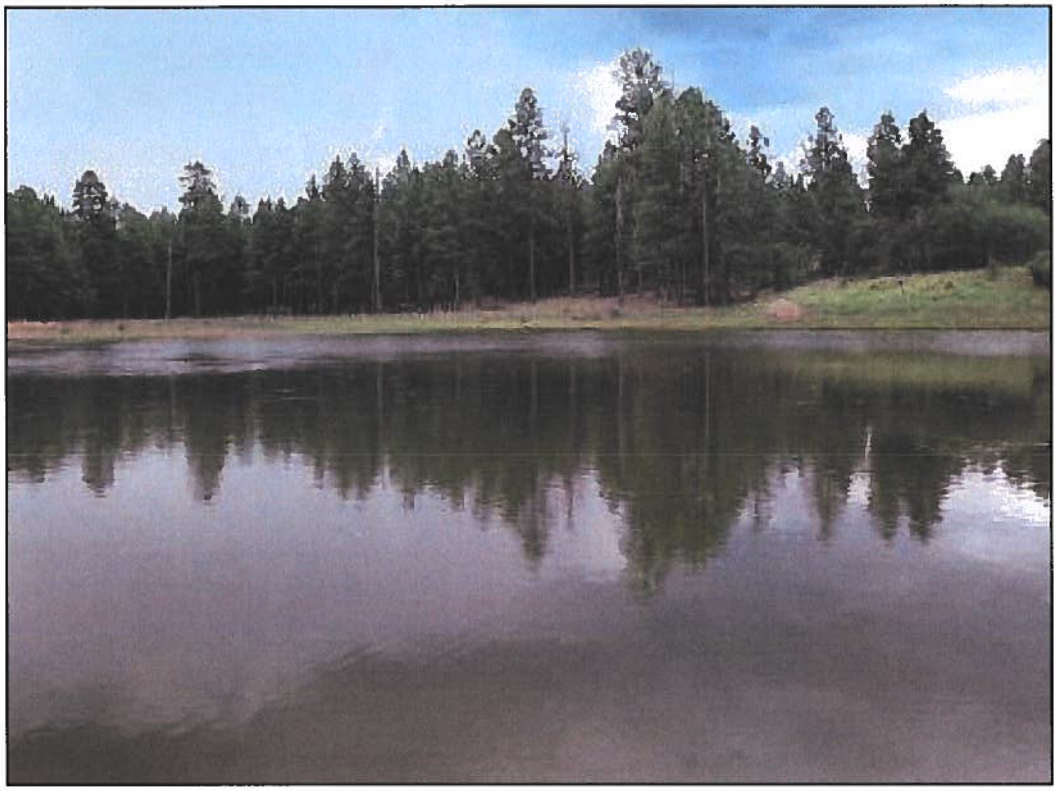

JD Dam Lake

Fisheries Management Plan
2019-2029

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Aquatic Wildlife Branch Chief

Location

JD Dam Lake is located on the Williams District of the Kaibab National Forest about 15 miles south of the town of Williams near Whitehorse Lake at UTM 406226, 388091 (Figure 1).

Figure 1.

Management Prescription

The primary management approach will follow the Featured Species concept per the Coldwater Vision (AGFD 2019) for Tiger Trout *Salmo trutta x Salvelinus fontinalis* and Brown Trout *Salmo trutta;* These concepts will be supported by periodic stocking of Brown Trout and annual stocking of Tiger Trout. Rainbow Trout *Oncorhynchus mykiss* may be stocked if Tiger Trout are not available. The Featured Species coldwater sport fishery emphasis is based on the suitable water quality and productivity conditions for trout in JD Dam Lake.

JD Dam Lake is the largest of four special regulation waters in the Williams area with catch and release regulations and artificial fly and lure single barbless hook gear restrictions.

Objective 1: Maintain a Featured Species concept fishery for Tiger Trout as listed in the Coldwater Sportfisheries Strategic Vision Document.

Objective 2: Provide an opportunity for anglers to catch a 20-inch trout.

