

Watershed Ratings

- **Functional:** fully functioning and in good condition in terms of water quality and flora and fauna; not human-compromised
- **At Risk:** still functional but water quality and the integrity of flora and fauna have been compromised; at risk of degradation or not fully recovered from past damage
- **Non-functional:** watershed is dysfunctional with extensive declines in water quality and loss of key flora and fauna

A/R NR--Aquatic & Riparian Resources

- 1,937 miles of perennial streams; 177 watersheds
 - 41 functional; 87 at risk; 19 non-functional
 - ARNF manages <50% of land bases in 88 watersheds
- 476 lakes > 1 acre in size (13,401 total acres)
- Streams in south fork drainage are functional to at risk (none non-functional at this time)
- Most drainages in south fork region have greenback cutthroat trout (federally listed species)
- Forest serves as the primary source of water for agriculture and domestic uses in northern FR

A/R NF Instream Flows

“All streams on the A/R NF are over-appropriated; that is, water users hold more water rights on paper than water flowing in the streams can satisfy. Growth of communities and the demand for water along the Front Range have reached the point where there may be insufficient water flow left in stream channels to maintain the physical, biological, and chemical elements of habitat necessary for many aquatic species, or even to maintain channel stability.”

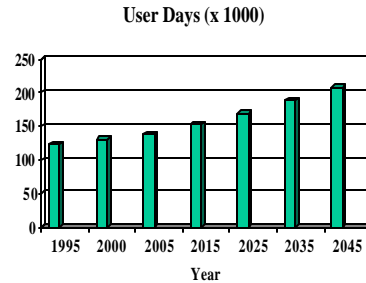
Fisheries and Aquatic Habitats

- Stream habitat conditions:
 - water quality and quantity;
 - amount of woody debris;
 - pool and riffle frequency;
 - fish fauna (stocking of non-native trout has occurred in virtually all lakes and streams)
- Threats:
 - acid-mine drainage
 - stream-side road construction
 - timber harvest
 - riparian recreation

Effects of Timber Harvest On Aquatic Resources

- Increases water yield (over the short-term)
- Increases erosion and sedimentation
- Reduction in the quality and availability of spawning habitat
- Harvest in riparian zones increases daily and seasonal water temperature fluctuations; decreases the supply of large woody debris; lowers the quality of riparian areas as movement corridors for wildlife

Projected Changes in Angling Demand



Biological Diversity Resource

- **Definition:** "the full variety of life in an area, including the ecosystem, plant and animal communities, species and genes, and the processes through which individual organisms interact with one another and with their environment."
- Management requirements for ecosystem and species diversity are set down in 36 CFR 219.20 of the new regulations
- Assessment is required throughout the ecological hierarchy from genes to ecosystems

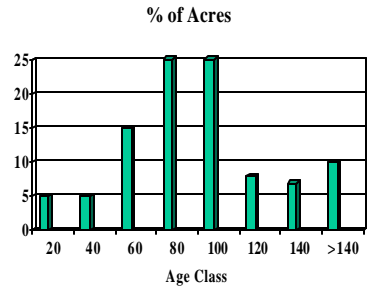
Dominant Cover Types Within CLRD

Zone	Dominant Vegetation
Alpine	Tundra
Sub-alpine	Engelmann spruce, sub-alpine fir
Upper montane	Lodgepole pine
Lower montane	Ponderosa pine, Douglas-fir
Dry foothills	Juniper, pinyon pine

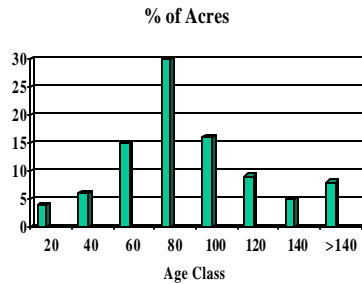
**Percent of Forested Acres
by Land Cover**

Lodgepole pine	501,000 acres	39%
Spruce/fir	248,000 acres	19%
Ponderosa pine	137,000 acres	11%
Douglas-fir	57,000 acres	4%
Aspen	44,000 acres	3%
Pinyon pine/juniper	8,000 acres	1%
Cottonwood/willow	1,000 acres	<1%

Lodgepole Pine--Age-Class Distribution



Ponderosa Pine--Age-Class Distribution



Spruce/Fir--Age Class Distribution

