

Westslope Cutthroat Trout (*Oncorhynchus clarki lewisi*)

Current and Historic Distribution

Historical distribution was all 2nd order perennial waters below natural migration barriers within the Clearwater National Forest. Current distribution is similar to historic. Some loss of fluvial life history forms may have occurred in the North Fork Clearwater River following construction of Dworshak Dam.

Population Status

- US Forest Service Northern Region sensitive species designation,
- Subwatershed species status classification ratings follow criteria established by USFS Northern Region Salmonids Status Assessment (Version 10, 8/10/04).

Population Risks and Threats

- Competition and introgression with stocked brook trout, rainbow trout, and other cutthroat trout subspecies.
- Habitat loss and modifications, specifically increased sediment deposition within nursery and rearing streams.
- Habitat connectivity in headwater streams (1st and 2nd order streams) from channel crossings along roads.

Table 1. Relative Risk of extinction for **Lochsa River subbasin** metapopulations of westslope cutthroat trout based upon a variety of population characteristics (see table and figure below).

Metapopulations	Population Size	Population Productivity	Temporal Variability	Isolation	Replication	Synchrony
Crooked Fork Creek	1	1	1	1	Low	Low
Colt Killed Creek	1	1	1	1	Low	Low
Upper Lochsa River	1	1	1	1	Low	Low
Warm Springs Cr.	1	1	2	1	Low	Low
Middle Lochsa River	1	1	1	1	Low	Low
Fish Creek	1	1	1	1	Low	Low
Lower Lochsa River	1	1	1	1	Low	Low

Table 2. Relative Risk of extinction for **Middle Fork Clearwater River subbasin** metapopulations of westslope cutthroat trout based upon a variety of population characteristics (see table and figure below).

Metapopulations	Population Size	Population Productivity	Temporal Variability	Isolation	Replication	Synchrony
Middle Fork Clearwater River	1	2	2	1	Low	High
Clear Creek	2	2	2	1	Moderate	Low

Table 3. Relative Risk of extinction for **Clearwater River subbasin** metapopulations of westslope cutthroat trout based upon a variety of population characteristics (see table and figure below).

Metapopulations	Population Size	Population Productivity	Temporal Variability	Isolation	Replication	Synchrony
Lolo Creek	1	2	1	1	Low	Low
Orofino Creek	Historically Absent					
Upper Potlatch R.	4	4	4	4	Extreme	High
Middle Potlatch R.	4	4	4	4	Extreme	High
Big Bear Creek	4	4	4	4	Extreme	High

Table 4. Relative Risk of extinction for **Upper North Fork Clearwater River subbasin** metapopulations of westslope cutthroat trout based upon a variety of population characteristics (see table and figure below).

Metapopulations	Population Size	Population Productivity	Temporal Variability	Isolation	Replication	Synchrony
Lake Creek	1	1	1	1	Low	Low
Kelly Creek	1	1	1	1	Low	Low
Cayuse Creek	1	1	1	1	Low	Low
Moose Creek	2	2	2	1	Low	Low
NF Clearwater/Weitas	1	1	1	1	Low	Low
Weitas Creek	1	1	2	1	Low	Low
Orogrande Creek	1	2	2	2	Low	Low
Washington Creek	1	2	2	1	Low	Low
Quartz Creek	1	1	2	1	Low	Low
Skull Creek	1	1	2	1	Low	Low

Table 5. Relative Risk of extinction for **North Fork Clearwater River below Aquarius subbasin** metapopulations of westslope cutthroat trout based upon a variety of population characteristics (see table and figure below).

Metapopulations	Population Size	Population Productivity	Temporal Variability	Isolation	Replication	Synchrony
Beaver Creek	2	2	2	1	Low	Low
Lower Little North Fork	1	1	1	1	Low	Low
Elk Creek	Historically Absent					

Forest Plan Population Analysis Units

Based on geography (basin topography) and several scattered genetic samples, we defined ten major population groups. However, both the **Clearwater and Salmon River** subpopulations include substantial life-history diversity within these groupings.

Lochsa River Subbasin. The Lochsa contains seven watersheds; each was considered a separate population. Connectivity of populations was considered near historic with the

exception of a few headwater stream crossings. Non-native brook trout are generally restricted to high mountain lakes and do not pose a high competition risk. We believe that all genotypic and phenotypic characteristics are represented within these populations.

Middle Fork Clearwater River Subbasin. Middle Fork Clearwater River was divided into two separate populations. The main Clearwater River cutthroat trout may reside seasonally in the main river since water temperatures rise well above tolerable levels during summer months. Connectivity of populations was considered near historic with the exception of a fish weir on lower Clear Creek. Non-native smallmouth bass are present in the main river. We expect that all genotypic and phenotypic characteristics are represented within these two populations.

