

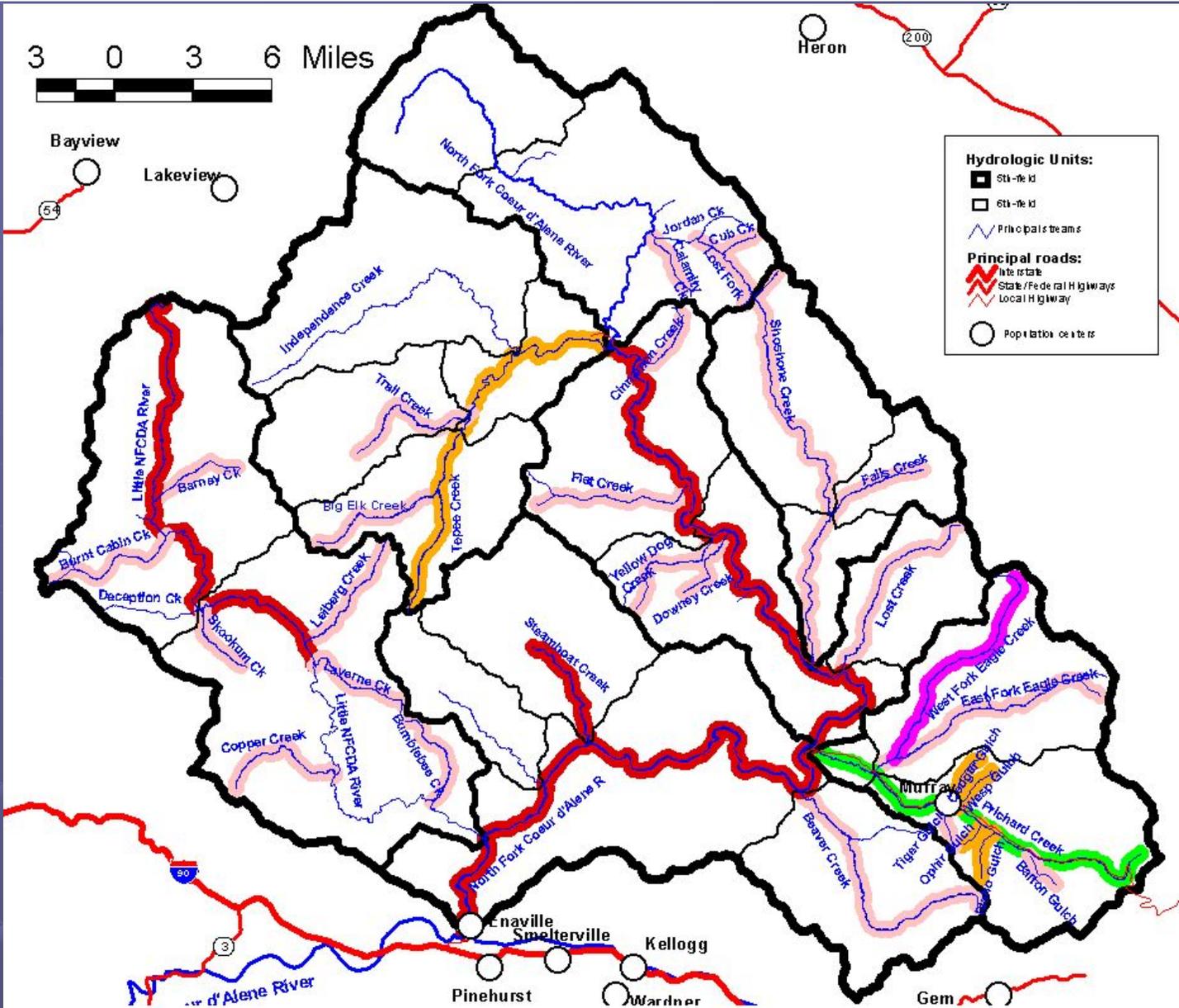
North Fork Coeur d'Alene River Sediment Analysis

Conducted to support a Sediment
TMDL Implementation Plan

***Watershed Professionals
Network***

Project Overview

- Refine Sediment Source Findings in 2001 TMDL
- Phase I – compile existing information, complete review of Watershed History (completed late 2005)
- Phase II – Complete field analysis (completed 2006)



- 1998 303(d) listed for:**
- Sediment
 - Sediment & habitat alteration
 - Sediment, flow & habitat alteration
 - Habitat alteration, metals, pH, sediment
 - Bacteria, DO, habitat alteration, nutrients, oil & grease, sediment

What are sediment sources and impacts?

