

Westslope Cutthroat Trout (*Oncorhynchus clarki lewisi*)

Current and Historic Distribution

Historical distribution was all 2nd order perennial waters below natural migration barriers within the Nez Perce National Forest. Current distribution is similar to historic. Some loss of fluvial life history forms may have occurred.

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 **Middle Salmon-Chamberlain 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
Big Squaw	2	1	3	1	Moderate	Low
Sabe Creek	2	1	3	1	Moderate	Low
Bargamin Creek	2	1	3	1	Moderate	Low
Big Mallard	3	2	3	4	High	High
Sheep Creek	2	1	3	1	Moderate	Low
Crooked Creek	2	1	2	1	Moderate	Low
Wind River	2	1	2	3	Moderate	Low

Table 2. Relative Risk of extinction for **Lower Salmon 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
Lower Salmon River	3	2	2	1	Moderate	Low
Race Creek	3	2	3	2	Moderate	Low
Slate Creek	3	2	2	1	Moderate	Low
Skookumchuck Cr.	4	2	4	4	Moderate	Moderate
Sherwin Creek	4	2	4	4	High	High
White Bird Creek	3	2	2	1	Moderate	

Table 3. Relative Risk of extinction for **Little Salmon 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
Rapid River	2	1	2	1	Low	Low
Lower Little Salmon	3	2	2	1	Moderate	Moderate

Table 4. Relative Risk of extinction for **South 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
Red River	2	2	2	1	Moderate	Low
American River	2	2	2	1	Moderate	Low
Crooked River	2	2	2	1	Moderate	Low
Newsome Creek	2	2	2	1	Moderate	Low
Johns Creek	2	1	2	1	Moderate	Low
Upper South Fork Clearwater River	3	3	2	1	Moderate	Low
Middle South Fork Clearwater River						
Lower South Fork Clearwater River						

Table 5. Relative Risk of extinction for **Upper and Lower Selway River subbasins** 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
Running Creek	2	2	2	1	Moderate	Low
Pettibone Creek	1	1	2	1	Moderate	Low
Bear Creek	1	1	1	1	Low	Low
Moose Creek	1	1	1	1	Low	Low
Three Links Creek	2	2	2	1	Moderate	Low
Meadow Creek	2	2	1	1	Low	Low
Gedney Creek	2	2	2	1	Moderate	Low

Table 6. 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

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.

Middle Salmon-Chamberlain Subbasin. This population, which includes fish spawning in French, Sheep Crooked, Bargamin, and Sabe Creeks, the Wind River and Chamberlain Creek was delineated on the basis of life history and basin topography.

Little Salmon and Lower Salmon tributaries Subbasins. This population of cutthroat trout includes the Little Salmon River and its tributaries, as well as supporting tributaries to the lower Salmon River, downstream from the mouth of the Little Salmon (Whitebird Creek, Skookumchuck Creek, Slate Creek, and several smaller tributaries). These watersheds were grouped on the basis of their shared life history and available spawning habitat—the lower tributaries were not judged to be large enough to support an independent population alone. The population as a whole is separated from other upstream spawning areas by 75 km, a distance likely to preclude significant straying between areas.

South Fork Clearwater River Subbasin. We identified the South Fork Clearwater River and its tributaries from Middle Fork Clearwater River upstream as a historically independent population. The South Fork was historically blocked from 1949 to 1963, possibly extirpating the and the connection with component of the population was extirpated.

Selway River Subbasins. Given the results of genetic sampling from tributaries to the Selway River, we have found substantial substructure exists in both subbasins, and we have designated each watershed as an independent population. Genetic data suggest there is isolation of subpopulations at the headwaters of all the streams sampled, but in the lower reaches it appears there are considerable interaction, overlap, and interbreeding.

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.

