streams
- Soils
- Ownership
- Maloney Creek Fire severity
- Some invasive





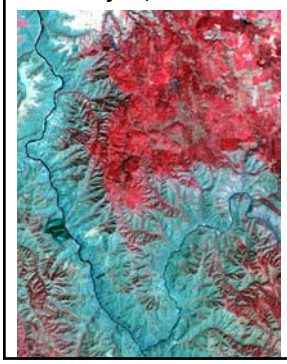




Maloney Creek Fire- September 2000

Craig Mountain area before and after the Maloney Creek Fire

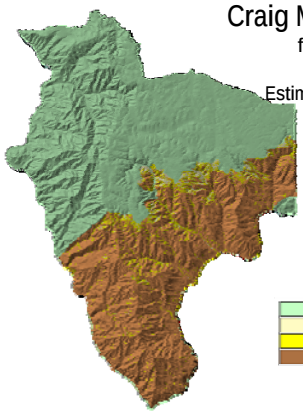
July 27, 2000



August 28, 2000

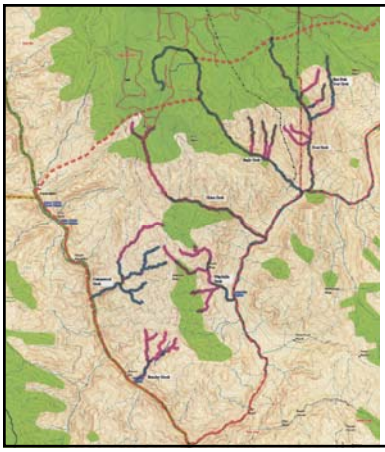
Craig Mountain Burn Severity

for the Maloney Creek fire
August 2000
Estimated from Landsat 7 imagery



0 5 10
Miles

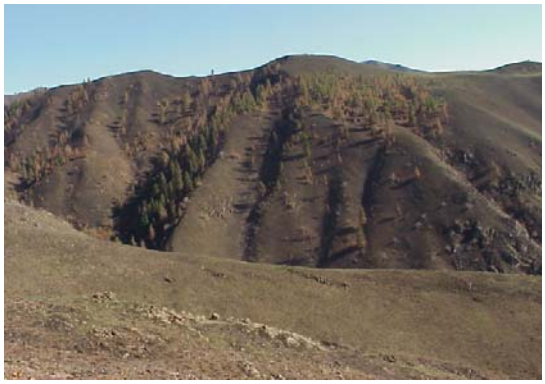
No burn
Underburn
Mixed burn
Overstory removal



Map constructed from GPS and Topographic map data collected in September 2000 by Idaho Fish and Game

No damage
Moderate damage
Heavy damage

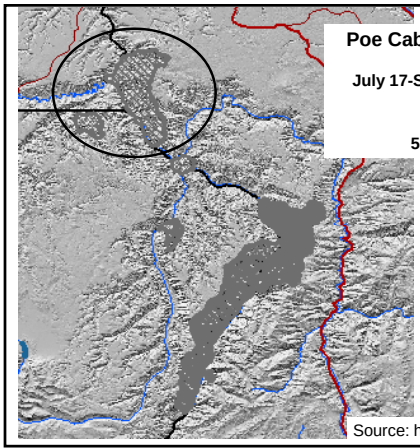
Maloney Creek Fire- September 2000, 3 weeks post-burn

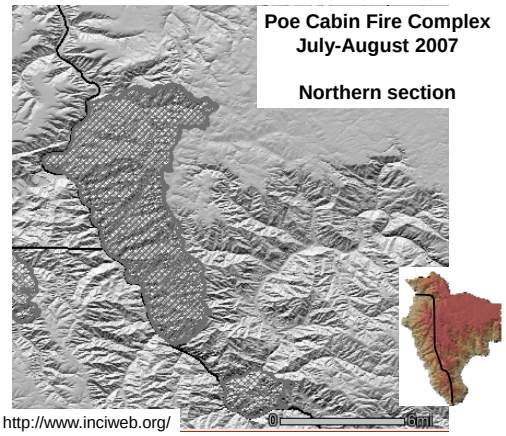


Maloney Creek Fire- May 2003, 2 growing seasons post-burn

Maloney Creek Fire- May 2006, 6 growing seasons post-burn

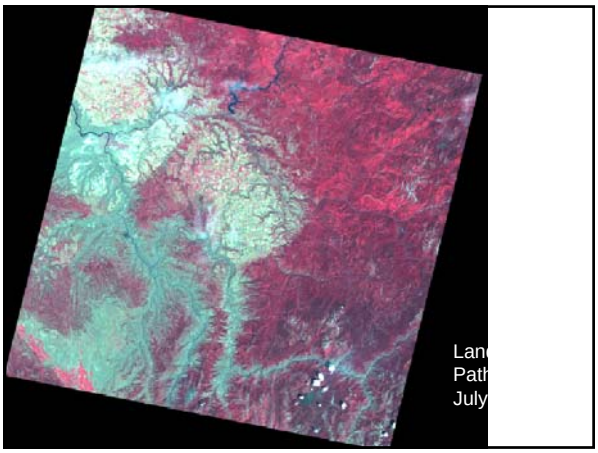
Poe Cabin Fire Complex: July- August 2007

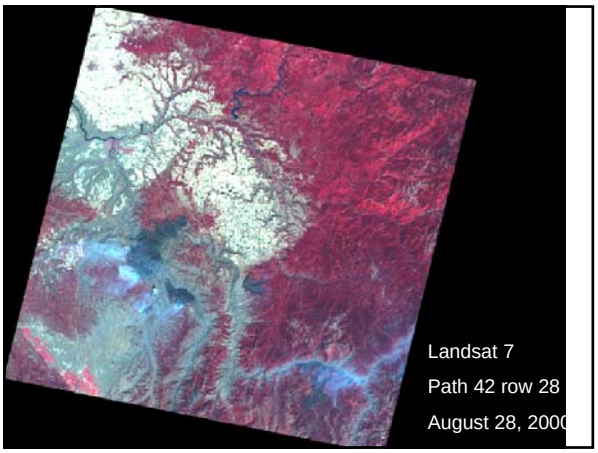




Considerations in the development of the team-developed analysis objective:

- Is it a spatial question?
- Is the scale of Craig Mountain WMA, or a subset of CMWMA , adequate for analysis?
- Are there spatial and temporal data to support the analysis?
- Have adequate literature been published to support the analysis?





Normalized Burn Ratio (NBR) –

A Landsat TM Radiometric Measure of Burn Severity

NBR = (R4 – R7) / (R4 + R7)

http://nrmsc.usgs.gov/research/ndbr.htm