State of Alaska
Department of Fish and Game
Habitat and Restoration Division

Nomination for Waters Important to Anadromous Fish

Region: SOUTHCENTRAL

USGS Quad: **Kenai D-1**

Anadromous Water Catalog Number of Waterway: **247-60-10110-** 2050-0004

Name of Waterway: Scenic Lake ☑ USGS Name ☐ Local Name

☑ Addition ☐ Deletion ☐ Correction ☐ Backup Information

Arch# = 4459

For Office Use

Nomination #	01 180		11/20/9
Revision Year:	2001	Regional Supervisor	Date
Revision to:	Atlas ____ Catalog ____		10/29/01
	Both x	AWC Project Biologist	Date
Revision Code:	A-2		11/29/01
		Drafted	Date

OBSERVATION INFORMATION

Species	Date(s) Observed	Spawning	Rearing	Present	Anadromous
Coho	7/12 - 13/1984		X		☑
Rainbow Trout	7/12 - 13/1984			X	☐
Longnose Sucker	7/12 - 13/1984			X	☐
Round Whitefish	7/12 - 13/1984			X	☐
					☐

IMPORTANT: Provide all supporting documentation that this water body is important for the spawning, rearing or migration of anadromous fish, including: number of fish and life stages observed; sampling methods, sampling duration and area sampled; copies of field notes; etc. Attach a copy of a map showing location of mouth and observed upper extent of each species, as well as other information such as: specific stream reaches observed as spawning or rearing habitat; locations, types, and heights of any barriers; etc.

Comments:
Add Scenic Lake to AWC based on historic USFWS sampling, see attached report excerpts.

Name of Observer (please print): USFWS Kenai Fisheries Research Staff

Signature: _____ Date: 7/10/01

Address: USFWS Kenai Fishery Resource Office
P.O. Box 1670, Kenai, AK 99611

This certifies that in my best professional judgment and belief the above information is evidence that this waterbody should be included in or deleted from the Catalog of Waters Important for Spawning, Rearing or Migration of Anadromous Fishes per AS 16.05.870.

Signature of Area Biologist: _____

Revision 3/97

SCENIC LAKE

SURVEY PERIOD

Personnel of the U.S. Fish and Wildlife Service surveyed Scenic Lake once during 1984. W.J. Jakubas and A.S. Firman conducted a fishery survey and detailed water quality survey on July 12-13. Table 1 summarizes survey findings.

PHYSICAL FEATURES

Scenic Lake is in the northeastern section of the Kenai National Wildlife Refuge (NWR) and is part of the Chickaloon River Basin. Its latitude is north 60° 45' and longitude west 150° 09'. The lake and surrounding area were designated as wilderness by the Alaska National Lands Conservation Act of 1980. The watershed area for the lake is estimated to be 3 square miles. Scenic Lake has a surface area of 110 acres, a volume of 2,600 acre feet, and is at an elevation of 215 feet. The lake has a mean depth of 23.6 feet and maximum depth of 44 feet (Table 1 and Figure 1).

Scenic Lake is situated in relatively flat terrain in the Chickaloon River Basin. The lake is bordered by forested areas to the east and west and wetlands to the north and south. Terrestrial vegetation consists of black spruce, paper birch, and white spruce with scattered alder along the lake periphery. A large bog is on the southern end of the lake and a smaller one on the northern end.

Lake water level is maintained by streams, bog seepage, springs, and run-off. The main outlet stream flows west then north for about 1.5 miles connecting with Scenic Creek, a tributary of the Chickaloon River. This stream was about 30 feet wide and 4 feet deep; current was barely perceptable. The stream was blocked by a beaver dam and was heavily vegetated. Flow was estimated at 4.8 cubic feet per second. High water flows could pass around the side of the dam permitting fish passage. An inlet stream originating about two miles southeast passes through uplands and bogs entering at the southern end of the lake. It was about 15 feet wide and 1.5 feet deep. No flow was occurring at the time of survey. Several other small bog streams were present, but none had flow. They probably only functioned during high water periods and, therefore, are not shown in Figure 1. Only the outlet stream is shown on USGS Topographic Map Kenai (D-1), 1951. The inlet and outlet streams did not appear to contain rainbow trout spawning habitat.