Table 11. 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:

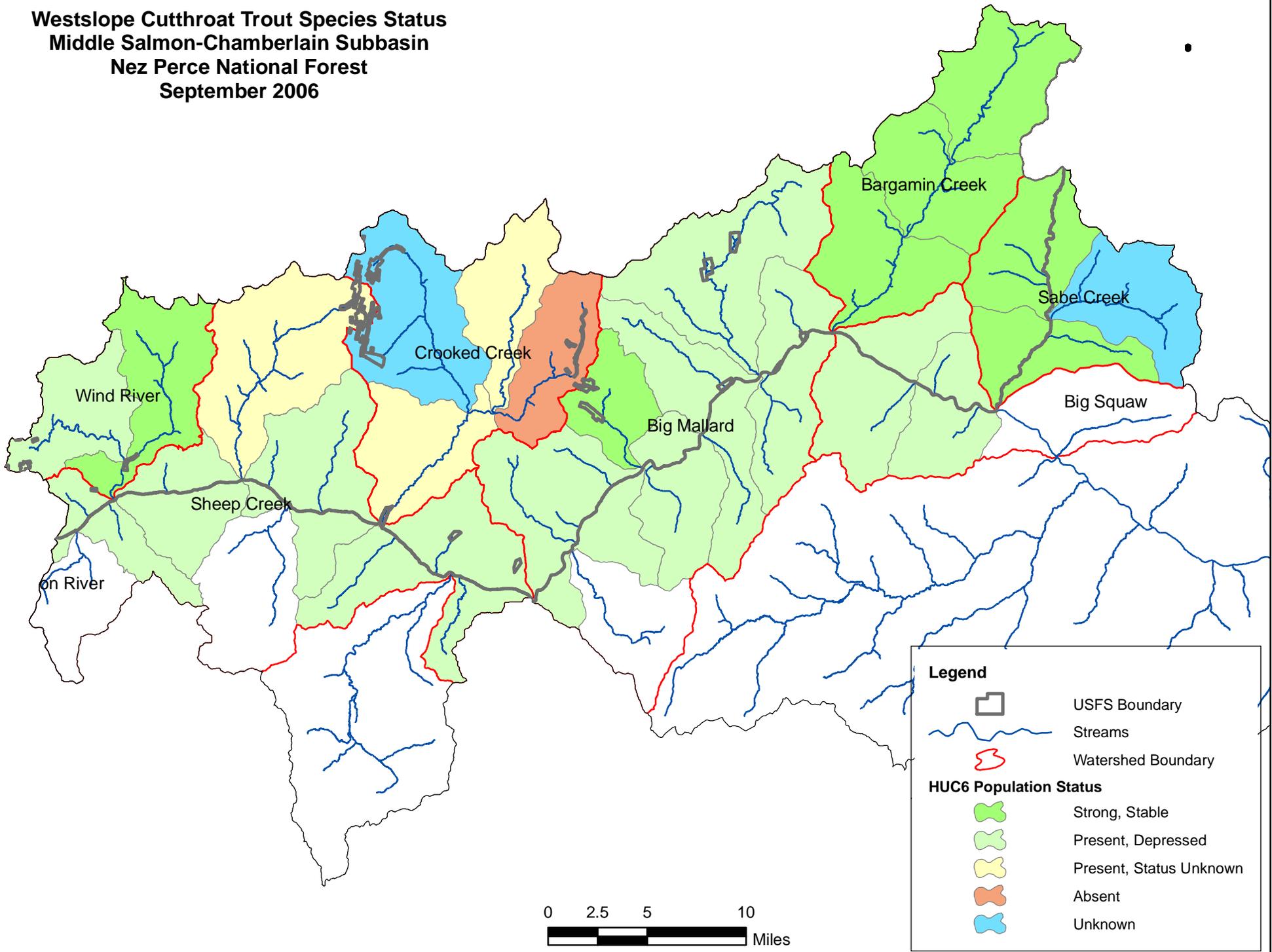
Dave Mays, Fisheries Biologist, Nez Perce National Forest
Wayne Paradis, Fisheries Biologist, Nez Perce National Forest
Scott Russell, Fisheries Biologist, Nez Perce National Forest
Garry Seloske, Fisheries Biologist, Nez Perce National Forest
Katherine Thompson, Fisheries Biologist, Nez Perce National Forest

Rieman, Bruce, Danny Lee, Jack McIntyre, Kerry Overton, and Russ Thurow. 1993.
Consideration of extinction risks for salmonids. Fish Habitat Relationships tech.
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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
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Northwest Research Station. Portland, Oregon. Pp. 1271-1274.