Members of the Northern Arizona Flycasters and Grand Cayon Trout Unlimited Clubs are extremely intersested in the management of JD and are a prime source of information on the fishery. Club members have provided the Regional Aquatics staff with information on the species, number, and size of the fish caught during there angling trips on JD. Club member reports will be the primary method used to determine the objectives for the fishery are being met. Objective guidelines to meet objectives are listed in Table 1 below.

Table 1. JD Management Goals, Objectives and Adaptive Management Strategies:

Objective 1: Maintain a Featured Species concept fishery for Tiger Trout as listed in the Coldwater Sportfisheries Strategic Vision Document.			
Parameters	**Objective Guideline**	**Trigger point to address unmet Objectives**	**Strategies if Objectives are Unmet**
Angler Catch Rates	Reported angler catch rate from angling club members is greater than 1 fish per hour.	Reported angler catch rate from angling club members is less than 1 fish per hour, for two consecutive years.	• Determine if water quality is suitable to stock trout.
Tiger Trout persistance	Multiple age classes of Tiger Trout are caught by anglers.	Tiger Trout caught by anglers are only from that years stocking.	• Explore stocking White Amur to reduce plant growth. • Investigate forage enhancements.
Objective 2: Provide an opportunity for anglers to catch a 20-inch trout.			

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Parameters	**Objective Guideline**	**Trigger point to address unmet Objectives**	**Strategies if Objectives are Unmet**
Trophy Potential	5% of trout sampled by angling surveys	<5% of trout sampled by angling surveys	• Sample lake and look at condition factor of fish. • If condition factor is poor reduce number of fish stocked.

Background

JD Dam Lake (JD) has been managed as a fishery by the Department since the 1950's. More recently, JD been managed as a special regulation quality trout fishery since 1999.

JD Dam Lake is located on JD Wash. The water that spills from JD flows about 2 miles down the wash and then drops off a 100+ foot waterfall into a tributary of Sycamore Canyon.

Productivity/Water Quality

Monthly water quality and zooplankton surveys were conducted on JD and Perkins Tank in 2001. JD was found to fall out at a trophic state of mesotrophic to eutrophic and was nitrogen limited. JD had pH readings in the mid 9's during the summer months because of abundant aquatic plant growth and low buffering. Zooplankton were abundant in JD reservoirs providing ample food for trout.

Water Quality needs to be monitored on JD. The Region II Aquatic Wildlife staff will assist the Department's Water Quality Specialists in collecting data as needed.

Forage/Prey

The primary forage in JD are zooplankton and aquatic insects. Since 2001, no studies or sampling has been done to investigate or catalog what zooplankton and aquatic insects are present however. The Department will partner with Northern Arizona University or other stakeholders to gain more information on the forage base in JD.

Habitat

In 1998, a cooperative project between the Department, KNF, NAF and Coconino County was conducted on JD. The lake was pumped dry, dredged, and contoured to provide deep areas for the fish to survive during the summer and winter along with shallow areas for feeding. The project also included building 2 fishing peninsulas which NAF seeded to reduce erosion.

Maintaining the fencing, kiosks and other signs at JD are very important, and a priorty for the Department and partners (NAF, GCTU and KNF). All parties are commited to continuing this for the term of this plan. The Department will also continue working with these same partners to develop a plan to to address sedimentation, spillway damage, and damage to the dam at JD.

Submerged aquatic plants are the primary type of fish habitat at JD. Excessive productivity can and has caused water quality issues as discussed above. White Amur have been used in other small lakes around the state to address submerged aquatic vegatation. The Department will seek clearances to stock Amur in an attempt to control submerged aquatic vegetation at JD.

Species

The only fish currently known in JD are stocked Rainbow Trout, Brown Trout and Tiger Trout. In the past Rainbow Trout and Brown Trout were stocked annually in JD as subcatchable fish. Beginning in 2017 Tiger Trout have also been stocked into JD. The current plan is to stock Tiger Trout subcatchables in the spring and Brown Trout subcathcables in the fall. There is no plan to stock Rainbow Trout during the scope of this plan.