Scenic Lake is remote and extremely difficult to reach. Aircraft is the most convenient means of access. Outboard motors greater than 10 horsepower are not permitted on the lake by Refuge regulation.

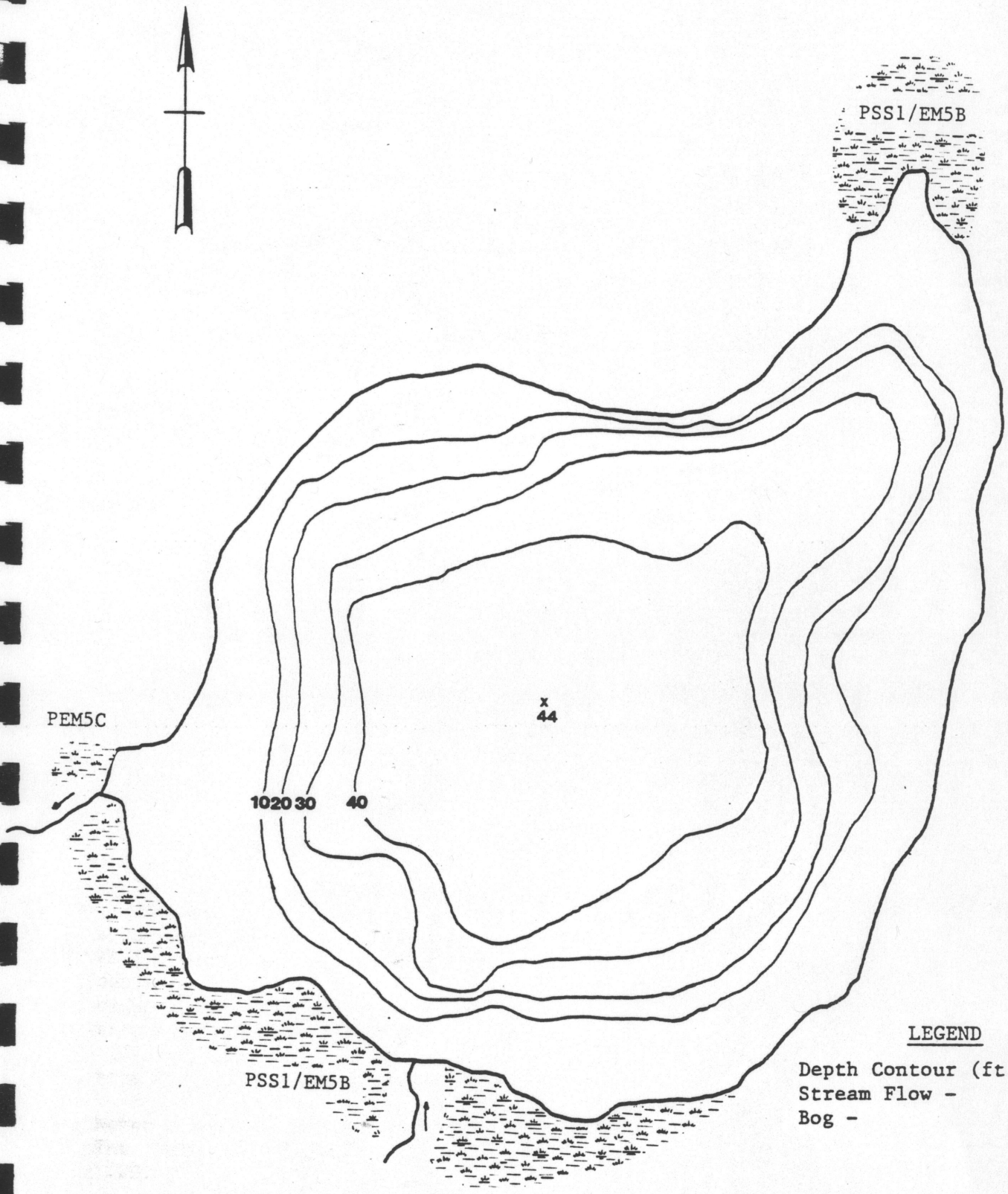
FISH

Rainbow trout were the dominant game fish in Scenic Lake. They were found in low abundance at a catch per unit effort (CPUE) of 0.11 fish per net hour (Table 2). Juvenile coho salmon and longnose sucker were also present at respective moderate abundances of CPUE 0.23 and CPUE 0.34. The only round

Figure 1.

