Long Lake Wild Trout Management Plan

2012-2017

State of California

Department of Fish and Game

Heritage and Wild Trout Program

North Central Region

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2012

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Executive summary

California Fish and Game Code (Chapter 7.2, Section 1726.4 (a)) states that “it is the intent of the Legislature that the department [specifically, the Department of Fish and Game’s Heritage and Wild Trout Program], in administering its existing [heritage and] wild trout program, shall conduct a biological and physical inventory of all California trout streams and lakes to determine the most suitable angling regulations for each stream or lake. The department shall determine for each stream or lake whether it should be managed as a wild trout fishery, or whether its management should involve the planting of native trout species to supplement wild trout populations.” Section 1726.4 (a) additionally states that “biological and physical inventories prepared for each stream, stream system, or lake shall include an assessment of the resource status, threats to the continued well-being of the fishery resource, the potential for fishery resource development, and recommendations, including necessary changes in the allowed take of trout, for the development of each stream or lake to its full capacity as a fishery.”

Furthermore, California Fish and Game Code (Chapter 7.2, Section 1727) requires that the department “shall prepare and complete management plans for all wild trout waters not more than three years following their initial designation by the commission, and to update the management plan every five years following completion of the initial management plan.” For clarification, wild trout waters as stated above represent waters that have been formally designated by the California Fish and Game Commission as Heritage and/or Wild Trout Waters.

Wild Trout Waters are those that support self-sustaining trout populations, are aesthetically pleasing and environmentally productive, provide adequate catch rates in terms of numbers or size of trout, and are open to public angling. Wild Trout Waters may not be stocked with catchable-sized hatchery trout. Heritage Trout Waters are a sub-set of Wild Trout Waters and highlight wild populations of California’s native trout that are found within their historic drainages.

In an effort to comply with existing policy and mandates, the Heritage and Wild Trout Program (HWTP) has prepared a fishery management plan (FMP) for Long Lake, Plumas County. This FMP is intended largely as an operations guide for internal planning purposes to communicate management direction to the public, other agencies, and trout angling organizations. This FMP is intended to provide direction and list actions necessary to sustain the recreational fishery for the benefit and enjoyment of the angling public. However, actions associated with this FMP are initiated independently, thus any environmental review/permits needed to implement the actions are separate from the FMP itself.

Resource status

Area description

Long Lake is located within the Lake Basin of southern Plumas and northern Sierra counties (Figure 1.). The lake is at an elevation of 6,531 feet and has a surface area of 141 acres. The maximum depth is 190 feet which is approximately 10 ft

deeper than the maximum natural depth due to a twelve foot high dam. The dam was constructed in 1938 and the reservoir storage capacity is 1,478 acre-feet. Long Lake is located at the base of Mt. Elwell, the highest peak in the area with an elevation of 6,818 feet.

Access to Long Lake is approximately a one-mile hike from the trailhead located at the end of the Elwell Lodge road off of the Gold Lake Highway. The Gold Lake Highway runs through the area connecting Highway 49 at Bassetts to Highway 70 at Graeagle. There are six other lakes within the basin, each of which is accessed by hiking trails from this trailhead. No camping is allowed in the basin which contributes to its remote feel. The basin is also excluded from timber harvest.

Land ownership/administration

- ☒ United States Forest Service
- ☐ Bureau of Land Management
- ☐ State Parks
- ☐ National Parks
- ☐ Fish and Game
- ☐ Private
- ☐ Other

