Parker Lake

Fishery Management Guidelines

State of California

Natural Resources Agency

Department of Fish and Wildlife

Heritage and Wild Trout Program

Fisheries Branch

Photo courtesy of the Mono Lake Committee

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Executive summary

California Fish and Game Code (Chapter 7.2, Section 1726.4 (b)) states that it is the intent of the Legislature that “the department [specifically, the California Department of Fish and Wildlife (CDFW) Heritage and Wild Trout Program (HWTP)], in administering its existing [heritage and] wild trout program, shall maintain an 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 temporary planting of native trout species to supplement wild trout populations that is consistent with this chapter.” Section 1726.4 (b) additionally states that “the biological and physical inventories prepared and maintained 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, consistent with this chapter.”

Furthermore, California Fish and Game Code (Chapter 7.2, Section 1727 (d)) requires that the CDFW “shall prepare and complete management plans for all wild trout waters not more than three years following their initial designation by the commission and 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 (Bloom and Weaver 2008). Wild Trout Waters may not be stocked with catchable-sized hatchery trout. Heritage Trout Waters are a sub-set of Wild Trout Waters that highlight wild populations of native California trout found within their historic drainages.

In an effort to comply with existing policy and mandates, the HWTP has prepared these fishery management guidelines for Parker Lake (Mono Co.). This document serves as a operations guide for internal planning purposes and to communicate management direction to the public, other agencies, and trout angling organizations. These guidelines are 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 guidance document are initiated independently; thus, any environmental review/permits needed to implement the actions are separate from this guidance document itself.

Resource status

Area description

Parker Lake (Mono County) is located in the eastern Sierra Nevada Mountains in the Ansel Adams Wilderness, near June Lake, and is one of many trout-bearing headwater lakes along the east slope of this portion of the range. The Parker Creek drainage is moderate in size, spanning approximately nine miles, from the headwaters near Parker and Koip Peak passes to its confluence with Rush Creek, approximately six miles upstream of Mono Lake (near Hwy. 395). Parker Lake was designated as a Wild Trout Water by the California Fish and Game Commission (Commission) in 2011. The lake is situated in a glacial cirque approximately 2/3 of the way up the drainage and is a remote, high elevation lake (approximately 8,300 feet) that is accessible only on foot (hiking or backpacking) or horseback, as no vehicles or mechanized equipment are allowed in federally-designated wilderness areas. The lake is approximately 23 acres in size, with a maximum depth of about 5.7 meters (18 feet). Parker Lake is best accessed from the Parker Lake trailhead, located at the terminus of Parker Lake Road (Forest Route 1S25/1S25A), off of the north June Lake loop road (Hwy. 158). The surrounding area supports a large number of lake and stream-based wild trout fisheries in an extremely aesthetically pleasing alpine environment. Parker Lake is the second in a series of “Wilderness” Wild Trout Waters the HWTP has proposed to the Commission for designation in order to provide for and establish active management of remote, high quality recreational fisheries across the Sierra Nevada and other remote mountain locations statewide.

Land ownership/administration

- ☒ U.S. Forest Service
- ☐ State Parks
- ☐ Bureau of Land Management
- ☐ National Parks
- ☐ Fish and Game
- ☐ Private
- ☐ Other