SCENIC LAKE

(110 Acres)



SCALE

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0 0.1 0.2 0.3 miles

Table 2.

FISH CATCH AND EFFORT SUMMARY
Scenic Lake 7/12-13/84

Gear	Average Fishing Time (hrs.)	Amount Gear (sq.ft.)	Fish Species	Total Fish Number	Sex M-F-U	Fish CPUE Net Hour	Fish CPUE Trap Hour
4 Gill Nets	14	3200	Rainbow Trout	6	3-2-1	0.11	N/A
			Coho Salmon	13	0-0-13	0.23	N/A
			Longnose Sucker	19	5-3-11	0.34	N/A
			Round Whitefish	1	0-0-1	0.02	N/A
	14	3200	All Species	39	7-6-26	0.70	N/A
12 Minnow Traps	17		Coho Salmon	1	0-0-1	N/A	<0.01
			Threespine Stickleback	485	0-0-485	N/A	2.38
			Slimy Sculpin	1	0-0-1	N/A	<0.01
	17		All Species	487	0-0-487	N/A	2.39

whitefish captured during our two year lake study was found in this lake. Threespine stickleback (CPUE 2.38) and slimy sculpin constituted the forage species. A total of four gill nets and 12 minnow traps were used to determine fish abundance.

The rainbow trout ranged in fork length from 8.3 inches (210 mm) to 13.8 inches (350 mm), in weight from 0.3 pounds (120 g) to 1.3 pounds (570 g), and in condition from 1.01 to 1.33. Ages of rainbow trout were from four to six years (Table 4). Their growth rate, as determined by scale analysis, was 1.9 inches per year. All the coho salmon captured were juveniles. Coho fork length ranged from 3.7 inches (95 mm) to 4.9 inches (125 mm) while their weight was from 0.03 pounds (12.3 g) to 0.04 pounds (18.8 g). Condition factors varied from 0.95 to 1.44. The Scenic Lake coho were determined to be one and two years old. Their average growth rate was 1.7 inches per year. Longnose sucker ranged in fork length from 7.7 inches (195 mm) to 16.0 inches (405 mm), in weight from 0.2 pounds (90 g) to 1.5 pounds (690 g), and in condition from 1.02 to 1.21. Their ages, determined from otoliths, ranged from four to 14 years (Table 5). The single round whitefish was 13.2 inches (335 mm) fork length and 1.0 pound (440 g) in weight. Length, weight, and condition data for rainbow trout, coho salmon, and longnose sucker are summarized in Table 3.

AQUATIC VEGETATION

Aquatic plants were dense in shallow areas around the lake periphery. The dominant species were yellow pond lily and the pondweeds, *Potamogeton natans*, *P. perfoliatus*, *P. praelongus*, and *P. robbinsii*. Patches of bur reed and horsetail were found along the shoreline. About 46 percent of the lake was covered with aquatic vegetation. Two scrub shrub wetlands (types PSS1/EM5B and PEM5C), plotted by the National Wetlands Inventory (USFWS 1978), were seen during our survey. A complete list of vegetation is in Table 6.

WATER QUALITY

The lake's alkalinity level of 74 mg/l was almost twice the average alkalinity found in the 37 lakes surveyed during 1983-84. This value corresponds to the medium range of lake productivity using our modification of Moyle's classification (MacKenthun and Ingram 1967). A pH of 7.4 was slightly alkaline. The lake was thermally stratified with a surface temperature of 18.8°C declining to 17.5°C at 10 feet just above the thermocline, then slowly declining to 4.0°C near the lake bottom (Table 7). Corresponding dissolved oxygen values ranged from supersaturation (10.3 mg/l) at the surface to saturated (10.2 mg/l) at 13 feet, and slowly degrading to 17 percent saturation (2.2 mg/l) at 33 feet. From this point dissolved oxygen was very low ranging from 0.2 mg/l to 0.1 mg/l.