**Westslope Cutthroat Trout Species Status
Middle Salmon-Chamberlain Subbasin
Nez Perce National Forest
September 2006**



Legend

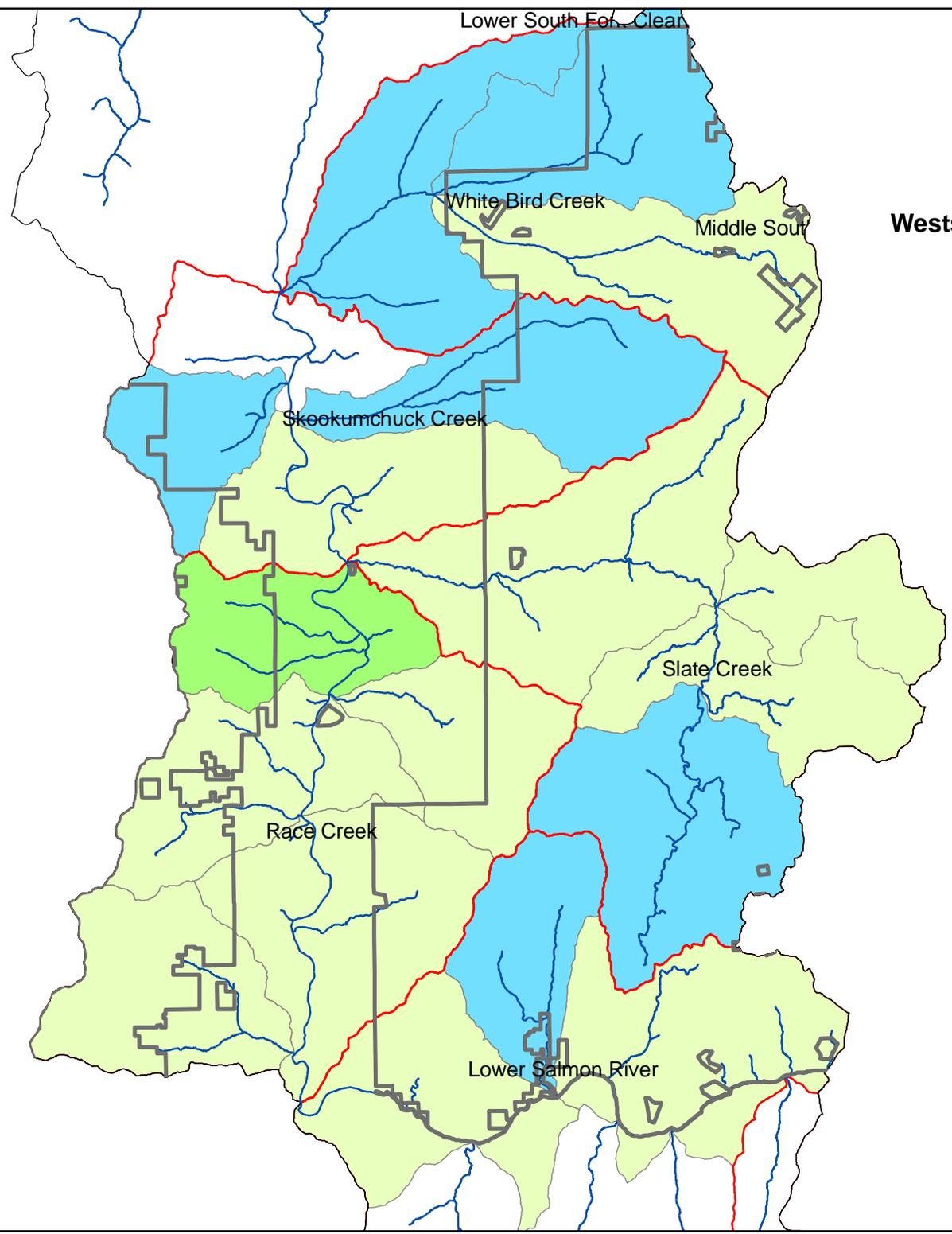
- USFS Boundary
- Streams
- Watershed Boundary

HUC6 Population Status

- Strong, Stable
- Present, Depressed
- Present, Status Unknown
- Absent
- Unknown