Public access

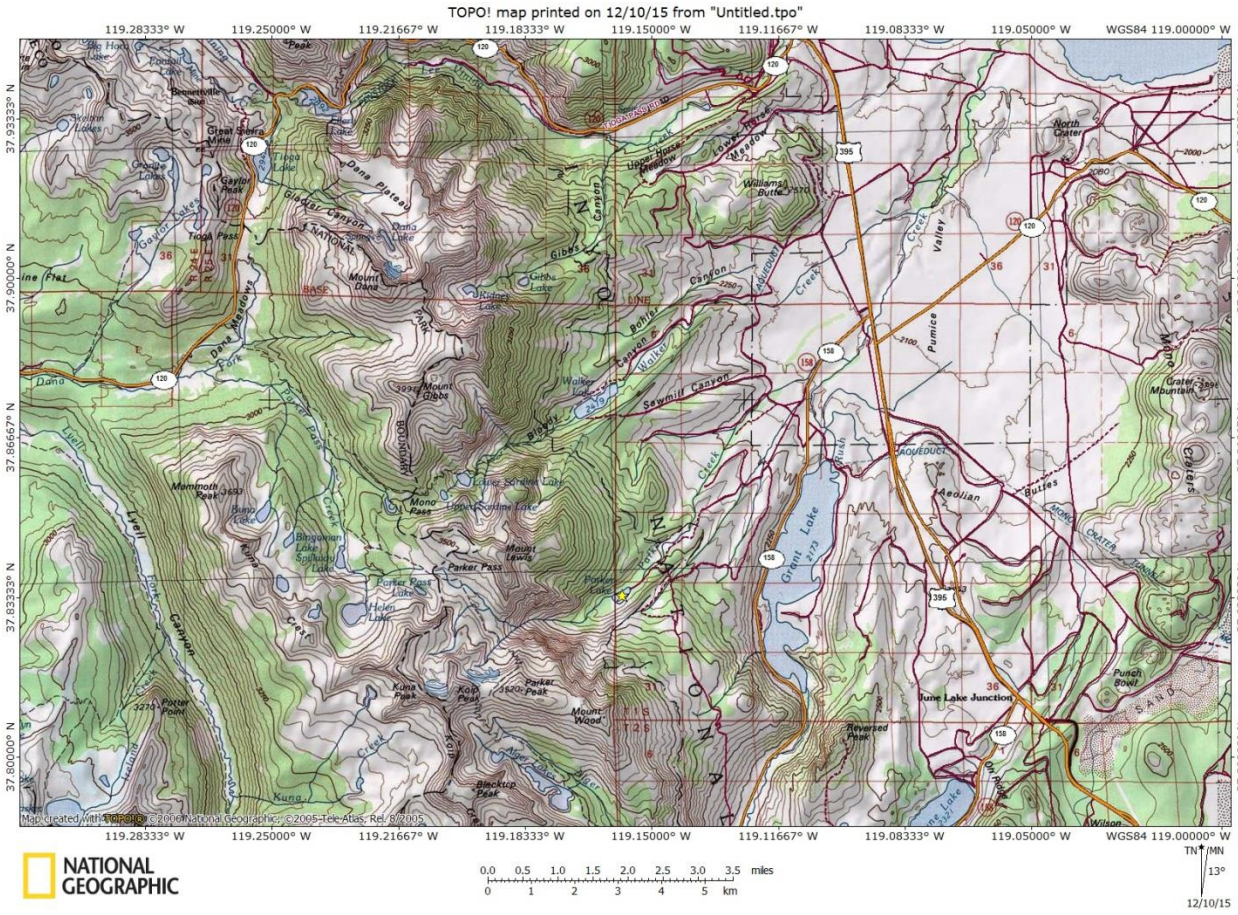
- ☐ Roadside
- ☒ Remote/hike-in
- ☐ Boat