Clearwater River Subbasin. Observation data were available for Lolo Creek: this area was identified as an independent population on the basis of geographic isolation from lower mainstem river. The lower main stem may support migrating cutthroat during the non-summer period. Both non-native brook trout and cutthroat are abundant in Mussellshell Creek with no apparent trends in either population. Few brook trout have been observed in Lolo Creek. Cutthroat trout are present within the Potlatch River, however population size and productivity is unknown. Orofino Creek contains a natural waterfall restricting upstream fish migration.

North Fork Clearwater River Subbasin above Aquarius. The entire subbasin contains strong and stable westslope cutthroat trout populations. Genetic and phenotypic diversity has been compromised as a result of non-native rainbow introductions; and loss of connectivity to the main-stem river from the passage-blocking Dworshak Dam. The population also includes resident rainbows above Dworshak Dam.

North Fork Clearwater River Subbasin below Aquarius. This group was highly altered with the construction of the Dworshak Dam; isolating the Little North Fork Clearwater River subpopulation. Minnesaka and Bear Creek are the Little North Fork Clearwater River streams within the Clearwater National Forest. The remainder of the Little North Fork Clearwater River watershed and its isolated population is within Panhandle National Forest. Elk Creek in the downstream end of this subbasin has a natural falls within spitting distance of the reservoir is a fish migration barrier.

Table 6. Ranks and descriptions of risks to westslope cutthroat trout metapopulations within the Clearwater and Nez Perce National Forests planning area in 2004 (table modified from Shepard et.al 2003; Rieman et. al 1993).

Type of Risk	Rank	Criteria
Population Size	1	> 2,000 adults
	2	500-2,000 adults
	3	50-500 adults
	4	< 50 adults
Population Productivity	1	Population is increasing or fluctuating around an equilibrium that fills available habitat that is near potential. No nonnative competing or predating species present.
	2	Population has been reduced from potential, but is fluctuating around an equilibrium (population relatively stable and either habitat quality is less than potential, or another factor - disease, competition, etc. - is limiting the population).
	3	Population has been reduced and is declining (year-class failures are periodic; competition may be reducing survival; habitat limiting population).
	4	Population has been much reduced and has either been declining over a long time period or has been declining at a fast rate over a short time-period (year-class failures are common; competition or habitat dramatically reducing survival).
Temporal Variability	1	At least 75 km of connected habitats (>46 mi)
	2	25-75 km of connected habitats (15 – 46 mi)
	3	10-25 km of connected habitats (6 – 15 mi)
	4	< 10 km of connected habitats (< 6 mi)
Isolation	1	Migratory forms must be present and migration corridors are open (connectivity maintained).
	2	Migratory forms are present, but connection with other migratory populations disrupted at a frequency that allows only occasional spawning.
	3	Questionable whether migratory form exists within connected habitat; however, possible infrequent straying of adults from other populations into area occupied by population.
	4	Population is isolated from any other population segment, usually due to barrier, but may be related to lack of movement or distance to nearest population.
Replication	Low	Multiple (5 or more) local populations each of at least several thousand animals. Each of the relevant local populations has a low risk of extinction.
	Moderate	Multiple populations but a small number (1 or 2) represent most of the fish production in the regional population.
	Extreme	Only a single population, several very small populations, or populations otherwise at high risk remains.
Synchrony	Low	Environmental variation is low. Populations are found in high quality/complex habitats. Little evidence that populations fluctuate together. Frequency of large scale catastrophic events (flood, low flows, fire) is low throughout all populations. No evidence of regional decline in species.
	High	Populations are clustered in close proximity and likely respond to same environmental variations. Frequent floods or droughts producing highly variable and unpredictable flows throughout the region

Data sources and citations:

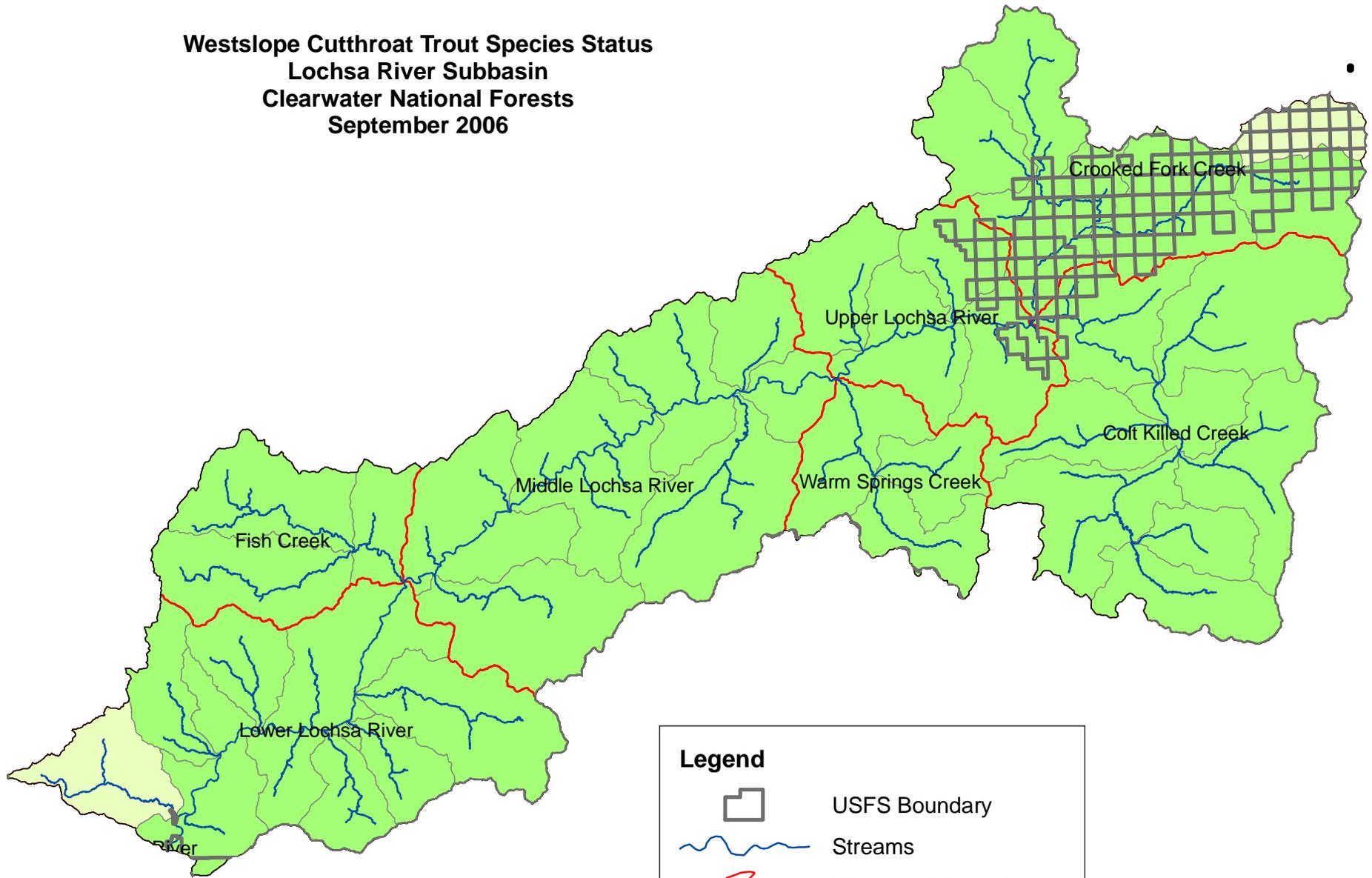
Pat Murphy, Fisheries Biologist, Clearwater National Forest
Karen Smith, Fisheries Biologist, Clearwater National Forest

Rieman, Bruce, Danny Lee, Jack McIntyre, Kerry Overton, and Russ Thurow. 1993. Consideration of extinction risks for salmonids. Fish Habitat Relationships tech. Bull. No. 14, USDA Forest Service, Boise, ID. 12 p.

Shepard, Bradley B., Bruce E. May and Wendi Urie. 2003. Status of Westslope Cutthroat Trout (*Oncorhynchus clarki lewisi*) in the United States: 2002. Montana, Fish, Wildlife and Parks Montana Cooperative Fishery Research Unit, Bozeman, MT. 94 p.

Quigley, T.M. and S.J. Arbelbide, technical editors. 1997c. An assessment of ecosystem components in the interior Columbia Basin and portions of the Klamath and Great Basins: Volume III. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station. Portland, Oregon. Pp. 1271-1274.