Water color was dark yellow green, and Secchi disc transparency was 13 feet. The lake had a Morphoedaphic Index of 17.2 and Shoreline Development Factor of 1.20.

MANAGEMENT HISTORY

There were no previous fishery surveys for this lake.

Table 3.

FISH LENGTH, WEIGHT, AND CONDITION SUMMARY
Scenic Lake 7/12-13/84

Gear	Category	Species	Sample Size	Mean	Standard Deviation	Range
Gill Nets	Fork Length (mm)	Rainbow Trout	5	282	58.4	210 - 350
		Coho Salmon	9	111	8.20	95 - 125
		Longnose Sucker	16	277	71.3	195 - 405
	Weight (g)	Rainbow Trout	5	298	185	120 - 570
		Coho Salmon	9	15.7	1.84	12.3 - 18.8
		Longnose Sucker	16	277	207	90 - 690
	Condition (K)	Rainbow Trout	5	1.20	0.13	1.01 - 1.33
		Coho Salmon	9	1.17	0.15	0.95 - 1.44
		Longnose Sucker	16	1.10	0.06	1.02 - 1.21

WILDLIFE

Waterfowl sighted on the lake included a brood of Barrow's goldeneye, common loon, and lesser scaup. Sandhill cranes were heard, and a yellowlegs was sighted in a bog. Broods of Arctic terns were in lake bog areas and one red-tailed hawk was sighted. Two active and one inactive beaver lodges were in the southern end of the lake verifying the presence of beaver. Clam shell feeding areas indicated the presence of muskrat. Wildlife species along with pertinent data are in Table 8.

RECREATIONAL USE

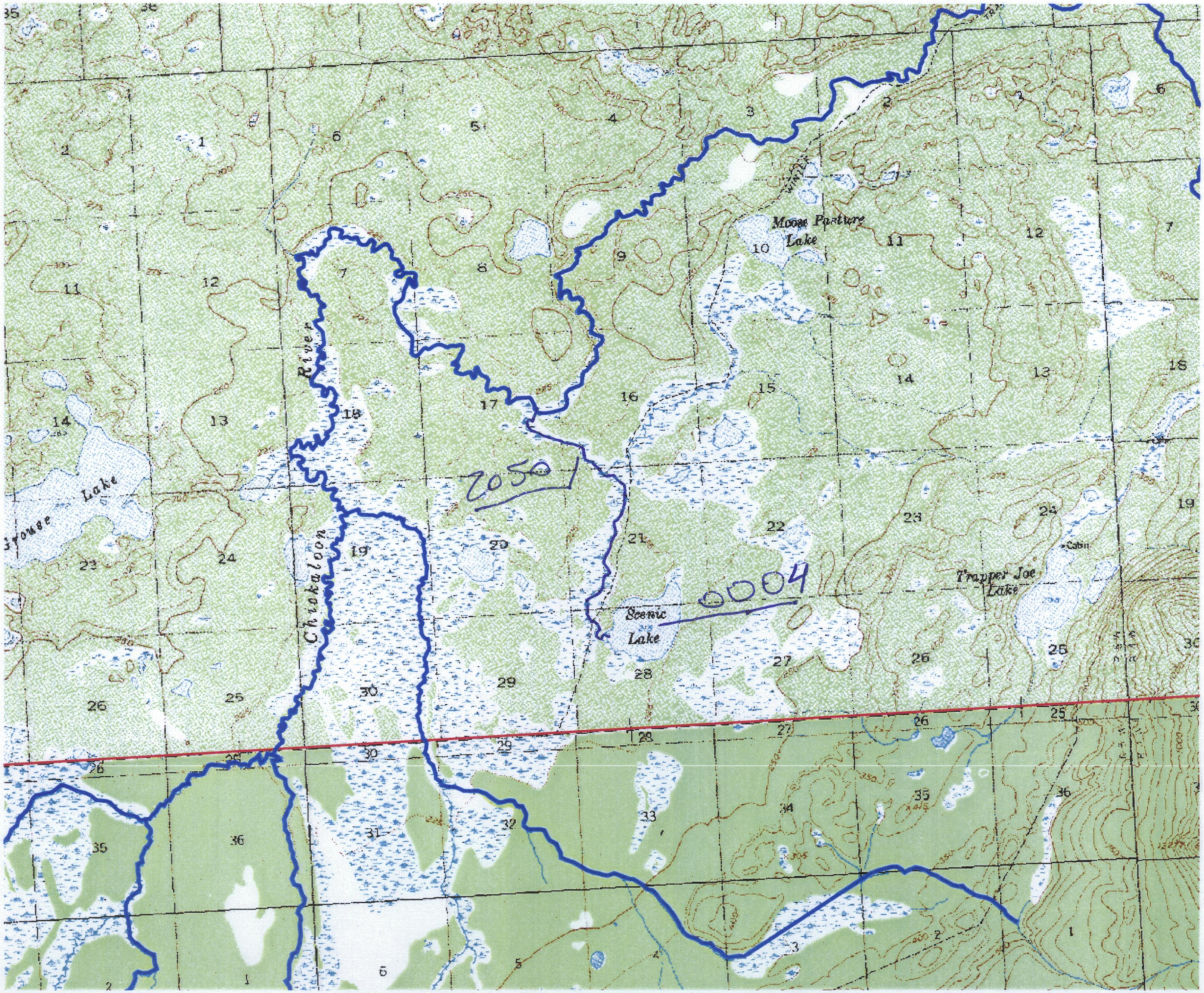
Recreational uses of Scenic Lake consist mostly of sport fishing, wildlife viewing, camping, and boating. Ketchum Air Service, Inc. has been issued a Special Use Permit by the Kenai NWR allowing them to establish a tent camp and fly in clients for fishing and camping. Refuge records indicate the lake had 821 fishing days use in 1983 by air carrier clients.