Designations

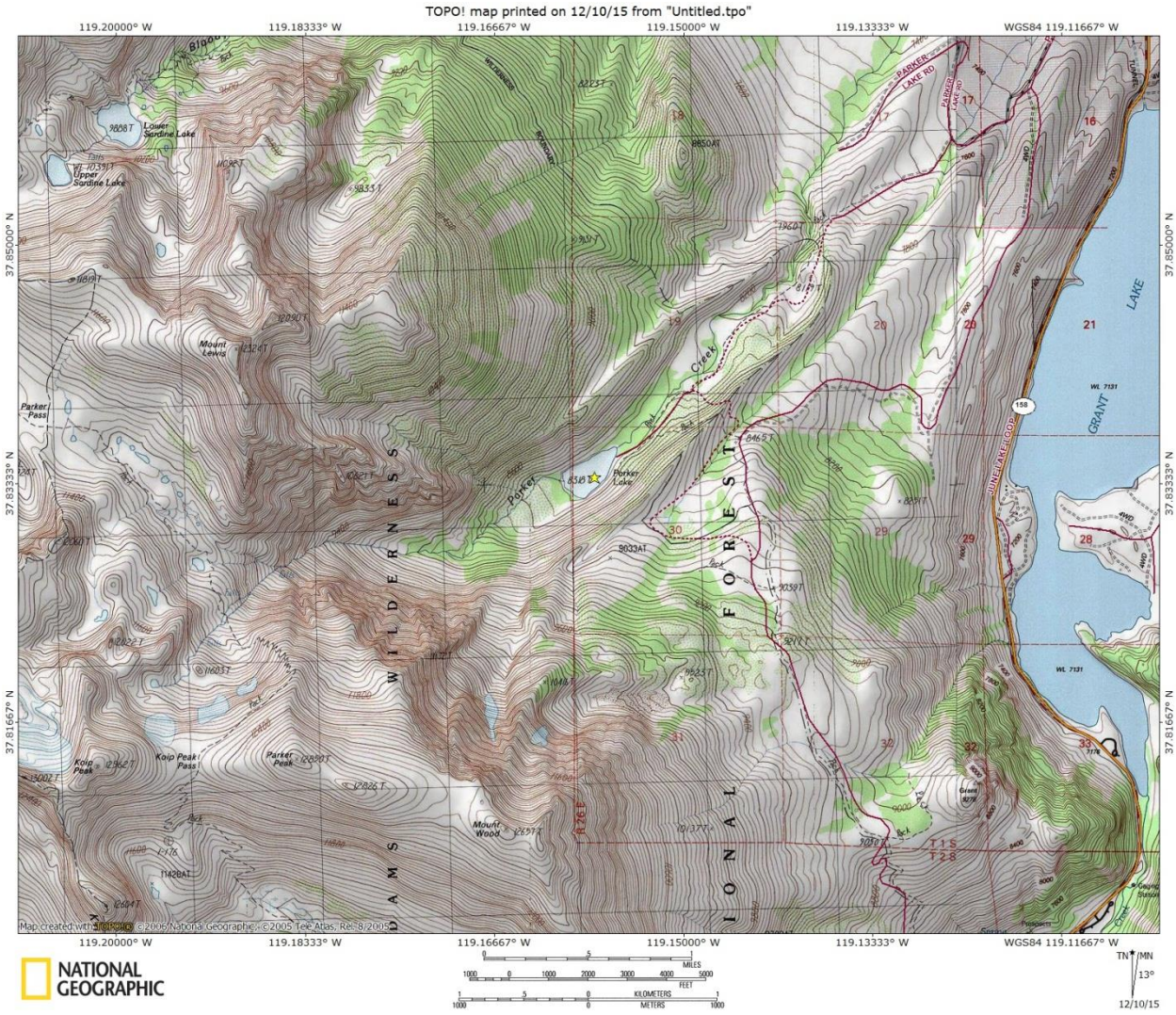
- ☒ Wild Trout Water
- ☐ Heritage Trout Water
- ☐ Federal Wild and Scenic River
- ☒ Wilderness
- ☐ Other-

Area maps (note: maps are best viewed using “zoom in” feature under the view tab)

Map 1. Parker Lake (yellow star) general location map



Map 2. Detail map of Parker Lake (Parker Creek drainage)



Fishery description

Parker Lake supports wild, self-sustaining populations of both brown (*Salmo trutta*) and brook (*Salvelinus fontinalis*) trouts. The lake is documented to have been stocked in 1957 (may have been mis-recorded and actually occurred in 1959; see time line in fisheries and habitat assessments section), 1960 and 1963 with Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*). No documentation of brook or brown trout stocking was found and it is assumed these were early, undocumented stocking events, potentially using milk jugs or other transport vessels on horseback, as was often the case in early fish stocking practices. The absence of Lahontan cutthroat trout, although the only species for which stocking records exist, is not surprising given the competitive dominance of other forms of trout that generally displace cutthroat populations, as has been demonstrated in countless waters in the native range of Lahontan (and other forms of) cutthroat trout.

Available spawning habitat and evidence of spawning have been documented in the inlet and outlet stream (CDFW High Mountain Lakes Project Database (HML) 2003), with the majority reportedly in the outlet. Gill nets were used to assess fish species composition and size class distribution in both 2003 and 2010 (Table 1; Figures 1 and 2). Anecdotal reports of the potential to catch trophy (>18”) brown trout, particularly in the fall during the spawning period, exist but have not been validated, other than by large fish caught in gill net surveys (Figure 3). A note in the CDFW HML database states: “Very large BN [brown trout]” (CDFW HML 2003). No other data related to the fishery (angler use, success, catch rates, satisfaction, sizes of fish reported caught, etc.) are known to exist and further evaluations are necessary to update the state of knowledge about this fishery’s status and potential (see Management section).

Table 1. Summary of most recent fish surveys conducted in Parker Lake (Mono Co.)