Public access

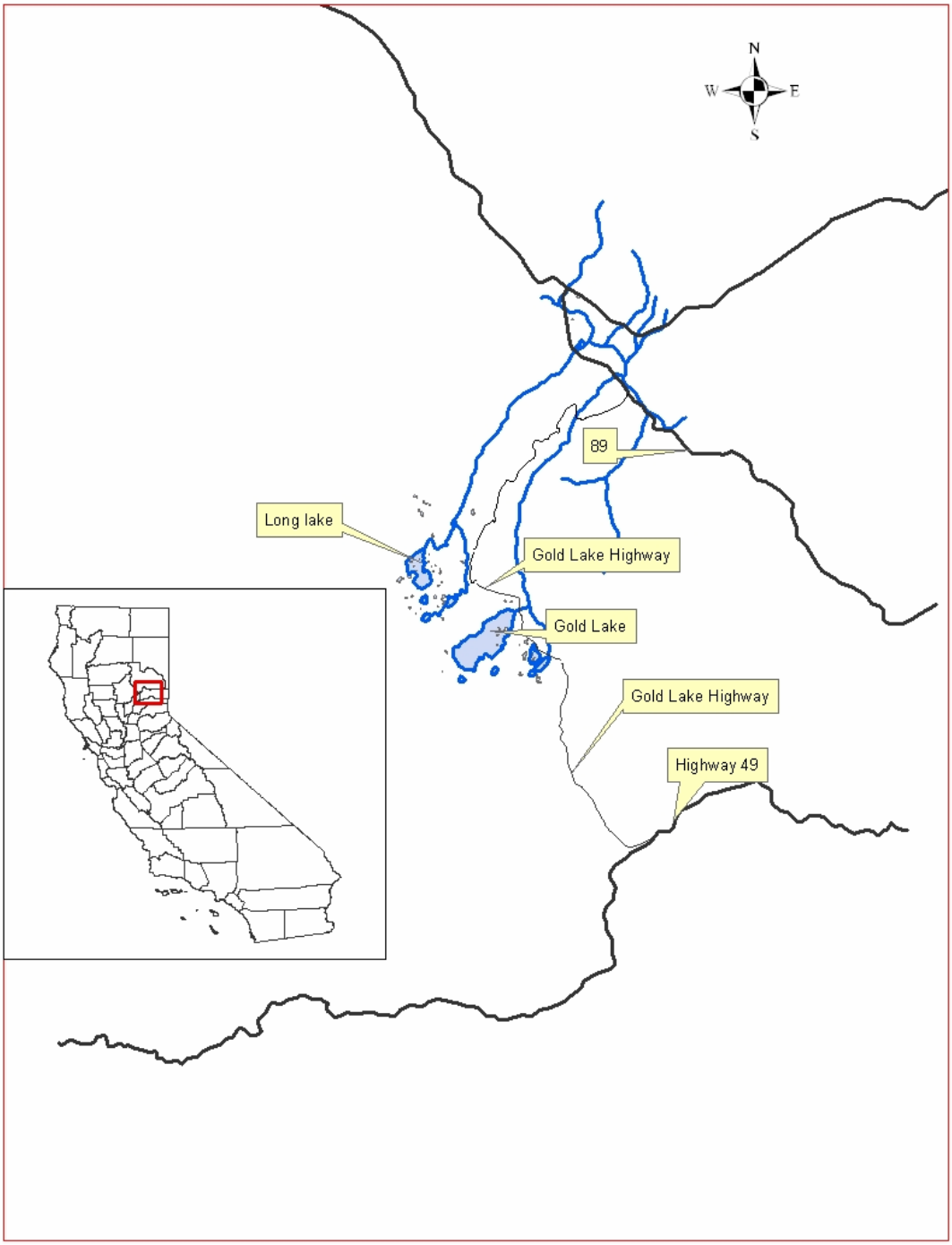
- ☐ Roadside
- ☒ Remote/hike-in
- ☐ Boat

Designations

- ☒ Wild Trout Water
- ☐ Heritage Trout Water
- ☐ Federal Wild and Scenic River
- ☐ Wilderness
- ☐ Other

Area map

Figure 1. Vicinity map of Long Lake



Fishery description

Long Lake contains a self-sustaining population of Kamloops-strain rainbow trout with a small self-sustaining population of brook trout. Prior to 1978 Long Lake was stocked annually with rainbow trout fingerlings at a rate of 78 fish per acre. The most recent fingerling stockings occurred in 1982, 1989 and 1994. There is no record in Department files of brook trout stocking into Long Lake basin.