**Westslope Cutthroat Trout Species Status
Lower Salmon River Subbasin
Nez Perce National Forest
September 2006**



Legend

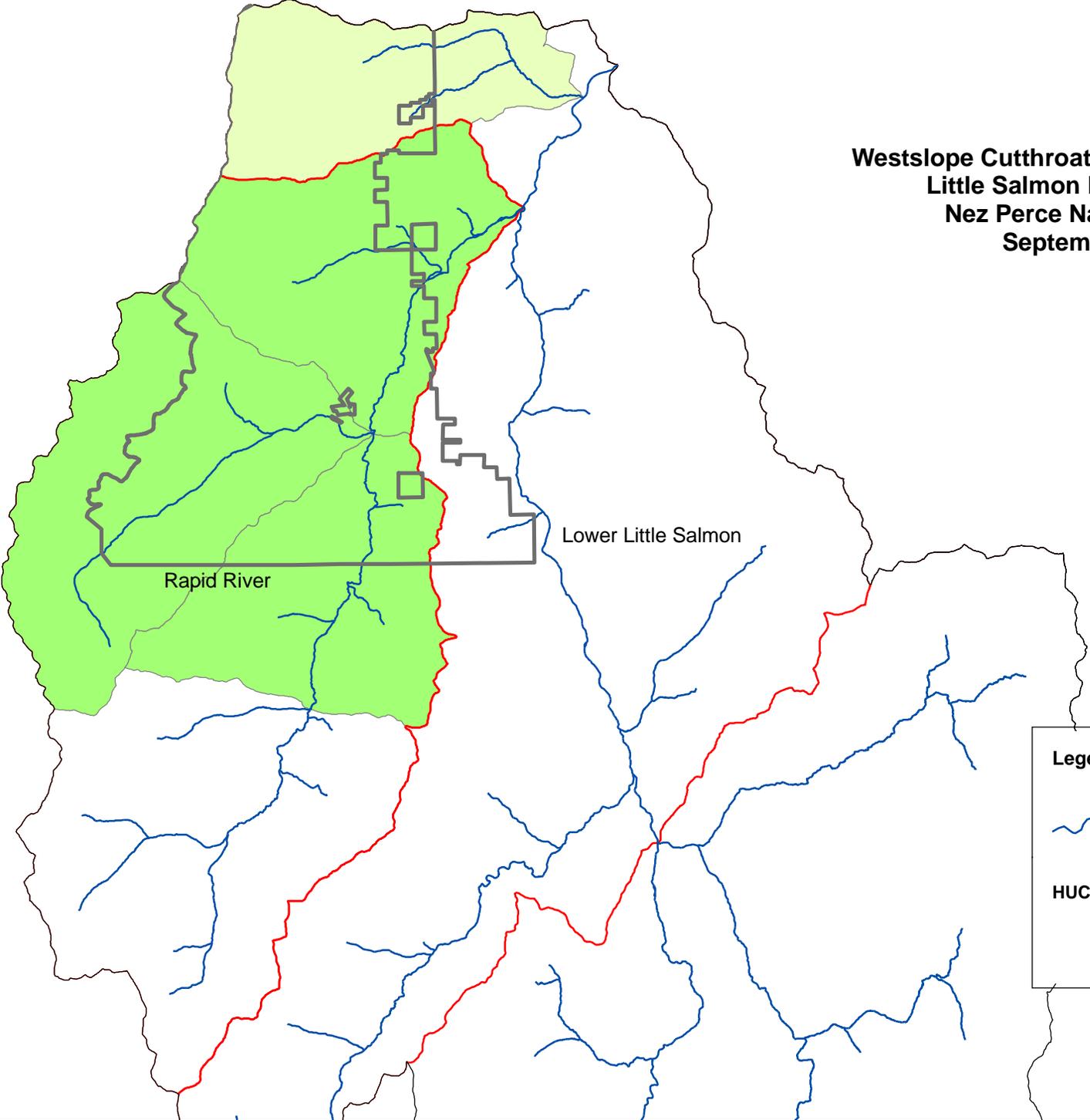
-  USFS Boundary
-  Streams
-  Watershed Boundary