Date	Survey method	Set time	species	Count	Avg. length (mm)	Max length (mm)	Avg. weight (g)	Max weight (g)	Avg. K (condition) factor
7/27/2003	gill net	26:11	brown	5	445.8	520	798.2	1225	0.87
7/27/2003	gill net	26:11	brook	30	183	318	79	324	0.98
5/28/2010	gill net	9:10	brown	13	408.3	630	774	2000	0.91
5/28/2010	gill net	9:10	brook	10	262.8	340	226.9	400	1.0

Figure 1. Length frequency distribution of fish captured in Parker Lake during 2003 gill net survey

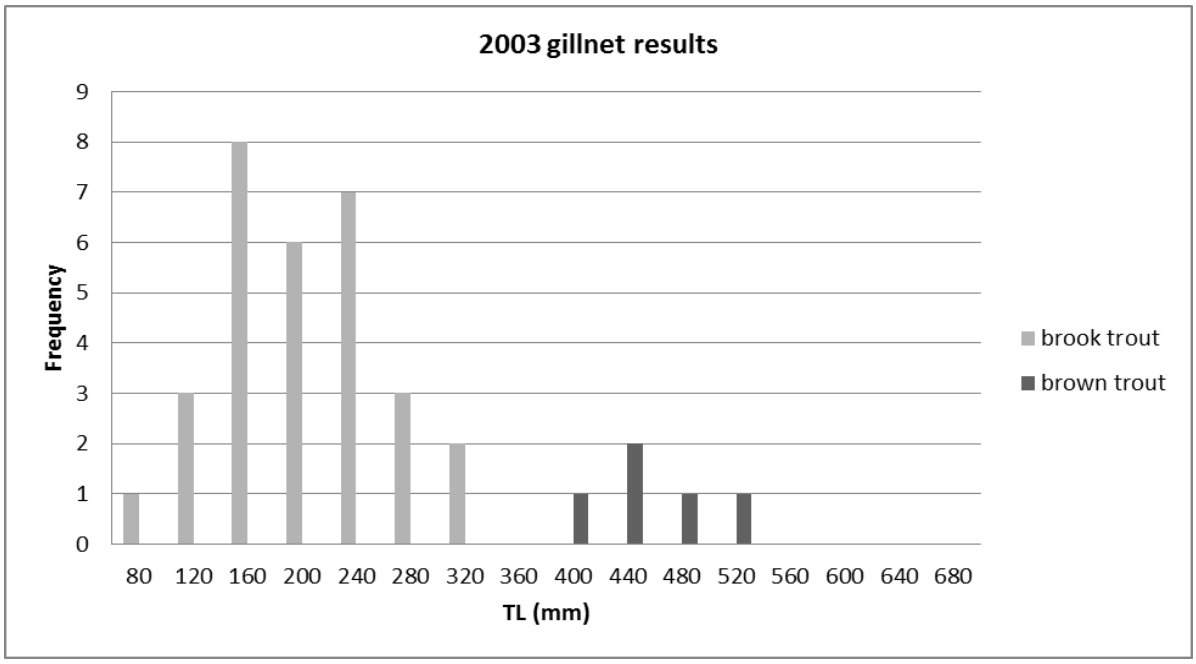


Figure 2. Length frequency distribution of fish captured in Parker Lake during 2010 gill net survey