The Long Lake fishery was evaluated during the 1980's. Gill nets were set in the lake in 1983, 1984 1985, 1987 and 1989. More recent sampling occurred in 2001 and 2008. A total of four gill nets were set in Long Lake in 1983, 1984, 1985, 1987, and 1989. All of the net sets were overnight. A total of four gill nets were set overnight during the 1983-1985 while at least two gill nets were set in both 1987 and 1989. Comparison between years is difficult since effort changed over the years. Twice as many gill nets were used in 1983-1985 compared to 2008. Little changed occurred in the number of trout caught in the nets from 1984-1989 compared to 2001. However, there was a significant decline in the number of trout caught in 1983-2001 compared with 2008. Stocking may have influenced the number of trout caught in the earlier surveys compared with the 2008 net sets. The rainbow trout averaged slightly larger in the 2008 net sets compared to the 2001 net sets (Tables 1 and 2).

Creel surveys have not been conducted on Long Lake. However, there is some anecdotal creel information. In 1986 a party of three anglers reported landing 25 rainbow trout ranging from 11 to 13 inches. In 1987 seven shore anglers reported landing one 10 inch rainbow trout while another five boat anglers landed 12 rainbow trout ranging from 11 to 13 inches. While sampling the lake in 2008 one angler was observed with a 14 inch rainbow trout.

Water source(s)

☐ Spring ☒ Rain ☒ Snow ☐ Tailwater

Gradient

☐ Low (< 2%) ☐ Medium (2-4%) ☐ High (>4%) ☒ N/A

Fish species

Common name	Scientific name	Native (Y/N)	Listing status
rainbow trout	*Oncorhynchus mykiss*	N	None
brook trout	*Salvelinus fontinalis*	N	None

Other aquatic species

Common name	Scientific name	Native (Y/N)	Listing status
No other sensitive or game species			

Fisheries and habitat assessments

Water	Section	Date	Survey type	Reference data/summary report
Long Lake		3/4/1986	Gill net	Appendix 1 and 2
Long Lake		3/6/1990	Gill net	Appendix 1 and 2
Long Lake		6/12/2001	Gill net	High Mountain Lakes Database
Long Lake		10/22/2008	Gill net	Appendix 1 and 2

Angler survey data

Water	Date range	Survey type	Reference data/summary report
Long Lake	1986-1987	Informal creel survey	Memorandum May 29, 1987

Angling regulations

The angling regulation for Long Lake is covered under the Sierra District General Angling Regulations for lakes and reservoirs. Regulations in 7.00 (b) (2) are as follows: All lakes and reservoirs except those in the Fall River Valley, those in Inyo and Mono counties and those listed by name in the Special Regulations are open all year with a daily bag limit of five trout per day with ten in possession.

Management Issues

Natural recruitment of trout in Long Lake is limited and may not fully replace trout harvested from angling. In the past, Long Lake had high catch rates in association with high catch-per-unit-effort. The tributary stream from Mud Lake likely provides limited spawning habitat for trout in Long Lake. While rainbow trout have not been documented in the tributary stream, brook trout were observed in the tributary to Long Lake. The tributary stream, while small, flows into fall providing potential spawning and rearing habitat for most of the year. However, the tributary may go dry during drought years. Natural recruitment may be a limiting factor to the fishery over time and monitoring efforts will play critical role in maintaining target catch rates.

Graeagle Land and Water Company operates a nine-foot high dam on the outlet and siphons approximately 15 feet of water below the outlet elevation. It is not known whether reservoir operations and lake elevation fluctuation impact the fishery. Lake level drawdowns over the course of the summer and fall season may produce the characteristic reservoir ring due to lowered water surface elevation, which may degrade the visual appeal of the lake to some visitors.

Management

Goals and objectives

- ☒ Fast action (catch rates > 2 fish/hour)
- ☐ Trophy (trout > 18 inches)
- ☐ Heritage trout
- ☒ Other (maintain unique Kamloops-strain rainbow trout fishery)

Monitoring recommendations

Water	Date range (month/year)	Survey type	Survey interval
Long Lake		Gill netting	5 years
Long Lake		Angler survey box	Yearly

Angling regulations

Current angling regulations for the Long Lake fishery were adopted to provide protection for the trout population while maintaining management goals and objectives. The Department shall monitor the fishery along with angler satisfaction/preferences to guide and direct any future regulatory changes if warranted. Regulations will be used in an adaptive manner to optimize angler opportunities in conjunction with management goals and objectives outlined in the FMP.

