

LAKE MANAGEMENT PLAN

Updated July 2006 – J. Korth

Water(s): Park Lake

Location: Sun Lakes Area, Sec 10, 11, 12, 14, 15, 16 T24N R27E; approximately 18 miles north of Ephrata and 7 miles south southwest of Banks Lake, Grant County, WA

Mucode: BAOKMQ, WRIA#: 42,

PHYSICAL INFORMATION:

1. Elevation: 1,096 ft. Avg/Max Depth: 30/85 ft. Acres: 342
Acre-feet: 13,049 Weight of water: 35,468,875,000 lbs.
2. Land Ownership: Public 40% DOT, State Parks; Private 60%;
Land Use: Residential 10% (10+? near-shore homes), Private-Recreational 50%
3. Public Access, Type and Condition: Sun Lakes State Park boat launch, parking, toilets, camping, swimming; well maintained. Most of DOT land accessible by car for shoreline angling; camping allowed; no services or maintenance.
Resorts: Two well-developed resorts with cabins, camping, launches, stores, and boat rentals.
4. INLET STREAM: small creek from Vic Meyers, joined by creeks from Delaney Springs and Deep lakes; Mirror Lake, a shallow, wide spot in the creek just above Park Lake, will also be treated as part of the inlet system; 5-10 cfs; ~ ½ mile.
5. OUTLET STREAM: perennial to Blue Lake; 5-10 cfs; ~ 175 m.
7. Habitat Description: Park Lake is primarily pelagic, and at least half the shorelines are steep and rocky. Shallow littoral areas are mainly limited to the north and south ends of the lake, comprising about 20% of the total lake surface. Aquatic vegetation (*Chara* sp.?) covers the bottoms of these littoral areas almost completely, and rushes and cattail surround about 50% of these shorelines. Park Lake has become more mesotrophic, especially in the north and south ends.
8. Water Chemistry: pH 9.8-7.8, Specific Conductance 466-518 micromhos.

GENERAL MANAGEMENT INFORMATION:

1. Current Regulations: General season opener on last Saturday in April; closes September 30. Daily limit 5 trout. Statewide regulations for all other species.
2. Stocking: 130,000 rainbow trout fry, usually Spokane stock;
10-20,000 brown trout, Ford stock.
3. Present fish population: rainbow trout, brown trout, yellow perch, largemouth bass, smallmouth bass, pumpkinseed sunfish, bluegill, brown bullheads, sculpins.
4. Anadromous fish use: none.

Management History Summary:

Park Lake has been one of the most popular trout fisheries in Washington since the 1950s. When free from competing species, the fishery produced in Park Lake supports up to 4,000 angler trips on opening day alone. Even when the fishery is diminished and the lake in need of rehabilitation, over 1,000 angler trips occur on opening day. Only about 10% of these anglers are from the local area, while 50% come from the westside of the state.

Management intent has been to produce daily limits of about 12-inch yearling rainbow on opening day, with enough fish remaining thereafter to carry the season through early summer.

Stocking records for rainbow trout go back at least to 1953. Early stocking rates were 200,000 or more fish, but were adjusted to current rates during the 1980's. Besides rainbow, coho have also been planted with some success. Eastern brook trout have been tried sporadically. Brown trout were introduced in 1987, with the hope of controlling competing spiny-rayed fishes. The browns have at least added the occasional lunger to the creel and are a source of some excitement. Most fish are stocked during the spring as fry. When competing species begin to adversely affect spring fry survival, fall plants of advanced fry have helped sustain the fishery. Catchables have generally been used to provide a fishery the season before and after rehabilitation occurs.

Lake rehabilitation with rotenone has been a standard and successful management tool for Park Lake since its earliest days as a fishery. Rehabilitations of the entire lake have averaged about every 5-6 years and occurred in 1952, 1959, 1963, 1976, 1981, 1986, and 1996. Partial rehabilitations of the shorelines to control sunfish were done during the late 1960s and early 1970s with some success as indicated by the 13 years between complete rehabs during that time.

Park Lake has generally followed the regulations applied to April opening day waters statewide. Focus is on the harvest of yearling fish. No minimum size is established, and bait is allowed. Daily limits were 8 fish until 1994, when the limit was reduced to 5 fish in an attempt to prolong successful angling during the spring and early summer.

Park Lake closes at the end of September to protect the cohort planted the previous spring, which would provide the next year's fishery. During the years through 1993, the lake was open to special regulations, catch and release angling during October. This fishery was instituted at the Commission's request. Since this fishery would be for fish planted the spring of the same year, the fish were still fairly small. The intended fishery never materialized.

Management Issues Summary:

The increasing population of Washington has been the primary issue with managing Park Lake. The crowds of anglers continue to increase. Anglers from the westside of the state who have been displaced from their abandoned traditional fisheries on opening day or closed anadromous fisheries are becoming more numerous at Park Lake. The local population is growing as well. Sun Lakes State Park is the second most visited State Park in Washington. Angling also conflicts with other lake users such as skiers and boaters, especially from Memorial Day to Labor Day.