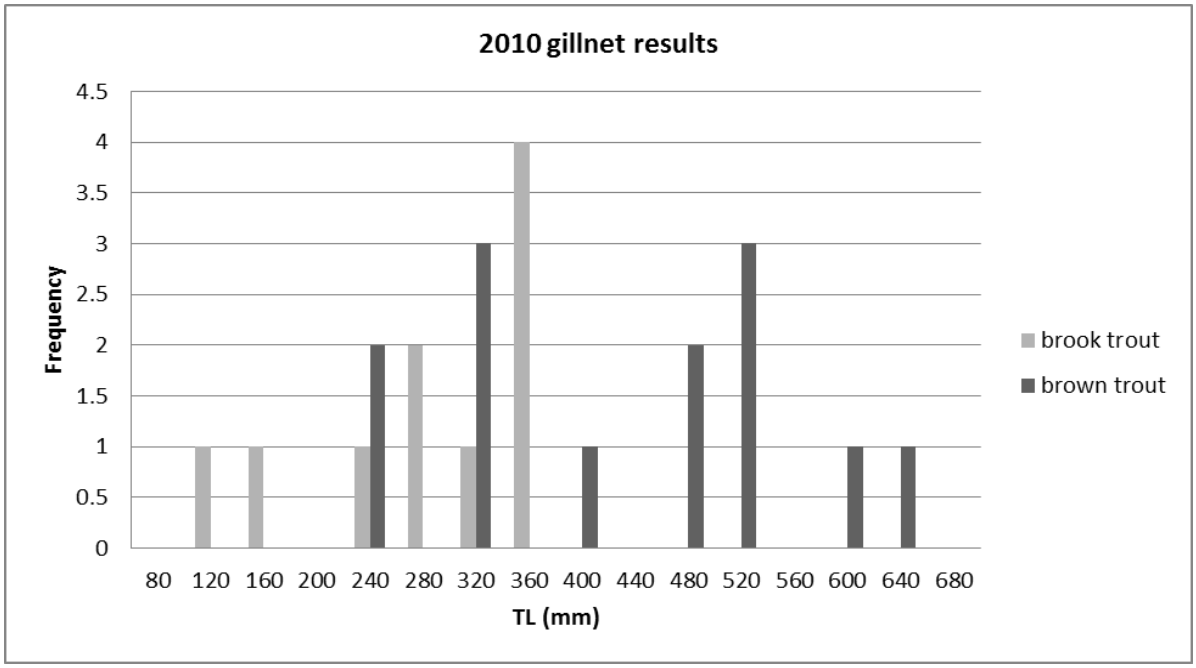


Figure 3. Fish captured during 2010 gill net survey of Parker Lake (two nets from different manufactures were tested against one another for effectiveness; each was set for approximately four hrs., far below a standard gill net set of 12-24 hrs.)

The aesthetics of this remote alpine lake basin, coupled with the potential to catch very large trophy brown trout, make this and other select waters in the area a prime destination for anglers who seek remote wilderness trophy trout angling opportunities. It should also be noted that, while only Parker Lake itself is a designated Wild Trout Water, the outlet portion of Parker Creek (and possibly portions of the inlet) also provides an excellent fishery for brown and brook trouts, with smaller fish sizes but high catch rates (J. Weaver, CDFW, pers. obsv. 2008, 2009). The HWTP is interested in promoting these high quality fisheries and managing them for recreational angling for multiple species of wild trout, in both lake and stream habitats. As indicated in Table 1, average brown trout lengths range from around 16-17.5 inches and maximum lengths approach 25 inches. Average brown trout weights are over a pound and maximum weights exceed four pounds. Brook trout are considerably smaller but may provide the opportunity for a fast action fishery, potentially offsetting the presumed low catch rates for larger, wary brown trout.

Water source(s)

☐ Spring ☐ Rain ☒ Snow

☐ Tailwater

Gradient

☐ Low (< 2%) ☐ Medium (2-4%) ☐ High (>4%)

☒ N/A

Fish species

brown trout (*Salmo trutta*); brook trout (*Salvelinus fontinalis*)

Other aquatic species

None known

Fisheries and habitat assessments

No fisheries and habitat assessments have been performed in the recent past (see Management section). However, gill net data from 2003 and 2010 indicate the condition factors for both brown and brook trouts are good (a condition factor (K) of 1.0 means an individual fish is at the standard or expected weight at a given length; see Table 1), indicating adequate forage base and a fish population within the biological carrying capacity of the lake. A timeline of past fisheries and habitat assessments and/or management actions follows:

1941 - angling survey reported plentiful brook trout under 10 inches, all in good condition; also reported the best spawning gravels were in the outlet stream

1942 - gill net survey (unknown type) captured 10 brook trout, averaging 182 mm (TL); all in ‘poor’ condition

1950 - District biologist proposed rotenone treatment (to remove brook trout and allow development of a golden trout fishery) but was canceled due to public protest

Undated creel sampling forms (probably from the 1950s or 60s) reported variable success rates; 60 brook trout and one cutthroat caught from lake

1958 - gill net survey (unknown type) captured 17 book trout, averaging 170 mm TL, and 2 cutthroat trout, averaging 245 mm TL

1959 - stocked with 10,000 cutthroat (average size was 252 oz./fish)

1960 - stocked with 10,200 cutthroat (average size was 320 oz./fish)

1962 - hook and line sampling reported brook trout and cutthroat trout under 10 inches were ‘abundant’

1963 - stocked with 10,000 cutthroat (average size was 100 oz./fish)

1969 - visual/hook and line sampling reported that brook trout under 10 inches were ‘plentiful;’ no other fish observed

1983 - gill net survey (unknown type) captured 7 brown trout, averaging 373mm TL (446 mm-306mm range) and 14 brook trout, averaging 81 mm TL

Angling regulations

Sierra District General Regulations apply to this lake fishery. The open season is the last Saturday in April through November 15, with a daily bag and possession limit of five per day and ten in possession. It should be noted that the section of lower Parker Creek, from the Lee Vining Conduit to Rush Creek, is open during the same time period but only artificial lures with barbless hooks may be used and there is a zero bag and possession limit. A special bag limit for brook trout is also in effect in the Sierra District, south of Interstate 80. Up to 10 brook trout per day, less than 10 inches total length, may be taken and possessed in addition to the other daily bag and possession limits. Given Parker Lake's geographic location and high altitude, the effective fishing season is from approximately July through October, depending on annual snow pack.