**Westslope Cutthroat Trout Species Status
Lochsa River Subbasin
Clearwater National Forests
September 2006**



Legend

-  USFS Boundary
-  Streams
-  Watershed Boundary
- HUC6 Population Status**
-  Strong, Stable
-  Present, Depressed



**Westslope Cutthroat Trout Species Status
Middle Fork Clearwater River Subbasin
Nez Perce and Clearwater National Forests
September 2006**

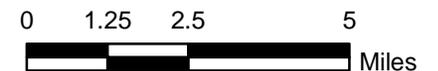


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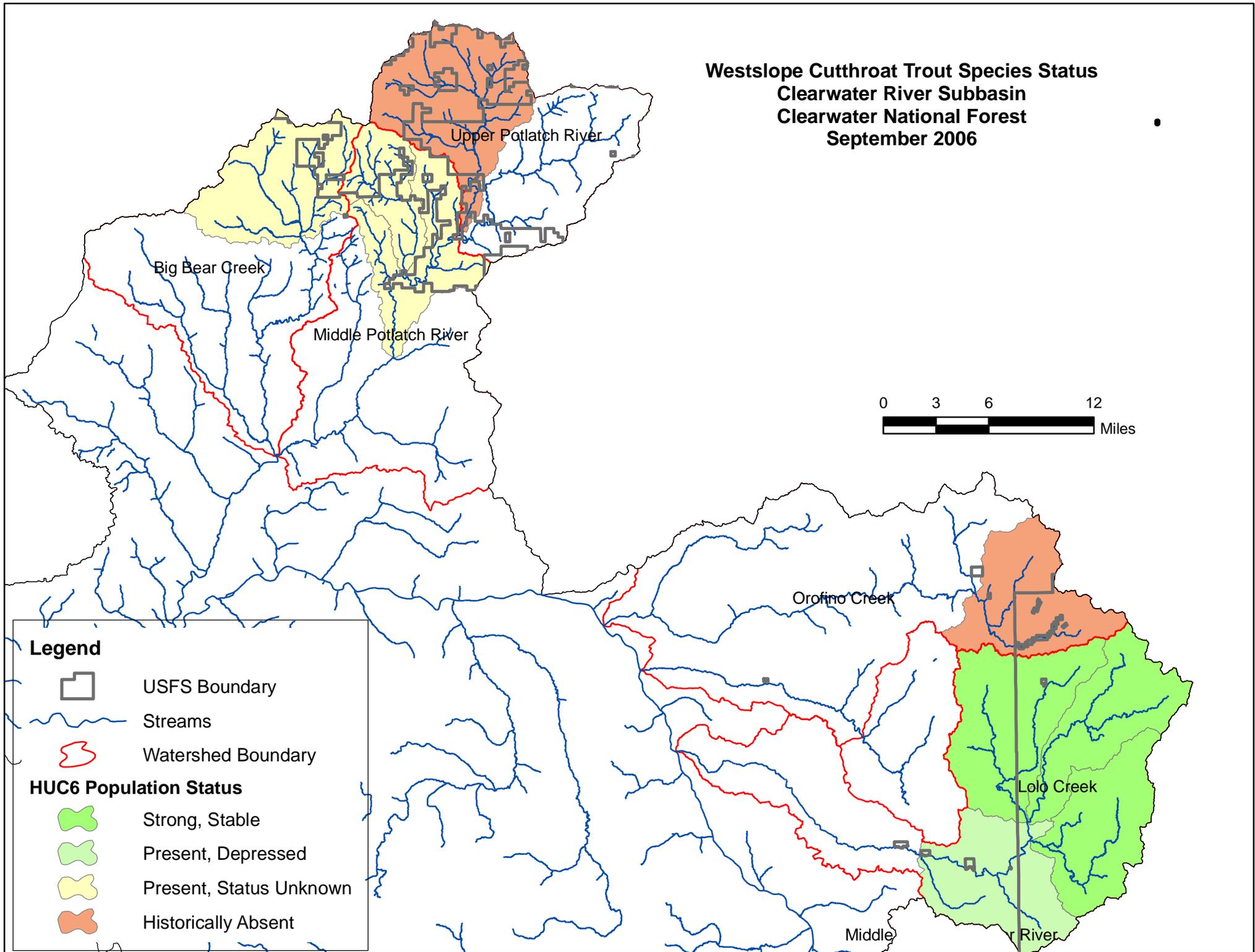
-  USFS Boundary
-  Streams
-  Watershed Boundary

HUC6 Population Status

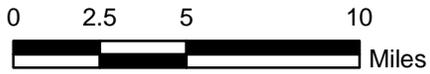
-  Present, Depressed
-  Present, Status Unknown



**Westslope Cutthroat Trout Species Status
Clearwater River Subbasin
Clearwater National Forest
September 2006**



**Westslope Cutthroat Trout Species Status
Upper North Fork Clearwater River Subbasin
Clearwater National Forest
September 2006**



Legend

-  USFS Boundary
-  Streams
-  Watershed Boundary
- HUC6 Population Status**
-  Strong, Stable
-  Present, Status Unknown

Westslope Cutthroat Trout Species Status
North Fork Clearwater River below Aquarius Subbasin
Clearwater National Forest
September 2006