● BIG Watershed & Small Budget

● Understand context

- Watershed History
- Fisheries & Habitat

● Understand Processes

- Sediment Sources – where is it coming from
- Hydrology – water moving sediment
- Channel Condition – what happens to it in the stream

Analysis Approach

- Meet TAT & visit Watershed
- Compile & Review Existing Information
 - Summary Report & Watershed History
- Identify Watershed Patterns
 - Phase II Report
 - Recommendations
- Develop Field Study Plan
- Complete Sampling
- Synthesize Findings - this Trip

Watershed Overview

- Big Area ~900 square miles, USFS major landowner
- Lots of Information
 - Not all compiled or available
- Long History of Large Land Use Impacts
- Reasonable Air Photo Record
- Lots of Roads
- Few Landslides

Watershed Observations

- Watershed is fairly homogeneous geologically and geomorphically
 - Results from one sub-basin can be extrapolated
- Management history varies
 - little management in areas burned in 1910
 - roading & timber harvest in areas not burned
 - decades of mining in the Prichard-Eagle Creek basins

Key Watershed Issues

● Peak Flows

- Lots of questions on change

● Sediment Inputs

- Where is/ has all the sediment come from?

● Channel Condition

- How is the channel responding to sediment?
Is the sediment moving in the system?

● Fish

- How are the fish responding?

Watershed History

- 1880 Gold Discovered in Prichard Creek
- 1881 N. Pacific Railroad connects to the eastern timber markets
- 1900 – 1925 timber development, 35 flumes (~150 miles), 7 splash dams, miles of railroad - 250 Billion bf harvested 1923-44
- 1910 – 1922 Big Forest Fires
- ~1930 road building begins