HUC6 Population Status

-  Strong, Stable
-  Present, Depressed
-  Presence Unknown



**Westslope Cutthroat Trout Species Status
Little Salmon River Subbasin
Nez Perce National Forest
September 2006**



Rapid River

Lower Little Salmon

Legend

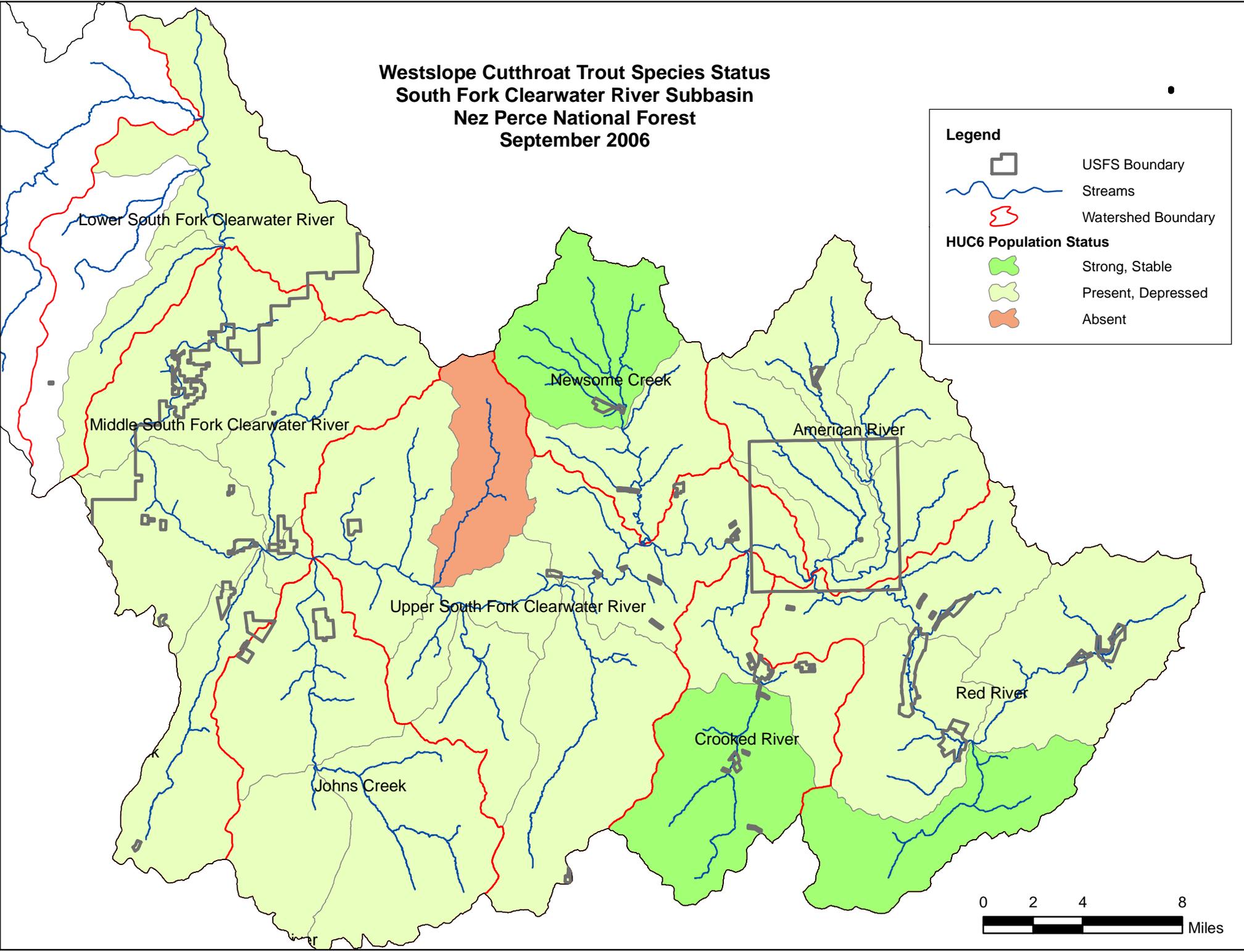
-  USFS Boundary
-  Streams
-  Watershed Boundary
- HUC6 Population Status**
-  Strong, Stable
-  Present, Depressed