Known stressors

None currently known; possibly angling pressure, but assumed to be very light. This fishery is largely protected from stressors due to its fairly remote, high elevation location within the Ansel Adams Wilderness. The Parker Lake trail appears to be popular during summer and, especially, fall when the aspen leaves turn color in this and other well-known eastern Sierra drainages. Climate change and predicted reductions in snow pack in the Sierra Nevada may pose a long-term threat to the lake and its fishery; however, Parker Lake is in a northeast-facing deep cirque that is often well shaded and the lake's depth, coupled with the elevation and aspect of the drainage, may serve to offset impacts that may have a greater effect on lower elevation, shallower waters with greater exposure to solar inputs.

Management

Management goals and objectives

☒ Fast action (catch rates ≥ 2 fish/hour)

☒ Trophy (trout ≥ 18 inches)

☐ Heritage trout

☐ Other

Monitoring

The principal short-term monitoring need is to collect updated information on the fishery, particularly related to angler use and success. While gill net data indicate a self-sustaining fishery with potential for trophy catches, nothing is currently known about how the lake actually fishes. A combination of gill net, hook and line and visual (fall monitoring of inlet and outlet streams for spawning activity) survey methods should be employed to assess the recreational fishery potential and status of the fish population. In particular, hook and line assessments are needed to evaluate the appropriateness of the established goal of providing both a fast action

and trophy trout fishery. Recreational use of the basin is likely dominated by day hikers but some level of angling pressure may exist. Installation of angler survey boxes is recommended to ascertain angler use, satisfaction and success. Further coordination with, and approval from, the Inyo National Forest is required in order to install an angler survey box, preferably at the trailhead as a concentration point for recreational users. Due to its somewhat remote location and apparent absence of stressors, this fishery requires a low frequency of long-term monitoring. A site visit every five years, employing the methods recommended above, is suggested along with annual summaries of angler survey box data. While no angler survey box currently exists at the Parker Lake Trailhead, The Inyo National Forest has been engaged in the development of these guidelines and has approved installation of a box on the existing informational kiosk. This location should provide the best opportunity to capture the maximum number of response forms from anglers.

Angling regulations

CDFW will monitor the Parker Lake fishery, along with angler satisfaction and preferences, to determine if Sierra District general regulations are appropriate or if a special regulation is warranted. One of the principal features of the Parker Lake fishery that warranted inclusion in the set of designated Wild Trout Waters across the state is the potential for trophy trout. Regulation changes, such as setting a maximum size limit of 18” for allowable harvest, may be beneficial in maintaining this opportunity. However, given the relatively light angling pressure and difficulties associated with catching trophy fish in Parker Lake (N. Buckmaster, CDFW pers. comm. 2015, J. Weaver pers. obsv. 2016), it is currently assumed no special fishing regulations are required. If the population structure changes over time toward smaller fish (most likely to be revealed through intermittent gill netting), a regulation change may be warranted. Regulations will be used in an adaptive manner to optimize angler opportunities, while adhering to the management goals/objectives outlined in this document.

Addressing stressors

No stressors to the fishery or surrounding habitats have been identified.

Adaptive strategies

This guidance document provides management direction for wild trout resources in Parker Lake. 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 satisfaction should play a central role in future management prescriptions. Any changes to the prescribed management goals and objectives should be based on updated quantifiable data, stakeholder input, HWTP Policy (Bloom and Weaver 2008), the Strategic Plan for Trout Management (Hopelain and Pert 2003), and collaborative (CDFG Headquarter and Inland Deserts Regional) 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.

High Mountain Lakes Project Database. 2015. California Department of Fish and Wildlife, Rancho Cordova, CA.

Hopelain, J.S. and E. Pert. 2003. Strategic plan for trout management. State of California. Resources Agency. Sacramento, CA.