Historic Logging



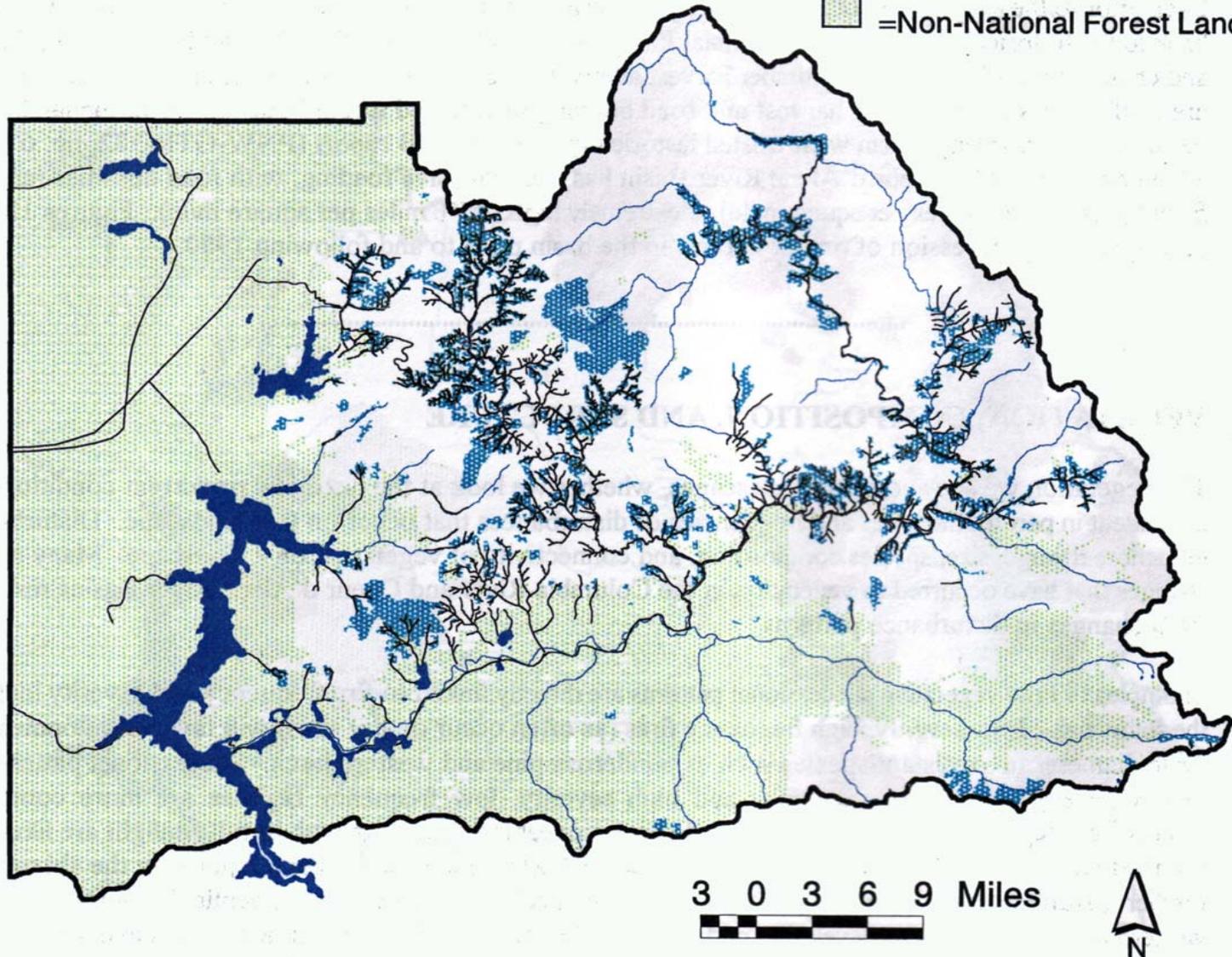


Logging 1950 – 1970 - ish



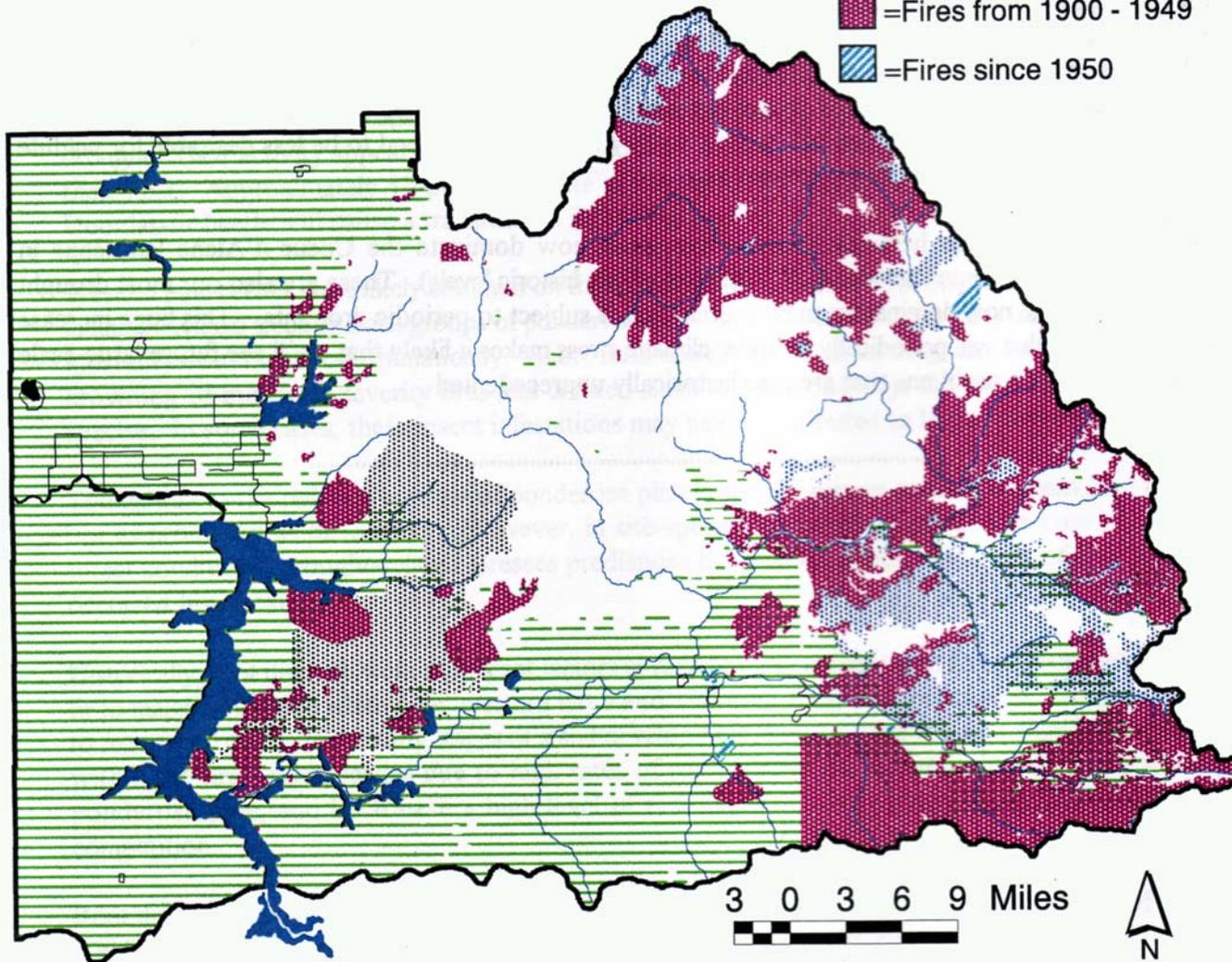
Coeur d'Alene Geographic Area: Old Harvests (Before 1950) and Logging Systems on National Forest Area

- =Historic Logging Systems
- =Logging Area Before 1950
- =Non-National Forest Land

