



Alvord Lake Fisheries Management Plan 2020-2030

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Approved [] by Chris Cantrell *D. Andrew Clark* acting for Date: 10/1/2020
Aquatic Wildlife Branch Chief

Location

Alvord Lake is located at Latitude 33°22'26.2"N Longitude 112°08'09.4"W near Baseline Road and 35th Avenue, Phoenix (Figure 1).

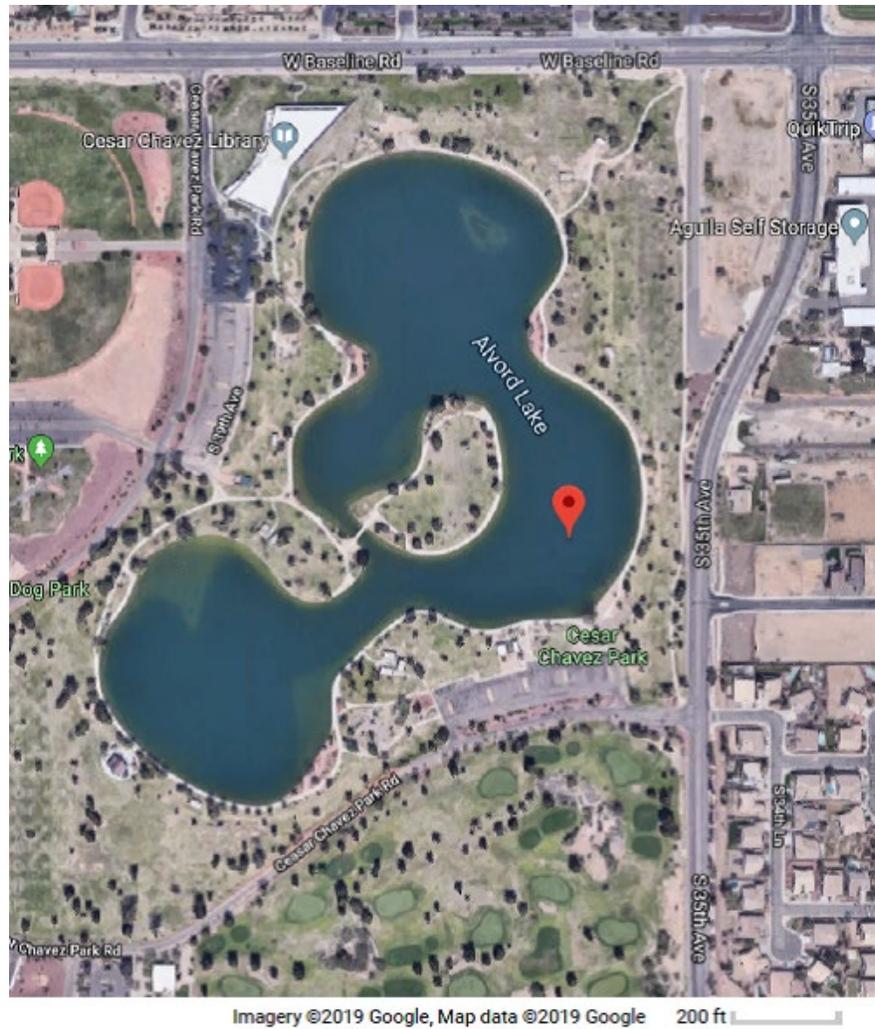


Figure 1. Alvord Lake, Phoenix.

Management Prescription

The Arizona Game and Fish Department (Department) has developed approaches under Strategic Vision Documents (AGFD 2019a-b) to help guide fisheries management in Arizona. The Department also developed a Community Fishing Program (CFP) Vision in 2015 to further guide management objectives in CFP waters (AGFD 2015). Target catch rates and angler satisfaction is the same for all CFP waters: Achieve an angler satisfaction rate of at least 85% for each individual water, and overall catch-rates greater than 0.50 fish/hour. Management at Alvord has employed an Intensive Use approach since the lake was added to the program in 1987. Because the Department cannot possibly stock all CFP waters on the same frequent basis due to funding and logistical constraints, all CFP waters are designated under one of two stocking strategies, Core or Expansion. Alvord is designated under the Core strategy. Daily bag limits and frequency of stockings are listed in Table 1.

Management objectives and adaptive management strategies have been set under the Intensive Use approach. Monitoring activities, including frequent communication with communities and angler creel surveys will be used to determine if management objectives are being met. Guidelines and strategies to meet objectives are listed in Table 2.

Objective 1: Maintain an Intensive Use Rainbow Trout *Oncorhynchus mykiss* fishery.

Objective 2: Maintain an Intensive Use Channel Catfish *Ictalurus punctatus* fishery.

Objective 3: Maintain an Intensive Use Water for Bluegill *Lepomis macrochirus* and/or Redear Sunfish *Lepomis microlophus*.

