LAKE MANAGEMENT PLAN
Updated June, 2008 – C. Donley

Water: Fourth Of July Lake (Lincoln Co.)

Location: Fourth of July Lake is located 2.2 miles south of Sprague, Washington.

	Size:	Max. Depth:	Volume:
Fourth of July Lake	112 acres	40 ft	2,016 acre feet

Water Source: Groundwater seeps, with limited overland flow.

Outflow: None

Management History:

Fourth Of July Lake has only been rehabilitated once in the history of WDFW fish management. September 30, 1958 the lake was treated with Toxaphene to eliminate common carp. Prior to the treatment, Fourth of July was commercially fished for common carp. As commercial value and interest waned for common carp the Department of Game rehabilitated Fourth of July Lake and created a winter production trout fishery. Since that initial treatment and stocking Fourth Of July Lake has provided an excellent winter opener fishery.

.

The current management objective for this lake is to provide for a production wintertime rainbow trout fishery. This type of fishery is prized as an opportunity for families to recreate together, as well as provides an appropriate challenge for occasional or novice anglers. Fourth of July Lake has provided a consistent winter ice fishery that has been popular for the entire greater Spokane angling base. The number of winter only fisheries in the greater Spokane area is limited to four production trout lakes. The limited amount of winter fishing opportunity renders Fourth of July Lake highly desirable to provide wintertime recreation.

Fourth of July is a closed system, highly alkaline basin that is close to too alkaline to support trout. As a result this lake is highly productive (eutrophic) and has a reputation of producing rainbow trout that consistently reach lengths of greater than 20 inches at age 3. This fishery has become increasingly popular; over 500 anglers participate in the opening day fishery for this lake. A steady decline in the fishery over the past 5 years has been observed and commented on by the angling public. Growth, condition and recruitment of rainbow trout in the fishery at Fourth of July have consistently dropped over the past 5 years. It was suspected that low water years and avian predation were contributing to the poorly performing fishery. While the aforementioned issues contributed to the poorly performing fishery, fathead minnows were detected during electrofishing sampling in 2003. Since 2003, fathead minnows have grown in abundance to the point where interspecific competition has eliminated rainbow trout spring fry recruitment, and negatively affected catchable rainbow trout condition, growth and recruitment to the fishery. Fathead minnows are known competitors for secondary productivity with rainbow

trout; their presence is the largest contributor to the decline in the fishery that has been observed over the last five years.

Generally, fathead minnows would be viewed as a potential forage source for larger piscivorous rainbow trout. Several attempts have been made to stock advanced sized rainbow trout to predate upon the minnows. The stock of rainbow available to plant has not proven to be an effective predator on fathead minnows. The stock of fish available for use is coastal rainbow trout; this stock is more inclined to be zooplanktivourous/insectivorous than piscivorous. This stock of rainbow trout is the only stock available to WDFW to plant in our lowland lakes program. Brown trout could be stocked in the lake that would utilize the forage base, but brown trout are difficult to catch. WDFW does not have the infrastructure or money to plant sufficient numbers of brown trout into the lake. Secondarily, brown trout would predate upon and limit rainbow trout recruitment into the fishery, eliminating or at least limiting the species that fulfills the WDFW management objective for this lake.

The final attempt at controlling fathead minnows through the use of piscivorous fish is currently under investigation. WDFW has stocked tiger trout (hybrid brook trout x brown trout) into the lake in an attempt to control fathead minnows. Final sampling and analysis of the results will not be completed until January 2009. If tiger trout prove to be effective in limiting fathead minnow abundance the rehabilitation will not be conducted.

*T&E Flora and Fauna***:** Professionals from many resource agencies have visited this site countless times during the last 50 years. No known report exists of any threatened or endangered species habitually found in or near these lakes. 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.

Current Management Objectives:

Fourth of July Lake is a winter lake opener, December1 to March 31, production fishery. Five fish limit, no more than 2 greater than 14 inches, no gear restrictions. Provide 2 to 5 rainbow trout per angler trip with a carryover harvest rate of 20 to 25 percent. Fishery should generate a minimum of 5,000 angler-trips per season.

1. Fishery Objectives:

Species	Type	Category	Fish/Hour	Fish/Angler	Exploit. Rate
Rainbow	Production	Opening Day	2	3 to 5	50% 1 yr cohort
Rainbow	Production	Remainder of season	1	2 to 3	50% 1 yr cohort

2. Angler use objective (# angler days): Season – 5,000 angler days on water

3. Stocking Objectives:

		Number of Fish Stocked			
Lake	**Species**	**Total**	**/Acre**	**/Pound**	**Planting Month**
4th July- year 1	Rainbow	35,000	312	≤20	October
Year 2	Rainbow	30,000	267	<100	April-May
Year 3	Rainbow	60,000	535	<100	April-May
	Rainbow	20,000	178	≤ 5	March
Year 4	Rainbow	60,000	535	<100	April-May
	Rainbow	20,000	178	≤ 5	March
Year 5	Rainbow	60,000	535	<100	April-May
	Rainbow	20,000	178	≤ 5	March

Management Strategy:

- Plant rainbow trout fry fall 2009 and spring fry and catchables during successive springs.
- Check yearling growth; should be about 12 inches, adjust stocking rate as necessary.
- Harvest 50% of age 1 fish by end of season.
- Monitor all fish species periodically by electrofishing or netting.
- Control undesirable species with rotenone when trout survival is inadequate to produce an acceptable fishery.