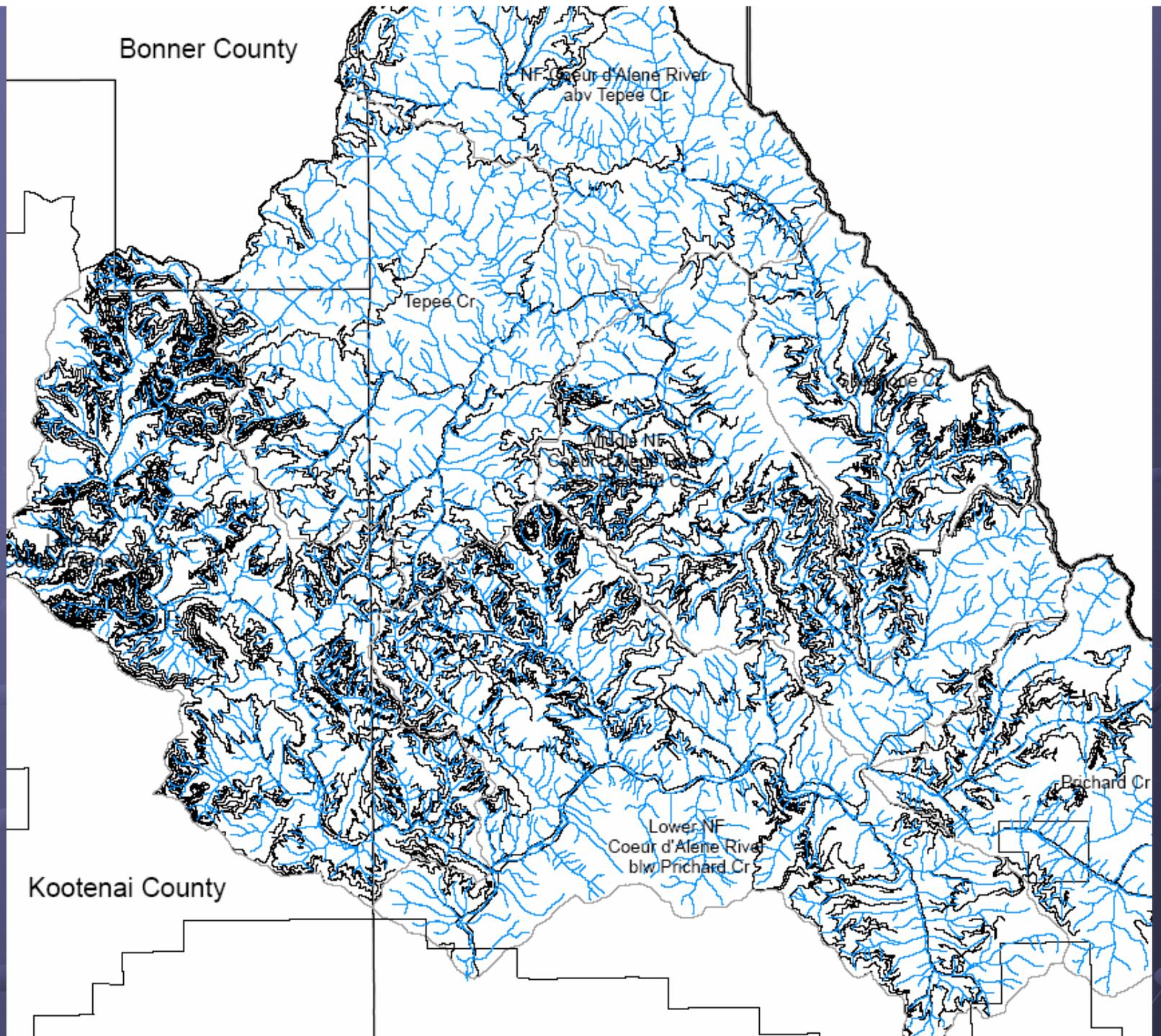


Coeur d'Alene Geographic Area Year of Latest Large Fire

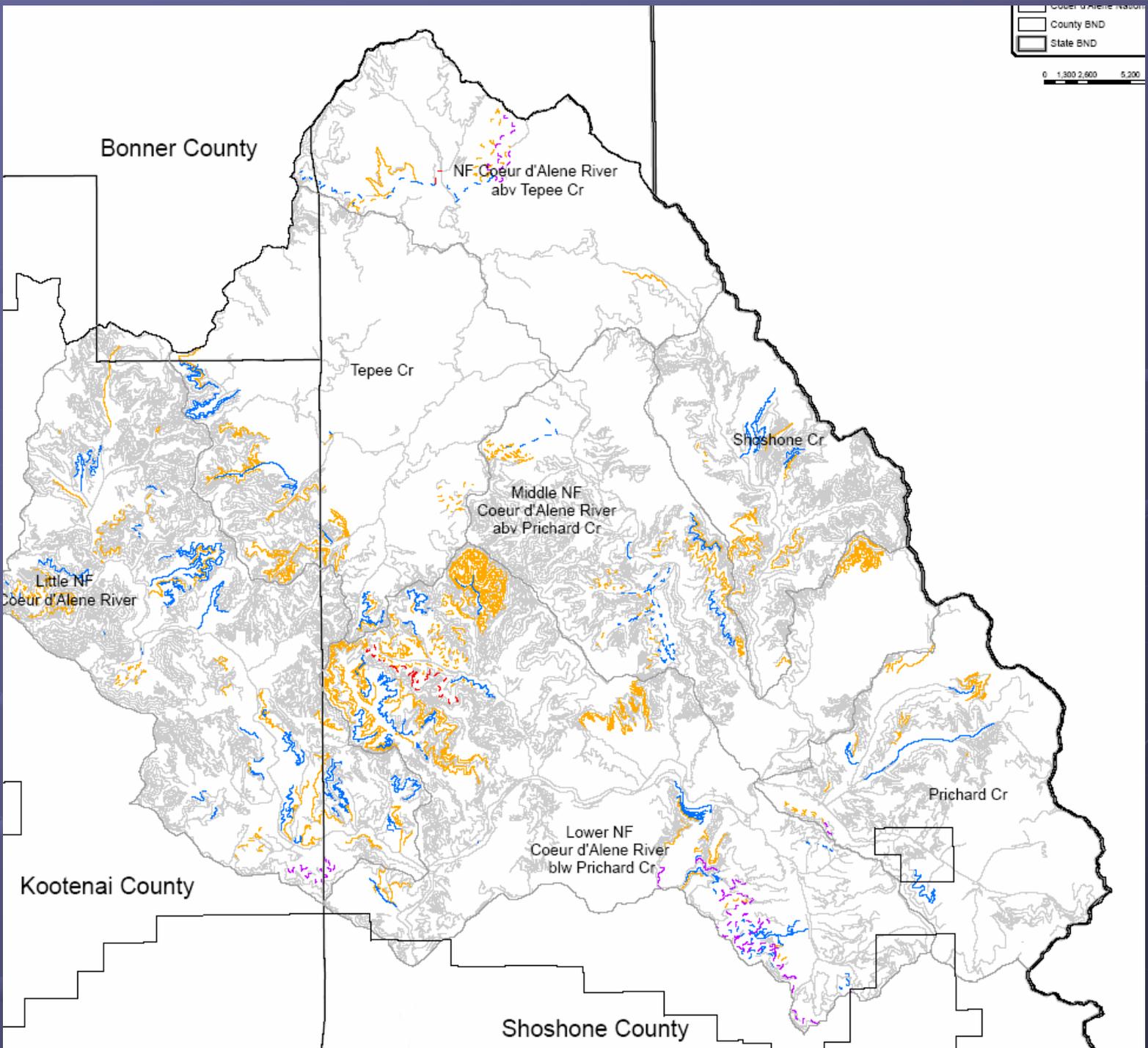
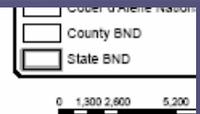
-  =Non-National Forest Land
-  =Latest Large Fire before 1850
-  =Fires from 1850 - 1899
-  =Fires from 1900 - 1949
-  =Fires since 1950



Bonner County



Kootenai County



Bonner County

NF Coeur d'Alene River
abv Tepee Cr

Tepee Cr

Shoshone Cr

Middle NF
Coeur d'Alene River
abv Prichard Cr

Little NF
Coeur d'Alene River

Prichard Cr

Lower NF
Coeur d'Alene River
blw Prichard Cr

Kootenai County

Shoshone County

Watershed Fishery Conditions

- Cutthroat Trout Fishery
- 1940 closed headwater & small streams to restrict fishing – only ~25% open for fishing
- Rabe 1974 – impacted fish populations, easy access & degraded habitat

Fish Density Patterns

- Higher fish densities in upstream reaches
- Side channels have higher densities & cooler temps
- Densities tend to be higher in NF than Little NF
- Reaches with lowest Cutthroat trout density had highest rainbow density.

** IDFG Snorkel Surveys 1973 to 2003*

Tagging Study Summary

- Fishing non-compliance – Big Problem
- Limited mixing between 9 subbasins (except for spawning)
- Winter - glide habitat – wider floodplains
 - Fish from upper NF migrated to below Tepee for winter
- Summer (water depths > 2m)
 - limited in: Shoshone, upper NF & little NF
- Tepee appears to be important (41% of spawning)
- Temperatures decrease downstream where floodplain widens.

Next....