On November 16, 2016, a meeting was held with members of Northern Arizona Flycasters (NAF), Grand Canyon Chapter Trout Unlimited (GCTU) and representatives from the Kaibab National Forest (KNF) to develop fish management objectives for four "Special Regulation" waters in the Williams area. During the meeting with our partners there was a strong desire to manage JD for Tiger Trout and Brown Trout. As a result of input from this meeting it was decided that JD will be managed as a Featured Species water for Tiger Trout and Brown Trout. In addition club members stated that JD consistently produces trout in the 15 to 20 inch range if water quality issues stay subthethal during summer months. Therefore, the Department will continue to work with partners to manage for large trout with the goal of anglers having and opportunity to catch a 20-inch trout.

In September 2007, a trammel netting and angling survey was conducted in response to angler reports of a possible illegal stocking of Northern Pike *Esox lucius* into the tank. Two 15-foot and one 150-foot trammel net were set in random locations across the tank for approximately 6 hours. Two anglers also actively fished for pike during a 3-hour period using artificial lures and flies with single, barbless hooks. Results of that survey indicated a fish community of catchable sized Rainbow and Brown Trout (Figure 3). The survey also indicated that adult bullfrogs were observed in extremely large numbers (in the hundreds) at the tank.

Elk Tank, Middle Tank, and JD Dam Lake all suffered from low water levels due to drought conditions in 2008. In April of 2008, a gill netting survey was conducted to determine if the trout population in JD Dam Tank survived the winter of 2007-2008. One 150 foot 6 panel experimental trammel net was set across the tank for 17.25 hours. The results of the survey indicated that Rainbow Trout were still present in the tank (Figure 4) .

Members of the Northern Arizona Flycasters and Grand Cayon Trout Unlimited Clubs are extremely intersested in the management of JD and are a prime source of information on the fishery. Club members have provided the Regional Aquatics staff with information on the species, number, and size of the fish caught during there angling trips on JD. Club member reports will be the primary method used to determine the objectives for the fishery are being met.

Access

The Department will continue to look at ways to increase awareness of the fishery and the special regulations. One way is to work with our partners to change access at JD to ensure anglers must pass a regulation sign to get to the lake. Once at the lake, maintenance of the kiosk will be critical in contining awareness.

JD is would benefit greatly by installing a float tube ramp with handrails to reduce transport of mud and increase safety. Compliance documentation in coordination with the KNF will be completed in the next 5 years to increase the probability of this project getting done.

Catch

Creel census has not been conducted on JD because of the relatively low use. A system using angler diaries or angler cards could be used along with cameras to get estimates of use, satisfaction and catch rates. The Department will continue to evaluate these options and implement one or more of these to better evaluate catch rate objectives going into the future.

Satisfaction

As has been stated in other management plans, a measure of satisfaction for anglers in Northern Arizona is often a moving target. Large shifts in water levels, stocking rates and water quality issues make maintaining fish populations at levels that translate into happy anglers is tough at best. The Department is heavily commited to working with all interested partners in working at strategies listed in Table 1 to keep anglers catching large and unique trout, while keeping access good and law enforcement visible.

Again, the Department will develop an angler diary or card to distribute to anglers who fish the waters. This is the best means of determining angler use, catch rates, size of fish caught and satisfaction on JD. A standardized question regarding an angler's satisfaction with the fishery on a scale of 1-5 will be included on the card. Satisfaction of 80% is the goal of the fishery.

Literature Cited

Arizona Game and Fish Department. 2019. Coldwater Sportfisheries Strategic Vision Document. Arizona Game and Fish Department, Statewide Sportfish Program, Phoenix, Arizona.

Tables and Figures

Figure 2. Satellite view of the area around JD Dam Lake.