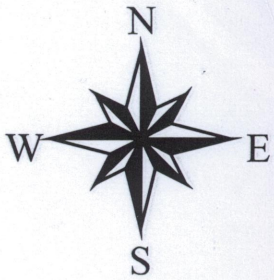
Two fishing parties were flown to the lake during our survey. One party of three people caught three rainbow trout in two days. One of these trout was about 23 inches in length while the other two were around 14 inches. According to Ketchum personnel, sport fishing is best in the spring and fall for rainbows and poor during the summer. They indicated the lake tends to yield a lesser number of larger trout as opposed to a lot of small fish. There are no public use facilities on the lake other than those owned by the air carrier.

FISHERY RESOURCE SUMMARY

Scenic Lake is a remote lake in a wilderness setting. Our fishery survey found rainbow trout to be the dominant game fish at a low abundance of 0.11 fish per net hour. Warm water conditions are suspected to have reduced trout movement causing our relative abundance estimate to be lower than the actual fish population present. Trout age and size classes present indicated spawning and recruitment is occurring. Juvenile coho salmon are moderately abundant (CPUE 0.23) establishing the lake as a coho nursery area. Longnose sucker were also moderately abundant (CPUE 0.34). The only round whitefish captured during our two year lake survey was taken in this lake. A moderately high population of threespine stickleback (CPUE 2.38) and slimy sculpin constituted the forage species.

Sport fishing pressure on the lake comes almost totally from air carrier clients. It is believed to be low at around 7.5 fishing days per acre. Lake fertility is medium, and the MEI was 17.2. Dissolved oxygen values were high for cold water game fish in most of the lake. No rainbow trout spawning habitat was immediately adjacent in lake tributaries. The trout are believed to spawn in downstream reaches of Scenic Creek or the Chickaloon River which may also serve as spawning areas for the coho salmon. Taking into consideration that the fish abundance estimate was slightly low, Scenic Lake is considered to be able to support a moderate yield rainbow trout sport fishery and serve as a coho salmon nursery area.





Add Lake
247-60-10110-2050-0004
w/ COR

Add stream
247-60-10110-2050
w/ COR

3 0 3 6 Miles