The angling regulation for Long Lake is covered under the Sierra District General Angling Regulations for lakes and reservoirs. Gill net survey data indicate that the current regulation is maintaining the angling qualities and values of the Long Lake fishery.

Management actions

Surveys should be conducted in the tributary stream to determine the amount of suitable spawning habitat that is available. Additional surveys could include spawner fish counts, numbers of redds, and out-migrant trapping. Surveys should be conducted in late summer to monitor rainbow trout residency in the stream after emergence and before brook trout spawning.

Projects to improve spawning habitat for rainbow trout in the inlet stream should be investigated to bolster recruitment to the fishery.

Long Lake should also be surveyed periodically with gill netting to determine the success of the management strategy.

The angler survey box should be maintained at the trailhead to assess angler use and catch rates.

If it is found through monitoring efforts that catch rates on average are below two fish per hour and/or if trout populations show reduced abundance, then supplementation through stocking should be considered. Historically, Kamloops-strain rainbow trout (RTxKJ) were stocked in the past at an amount of 10,000 to 12,000 fingerling trout or 71 to 85 fish per surface acre (Appendix 3). Future RTxKJ stocking should balance numbers of fish stocked to achieve target catch rates and the potential for fish lengths between 11 to 13 inches.

Adaptive strategies

This FMP provides guidance and management direction for wild trout resources in the Long Lake fishery. These management recommendations are based on existing conditions and should be used in accordance with updated information over time. Long term monitoring of the fishery and associated angler information should play a critical role in future management prescriptions. Any changes to the prescribed management goals/objectives should be based on updated quantifiable data, stakeholder input, HWTP Policy, the Strategic Trout Plan, and collaborative HWTP review.

References

Bloom, R. and J. Weaver. 2008. The California Heritage and Wild Trout Program Handbook (Draft). State of California Natural Resources Agency. Department of Fish and Game. Heritage and Wild Trout Program. Rancho Cordova, CA.

Appendix 1. Total length and number of rainbow trout caught in gill net sets in Long Lake, Plumas County, California.

	Total length (in)											
Date	3.0-3.9"	4.0-4.9"	5.0-5.9"	6.0-6.9"	7.0-7.9"	8.0-8.9"	9.0-9.9"	10-10.9"	11-11.9"	12-12.9"	≥13"	Total
08/24/83	2	7		10	7	16	10	9	3	0		64
08/14/84		3	1			5		6	2	2		19
10/17/85					1	7	6	3	5	1	0	23
09/24/87				10	1	2	2	4	3	2		24
11/03/89				6	2			4	3	5		20
06/12/01		1	3	2		2	2	3	4	5	7	29
10/22/08	1						1	1			3	6
Total	3	11	4	28	11	32	21	30	20	15	10	150

Appendix 2. Total length and number of brook trout caught in gill nets sets in Long Lake, Plumas County, California.

	Total length (in)											
Date	3.0-3.9"	4.0-4.9"	5.0-5.9"	6.0-6.9"	7.0-7.9"	8.0-8.9"	9.0-9.9"	10-10.9"	11-11.9"	12-12.9"	≥13"	Total
08/24/83				6	2	1	2	2	2	1	1	17
08/14/84				1		1						2
10/17/85											1	1
09/24/87												0
11/03/89							1					1
06/12/01					1				2			3
10/22/08									1			1
Total	0	0	0	7	3	2	3	2	5	1	2	25

Appendix 3. Stocking events in Long Lake, Plumas County, by year, species, and number of fish planted

Year	Species	Number of fish planted
1994	RT	10,000
1989	RT	10,000
1982	RTSxKJ	14,016
1978	RTKJ	12,004
1976	RTKJ	10,050
1975	RTKJ	10,080
1973	RT	9,504
1973	RT	11,840
1972	RT	12,500
1971	RT	11,200
1969	RT	4,995
1969	RTxKJ	5,002
1968	RT	9,000
1967	RT	12,000
1966	RT	11,530
1965	RT	12,000
1964	RT	8,000
1963	RT	10,080
1962	RT	14,960
1961	RT	14,910
1960	RT	14,910
1959	RT	15,015
1958	RT	14,910
1957	RT	16,065
1953	RT	20,020
1952	RT	20,000
1951	RT	15,000
1950	RT	14,400