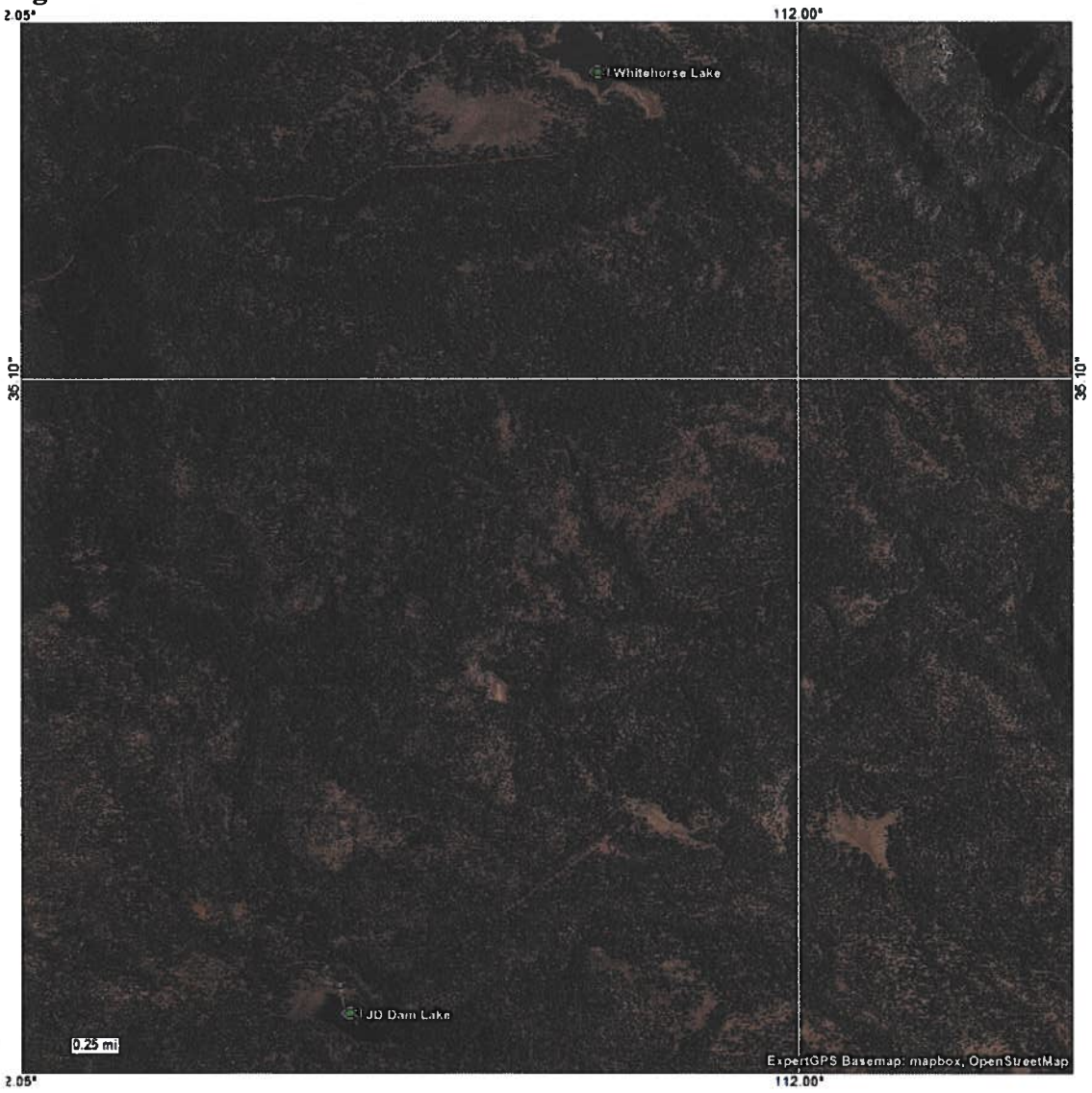

Figure 3. 2007 JD Dam Lake trammel net and angling survey.

Species	# Collected	Length Range (mm)	# caught Angling	# caught Trammel
Rainbow Trout	17	216-302	7	10
Brown Trout	2	206-211	2	0

Figure 4. 2008 JD Dam Lake gill netting survey.

Species	Num. Collected	Average Length (mm)	Min-Max Length (mm)
Rainbow trout	12	334.8	320-350
Brown trout	0	-	-
Northern pike	0	-	-
Totals	12	-	-