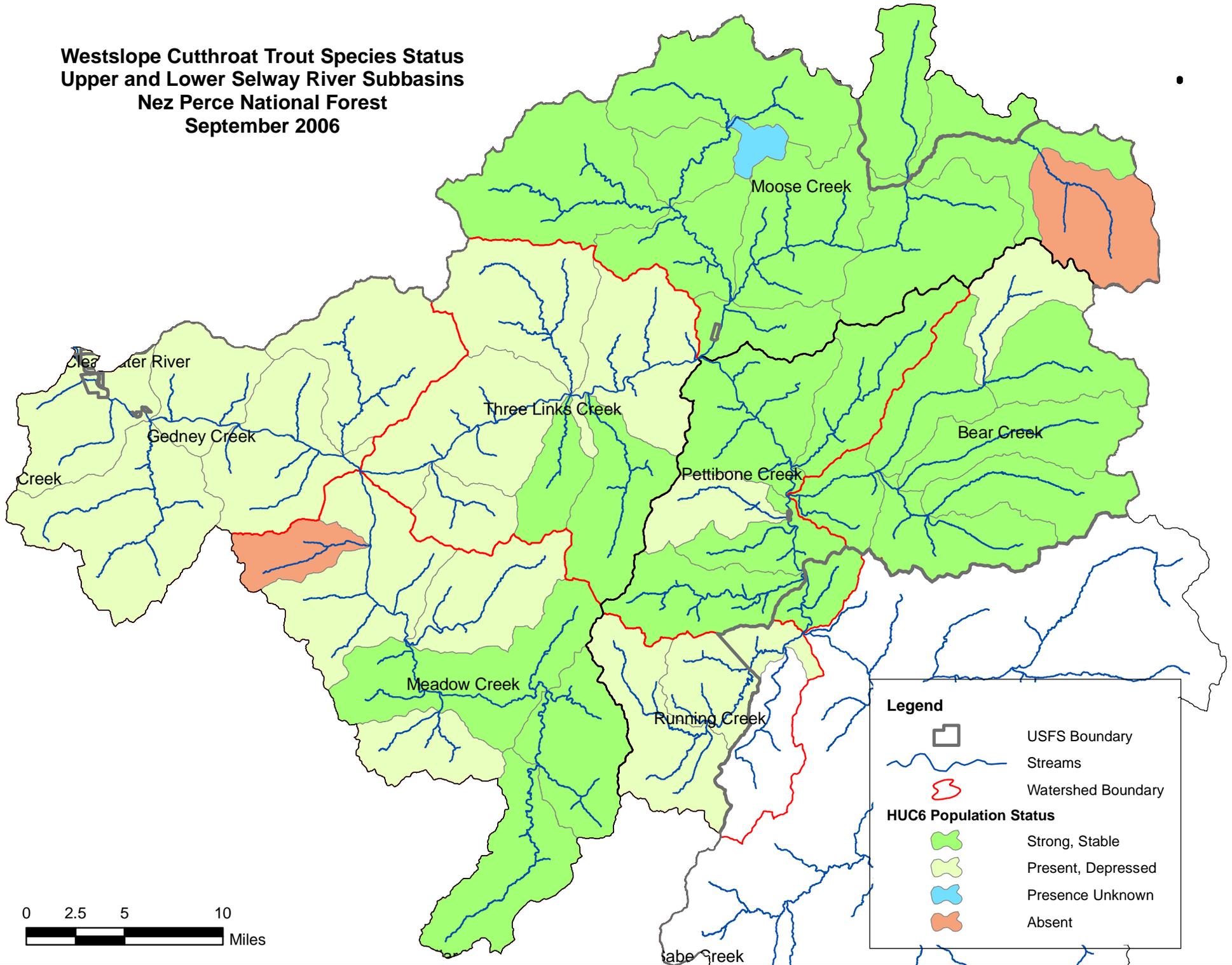
**Westslope Cutthroat Trout Species Status
South Fork Clearwater River Subbasin
Nez Perce National Forest
September 2006**

Legend

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



**Westslope Cutthroat Trout Species Status
Upper and Lower Selway River Subbasins
Nez Perce National Forest
September 2006**



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



Legend

-  USFS Boundary
-  Streams
-  Watershed Boundary

HUC6 Population Status

-  Present, Depressed
-  Present, Status Unknown