The introduction, mostly illegally, of exotic species deleterious to the management of trout is the most serious challenge to the management Blue Lake. Competition from yellow perch and sunfish combined with predation by small and largemouth bass severely impact trout fingerling survival. Managing with trout fingerlings thus requires periodic chemical rehabilitation to eradicate the majority of the spiny-rayed fishes. Current hatchery space and water is inadequate to produce the number of catchable-sized trout required to create the same fishery. Net pens would not produce large enough fish by the opener.

Rehabilitation proposals may be met with some argument due the preceding discussions. The environmental effects of rotenone use will also no doubt be invoked. The resistance at Park Lake should not be as strong as that for near-by Blue Lake, as Park Lake has many fewer shoreline residences.

A more recent management issue for this water has been the increasing number of piscivorous birds frequenting the area. While no uncontested proof of damage to the fishery exists, these species are primarily fish eaters. Loons have been observed during the fall. Mergansers and even a few cormorants have become summertime residents on Blue Lake. It is suspected that the height of their impact to the fishery has yet to be seen.

T&E Flora and Fauna: Professionals from many resource fields have visited this site countless times during the last 40 years. No known report exists of any threatened or endangered species habitually found in or near Blue Lake. Occasional visits from both bald and golden eagles occur, although no nests of these two species are known in the area. Protected species of waterfowl and other birds frequently are found here at times, as well. No significant nesting of any of these species occurs.

Current Management Objectives: Park Lake

Last Saturday in April through September 30, production type trout fishery. Five fish limit, no size or gear restrictions. Provide 4+ yearling 12-inch rainbow trout per angler trip for 2-4,000 anglers on opening day, and 3 trout per angler average for the remaining part of the season for at least 20,000 additional angler trips. Park Lake could sustain well over 25,000 angler trips per year when relatively free of competing or predacious species.

1. Fishery Objectives:

<u>Species</u>	<u>Type</u>	<u>Category</u>	<u>Number of Fish</u>		<u>Avg. Size</u>	<u>Exploit.</u>
			<u>/hour</u>	<u>/Angler</u>		<u>Rate</u>
Rainbow	Prod	Opener	3	5	12 inches	10% plant
		After	1-2	3	12 –15 in.	95% plant

2. Angler use objective (#angler days): Opener - 4,000; Season - 20,000

3. Stocking Objectives:

Post rehabilitation, first year, catchables for first year's season in addition to fingerlings;

<u>Species</u>	<u>Total</u>	<u>/Acre</u>	<u>/pound</u>	<u>Planting Month</u>
Rainbow	60,000	180	2-3	March-April

- minimum number to produce 3 fish/angler average opening day catch

Brown Trout	5-10,000	5-10	2-3	May
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- give browns head start in growth to be predators on spiny-rayed fishes and provide a little variation in the catch.

Post rehabilitation, first ~ 5 years

<u>Species</u>	<u>Total</u>	<u>/Acre</u>	<u>/pound</u>	<u>Planting Month</u>
Rainbow	130,000	375	80-100	May
Brown Trout	5-10,000	10-20	50-100	May

Post rehabilitation, ~ year 6-10; split fingerlings to reduce intraspecific competition

<u>Species</u>	<u>Total</u>	<u>/Acre</u>	<u>/pound</u>	<u>Planting Month</u>
Rainbow	65,000	180	80-100	May
Rainbow	65,000	180	10-20	October
Brown Trout	5,000	10-20	50-100	May

- continue brown trout fingerlings, if available, until yearling recruitment is poor.

Post rehabilitation, ~ year 7-10, increasing catchables as available and as both spring and fall fingerling recruitment decline; in addition to fingerlings;

<u>Species</u>	<u>Total</u>	<u>/Acre</u>	<u>/pound</u>	<u>Planting Month</u>
Rainbow	15-30,000	40-90	2-3	March-April

4. Management Strategy (including regulations):

- Plant rainbow fry in spring for following year's production; after opener if possible to avoid nuisance and mortality of fingerlings caught opening day.
- Maintain statewide April opener regulations.
- Harvest 95% of plant or available fish by end of season.
- Monitor fishery via Brown's Opening Day Model.
- Monitor all fish species periodically by electrofishing or netting.
- Begin stocking 50% of fry during the fall at 10-20/lb. when spiny-ray species begin impacting spring fry survival (about 6th year post-rehabilitation).
- Control spiny-ray species with rotenone when survival of spring and fall plants is inadequate to produce an acceptable fishery.
- Stock catchables as available during the 3-5 years previous and the year after rehabilitation.
- Native Species/Stocks/Habitats Needing Special Protection: None.