

## LAKE MANAGEMENT PLAN

*Updated April 20, 2020 – W.P. Baker & B.M. Walker*

### **Water(s): Hatch, Little Hatch, and Keogh lakes (Stevens Co.)**

**Location:** Hatch, Little Hatch, and Keogh lakes are located 6 miles east-southeast of Colville

	<b>Size:</b>	<b>Max Depth:</b>	<b>Volume:</b>
<b>Hatch Lake</b>	35 acres	40 ft	525 acre feet
<b>Little Hatch Lake</b>	14 acres	15 ft	105 acre feet
<b>Keogh Lake</b>	18 acres	65 ft	584 acre feet

**Water Source:** Mostly groundwater seep, with limited overland flow. There is no defined intermittent or perennial inlet stream.

**Outflow: NO** – A seasonal surface water connection exists during spring melt/run-off between the lakes. Surface water connection ceases prior to fall, with all lakes typically self-contained by the time of treatment. Little Hatch Lake (lowermost lake in the Hatch Lake system) has no outlet.

### **Management History:**

Hatch Lake has been historically managed as a production winter-season Rainbow Trout *Oncorhynchus mykiss* fishery, providing consistent ice fishing opportunity which is popular with anglers in the Colville/Spokane area. Hatch Lake is one of four winter-only production trout fisheries in the greater Spokane area (Hog Canyon Lake in Spokane County, Fourth of July Lake in Lincoln County, and Hatch and Williams lakes in Stevens County).. Little Hatch Lake and Keogh Lake are located on privately-owned parcels, but require rehabilitation (rotenone treatment) due to illegal introduction of Yellow Perch *Perca flavescens* (Keogh Lake; circa early to mid-2000's) which eventually spread into Little Hatch and Hatch lakes via seasonal surface water connection.

The presence of undesirable species of fish is the greatest impediment to maintaining a trout fishery in Hatch Lake. Hatch Lake provides an excellent winter fishery when not impacted by undesirable fish species. Rainbow Trout were first stocked into Hatch Lake by WDFW in 1956. A rotenone treatment was required in 1963 to remove Yellow Perch. Hatch Lake has been treated with rotenone seven times (1963, 1971, 1978, 1988, 1995, 1999, 2008), Little Hatch Lake 5 times (1964, 1971, 1978, 1988, 2008), and Keogh Lake twice (1978, 1988). All treatments except those in 1988 have targeted Yellow Perch. Treatments in 1988 removed Largemouth Bass *Micropterus salmoides* from Hatch and Keogh lakes and Smallmouth Bass *Micropterus dolomieu* from Little Hatch Lake. Currently, the system is again inhabited by Yellow Perch. **T&E Flora and Fauna:** Professionals from various resource agencies have visited this site over the last 50 years. No known report exists of any threatened or endangered species habitually

found in or near these lakes. There is a bald eagle *Haliaeetus leucocephalus* nest located between Keogh and Little Hatch lakes. However, it is anticipated that chicks will have fledged and left the nest by the target treatment timeframe (October). Golden eagles *Aquila chrysaetos* may also utilize this area, but no nests are known.

**Current Management Objectives:**

Hatch Lake is a winter-only (Friday after Thanksgiving through March 31) production trout fishery. Fishing regulations include a five trout limit with no size or gear restrictions. The target catch rate is 2-5 rainbow trout per angler trip with a carryover harvest rate of 10 to 15 percent. The fishery should generate a minimum of 500 angler-trips per season.

**1. Fishery Objectives:**

Species	Type	Category	Fish/Hour	Fish/Angler	Exploit. Rate
Rainbow	Production	Winter Season Opening Day	2	3 to 5	10%
Rainbow	Production	Remainder of season	1	2 to 3	70%

**2. Angler use objective:** Season – 500 angler days

**3. Stocking Objectives:**

<u>Year (post-Rehabilitation)</u>	Species	Number of Fish Stocked			Planting Month
		Total	/Acre	/Pound	
1	Rainbow	10,000	286	100	May
	Rainbow	2,800	80	≤ 2.5	March-April, <i>first year post-rehabilitation</i>
2	Rainbow	10,000	286	<100	May
3	Rainbow	10,000	286	<100	May

**Management Strategy:**

- Plant Rainbow Trout fry and catchables in spring 2021.
- Assess growth of over-wintered fry plant; Total length should average 11 inches; adjust stocking rate as necessary.
- Harvest 85% of yearling fish by end of season.
- Monitor all fish species periodically by electrofishing or netting.
- Control undesirable species with rotenone when trout survival and/or condition are inadequate to produce an acceptable fishery.