Objective 4: Maintain an angler satisfaction rate of at least 85%.

Table 1. Alvord Lake Stocking Management Strategies:

Species	Management Strategy	Regulations	Stocking
Focal Species ¹			
Rainbow Trout	Intensive Use – Winter Months	Limit 4 per day	Frequent; November to March
Channel Catfish	Intensive Use – Summer Months	Limit 4 per day	Frequent; March to November
Sunfish (Bluegill, Redear)	Basic Yield – Year Round	Limit 10 per day	Once per year
Largemouth Bass <i>Micropterus salmoides</i>	Low Yield – Year Round	Limit 2 per day, 13in minimum	As needed
Other sport species			
Black Crappie <i>Pomoxis nigromaculatus</i>	Low Yield – Year Round	Statewide limits	Maintenance as needed

¹ Species approved for stocking by U. S. Fish and Wildlife Service.

Table 2. Alvord Lake Objectives and Adaptive Management Strategies:

<i>Objective 1: Maintain an Intensive Use Rainbow Trout fishery.</i>			
Parameters	Objective Guideline	Trigger point to address unmet Objectives	Strategies if Objectives are not met
Angler Catch Rates	Maintain an angler catch rate of 0.5 fish/hour during stocking season	Catch rates drop below 0.5 fish/hour during assessment of catch rates on a 5 year rotational basis through creel surveys	<ul style="list-style-type: none"> • Implement changes in daily bag limit • Increase number of Rainbow Trout stocked • Increase frequency of stocking • Increase law enforcement patrols to reduce poaching
<i>Objective 2: Maintain an Intensive Use Channel Catfish fishery.</i>			
Angler Catch Rates	Maintain an angler catch rate of 0.5 fish/hour during stocking season	Catch rates drop below 0.5 fish/hour during assessment of catch rates on a 5 year rotational basis through creel surveys	<ul style="list-style-type: none"> • Implement changes in daily bag limit • Increase number of Channel Catfish stocked • Increase frequency of stocking • Increase the amount of artificial habitat • Increase law enforcement patrols
<i>Objective 3: Maintain an Intensive Use Water for Bluegill and/or Redear Sunfish.</i>			
Angler Catch Rates	Maintain an angler catch rate of 0.5 fish/hour	Catch rates drop below 0.5 fish/hour during assessment of catch rates on a 5 year rotational basis through creel surveys	<ul style="list-style-type: none"> • Implement changes in daily bag limit • Increase number of bluegill stocked • Increase frequency of stocking • Increase the amount of artificial habitat • Increase law enforcement patrols • Suppress predators

Objective 4: Maintain an angler satisfaction rate of at least 85%.			
Parameters	Objective Guideline	Trigger point to address unmet Objectives	Strategies if Objectives are no met
Angler Satisfaction	A minimum of 85% of angler's rate fishing as fair, good or excellent	Creel census shows less than 85% of angler's rate fishing as fair, good or excellent	<ul style="list-style-type: none"> • Increase stocking rates • Increase size of fish stocked • Increase or modify efforts for angler education, preferably at the lake • Increase law enforcement efforts

Background

Alvord is an artificially constructed lake located in Phoenix, Arizona at the intersection of 35th Avenue and Baseline Road. A part of Cesar Chavez Park, the lake is 25 acres in surface area with a maximum depth of 18 feet. Park amenities include a dog park, a nearby sports field, the Adobe Public Golf Course, a local library, and abundant parking and bathrooms. A boat ramp is located on the southeastern end of the lake but only non-motorized vessels are permitted during the daylight hours.

The lake is fed via an inflow that comes off the Salt River Project (SRP) Western Canal on the southeastern side of the lake. Alvord Lake is a closed system, containing no outflow and therefore posing no threat of species emigration. The bottom of the pond is sealed with a plastic liner. Fish habitat has been placed in the northern portion of the lake.

Productivity/Water Quality

The City of Phoenix Parks and Recreation Department has a vendor/contractor that manages the algae and aquatic macrophytes via periodic application of herbicides/algaecides as well as managing the lake aeration system.

Forage/Prey

Very little data has been collected by the Department on forage or prey species assemblage from Alvord Lake since construction. Based on stocking records as well as observations, the lake is known to harbor Fathead Minnow *Pimephales promelas* as well as Bluegill and Redear Sunfish.

Habitat

According to Joann Hill (previous CFP Specialist), Alvord has relatively minimal fish habitat and structure. Aside from a number of rock piles and various structures in the northern portion of the pond, there isn't any known habitat.

Species

Based on stocking records as well as observations the lake is known to harbor Largemouth Bass, Channel Catfish, Bluegill, hybrid sunfish, Redear Sunfish, Rainbow Trout, White Amur *Ctenopharyngodon idella*, Common Carp *Cyprinus carpio*, and Black Crappie *Pomoxis nigromaculatus*. Data from the 2015 angler creel survey indicate that angler preference is most frequently for anything that bites, followed by the focal species being stocked at the time. During November to March, that primary target species was trout, and from March to November the primary target species was catfish. Fish community surveys have not been completed with the exception of the Arizona Department of Environmental Quality sampling fish for contaminant studies.

Rainbow Trout: Catchable Rainbow Trout will continue to be stocked every 2 weeks from mid-November to mid-March (usually 9 stockings) at a rate of 30-40 pounds per acre. Stocked Rainbow Trout will average 0.75 pounds and have an average length of 10" to 13". An established bag limit of 4 trout per day shall remain until further notice.

Channel Catfish: Catchable catfish will continue to be stocked every 2 weeks from mid-March to mid-June, and late September to mid-November. No stocking shall take place in July or August due to extreme temperatures. Channel Catfish are stocked at a rate of approximately 100 pounds per acre. Stocked catfish average 1.5 to 2.0 pounds and have an average length of 14" to 18". An established bag limit of 4 catfish per day shall remain until further notice.

Bluegill and/or Redear Sunfish: Catchable sunfish are stocked once per year, usually in March or April. Sunfish are stocked at a rate of approximately 30 pounds per acre and have an average length of 5" to 8". An established bag limit of 10 sunfish per day shall remain until further notice.

Largemouth Bass: Catchable (13 inches or greater) or sub-catchable (less than 13 inches) Largemouth bass are stocked periodically depending upon available funds, but no more than once per year and usually in March or April. Largemouth Bass are stocked at a rate of approximately 20 to 30 pounds per acre. An established bag limit of 2 Largemouth Bass per day (Minimum length of 13 inches) shall remain until further notice.

Invasive Species

Alvord is known to have Golden Algae. This invasive algae is known within the SRP canal system and periodically causes fish kills. There are no confirmed records of additional aquatic invasive species at Alvord Lake, but the risk remains high due to the intensive public use it receives as well as the possible spread of invasive species through SRP canals.

Access

Access to Alvord is via three parking lots, two on the northwest and northeast ends of the lake off of Baseline Road and the third on the southeast end of the pond off of 35th Avenue. Access to fishing along the shoreline is generally good and unrestricted. Swimming is prohibited and boating

is restricted to non-motorized vessels during daylight hours only. A permit is required to drink alcoholic beverages. The park is open from 5:30 am to 11:00 pm.

Catch

The CFP has conducted extensive angler creel surveys every 5 years to monitor target species, catch rates, angler satisfaction, harvest rates, and expenditures that can be used to evaluate the economic importance of the lake.

Our target catch rates and angler satisfaction is the same for all CFP waters: Achieve an angler satisfaction rate of at least 85% for each individual water, and overall catch-rates greater than 0.50 fish/hr. Based on angler creel survey data, Alvord had angler catch rates of 0.41 fish/hour in 2000; 0.18 fish/hour in 2005; and 0.29 fish/hour in 2010, and 0.26 fish/hour in 2015 (Arizona Game and Fish Department 2017; see Table 3). Current approved fish species for stocking include Rainbow Trout, Channel Catfish, Bluegill and Redear Sunfish, and Largemouth Bass. Overall catch rates fall short of the target catch rate. Anglers typically target the species being stocked at the time; Channel Catfish in the summer and Rainbow Trout in the winter.

Satisfaction

Angler satisfaction is of paramount importance to the Department. We measure angler satisfaction via two different methods. The first is by the median score on a 10-point scale; and the second is by the percentage of anglers giving a satisfactory score (6-10) on the same scale. Both indicators of satisfaction increased from 2005 to 2010 and subsequently again in 2015 (Table 3).

During Creel surveys and interactions with anglers, Department staff will ask a standardized question regarding an angler's satisfaction with the fishery. Angler satisfaction of 85% is the goal of the fishery and for the program as a whole.

Literature Cited

Arizona Game and Fish Department. 2015. Community Fishing Program Vision for 2015-2025. Arizona Game and Fish Department, Community Fish Program, Phoenix, Arizona.

Arizona Game and Fish Department. 2017. Community Fishing Program 2015 Creel Survey Report. Arizona Game and Fish Department, Community Fishing Program, Phoenix, Arizona.

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

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

Tables and Figures

Table 3. Catch rates of anglers at Alvord Lake as measured by creel surveys:

Lake and Year	Catch Rate Overall	Catch Rate RBT	Catch Rate CCF	Angler Satisfaction Median Score	Angler Satisfaction % Giving 6-10	AUD's (Angler Use Days)
AL 2000	0.41	NA	NA	7	76	53,800
AL 2005	0.18	NA	NA	7	66	43,500
AL 2010	0.29	NA	NA	8	78	53,700
AL 2015	0.26	NA	NA	8	88	56,700