

Chapter 5. Fisheries Status and Consumption Guidelines

Status of the Fisheries

Pelican Lake (*DNR Report, as of 7/27/2015*)

Pelican Lake is located in northwestern Otter Tail County approximately seven miles north of Pelican Rapids, MN. Pelican Lake is a 3,986-acre mesotrophic (moderately fertile) lake that is located within the Otter Tail River Watershed. The southern portion of the lake (309 acres) is referred to as Fish Lake. Pelican Lake is connected to Little Pelican Lake and Lake Lizzie via the Pelican River. The Pelican River inlet is located along the east shoreline of the lake while the outlet is located along the south shoreline of Fish Lake. The Pelican River is navigable by boat upstream to Little Pelican Lake. A dam at the outlet impedes navigability downstream to Lake Lizzie. The maximum depth of Pelican Lake is 55 feet; however, 41% of the lake is less than 15 feet in depth. Historic secchi disk readings have ranged from 5.4 to 13.0 feet.

The shoreline of Pelican Lake has been extensively developed. Homes, cottages, and resorts compose the majority of the development. DNR owned concrete public water accesses are located along the east and southwest shorelines of the lake. Pelican Lake is listed as a designated infested water. Zebra Mussels were discovered in Pelican Lake in September 2009. Remnant stands of hardstem bulrush and wild rice are scattered along various shorelines of the lake. A large stand of hardstem bulrush is located along the north shoreline of the entrance into Fish Lake. Emergent aquatic plants such as bulrush and wild rice provide valuable fish and wildlife habitat, and are critical for maintaining good water quality. Emergent plants provide spawning areas for fish such as northern pike, largemouth bass, and panfish. They also serve as important nursery areas for all species of fish. Because of their ecological value, emergent plants may not be removed without a DNR permit. To maintain the excellent water quality and angling that this lake has to offer, it is imperative to preserve the quality of the aquatic habitat.

Pelican Lake is a popular angling lake during both the open water and ice fishing seasons. The lake is best known for its excellent Walleye, Northern Pike, and Bluegill fishing. Data from the population assessment indicate that these species are abundant. Pelican Lake is also becoming renowned as a trophy Muskellunge lake.

Walleye is a primary management specie in this lake. Walleye abundance has exceeded the long range goal in each of the six most recent surveys. The 2009, 2011, 2012 and 2013 year classes appear to be strong and should provide consistently good Walleye angling for several years. Walleyes ranged in length from 9.9 to 28.5 inches with an average length and weight of 16.2 inches and 1.6 pounds. Walleyes attain an average length of 14.8 inches at four years of age. Northern Pike population characteristics have demonstrated stability over the recent series of assessments. The pike population has remained at a moderate density since the 1983 survey and natural reproduction has continued to be consistently good. Northern Pike ranged in length from 13.5 to 32.1 inches with an average length of 22.8 inches. Pike attain an average length of 22.8 inches at four years of age.

The Muskellunge population can be characterized as a trophy fishery; a low-density population with fish of quality size. Muskellunge sampled via large-frame trap nets ranged in length from 25.2 to 51.7 inches with a mean length of 43.6 inches. Muskellunge sampled via spring electrofishing ranged in length from 34.0 to 50.0 inches with a mean length of 44.6 inches. The DNR will continue to manage Pelican Lake as a trophy Muskellunge fishery.

Bluegill abundance has fluctuated over the recent series of assessments. Bluegill size structure appears to be good. Twenty-four percent of the Bluegills were 7.0 inches or greater in length. Bluegills attain an average length of 6.8 inches at five years of age. Catch data from a spring trapnetting assessment indicate that the Black Crappie population is very abundant with an excellent size structure. Forty-seven percent of the Black Crappies were 10.0 or greater in length. Black Crappies attain a mean length of 9.8 inches at four years of age.

A low-density Smallmouth Bass population exists in Pelican Lake. Smallmouth Bass test-net catch rates have historically been low. Suitable spawning habitat and/or juvenile nursery areas may be factors limiting Smallmouth Bass abundance.

Anglers can maintain the quality of fishing by practicing selective harvest. Selective harvest encourages the release of medium to large-size fish while allowing the harvest of the more abundant smaller fish for table fare. Releasing the medium to large fish will ensure that the lake will have enough spawning age fish on an annual basis and will provide anglers with more opportunities to catch large fish in the future.

See the link below for specific information on gillnet surveys and stocking information:
<http://www.dnr.state.mn.us/lakefind/showreport.html?downum=56078600>

Little Pelican Lake *(DNR Report, as of 06/14/1999)*

Little Pelican Lake is a 345 acre mesotrophic (moderately fertile) lake located in northwest Otter Tail County, approximately ten miles northeast of the city of Pelican Rapids. It has a maximum depth of 25 feet and 74% of the lake is 15 feet or less in depth. Shoreline substrates consist primarily of sand and muck. Secchi disk readings, a measure of water clarity, have been taken during fish assessments since 1967. The reading in 1999 was 11.0 feet. Past readings have ranged from 3.0 to 9.2 feet. Access is gained through a navigable channel from Big Pelican Lake. Development is located on the north and south shorelines. The east end of the lake contains marshy areas. Emergent vegetation (bulrush, cattail, wild rice) is located in areas throughout the basin. Emergent plants are important because they provide valuable fish and wildlife habitat and are critical for maintaining good water quality. They protect shorelines from erosion and can even absorb and break down pollutants from the water. Emergent plants provide spawning areas for fish species such as northern pike, largemouth bass and panfish. They also are important nursery areas all species of fish. Because of their ecological importance, emergent plants may not be removed without a DNR permit.

Little Pelican Lake contains good populations of bluegill, largemouth bass, northern pike and black crappie. The bluegill size structure is good with 42% of the bluegill sampled in 1999 over 7.0 inches in length. Largemouth bass and black crappie are likely present in good numbers. Spring assessments in the future will provide better information on these species. Spawning habitat exists throughout the basin for these species to thrive on their own. Walleye are not stocked in Little Pelican Lake. The walleye population is likely maintained by immigrants entering from Big Pelican Lake. The population is currently good and well balanced with fish ranging in length from 10.0 to 24.5 inches.

See the link below for specific information on gillnet surveys and stocking information:
<http://www.dnr.state.mn.us/lakefind/showreport.html?downum=56076100>

Fish Lake *(DNR Report, as of 07/14/2008)*

Fish Lake is a 267-acre mesotrophic (moderately fertile) lake located in the Otter Tail River Watershed. A portion of Fish Lake is also referred to as Bass Lake. Fish Lake is connected to Pelican Lake by a navigable channel. The immediate watershed is composed of mixed hardwood forest.

Shoalwater substrates consist primarily of sand and gravel. Hardstem bulrush and common cattail are prevalent along the shorelines of the lake. These emergent plants provide valuable fish and wildlife habitat and are critical in maintaining good water quality. Emergent plants also provide critical spawning habitat for several species of fish including northern pike, largemouth bass, and panfish. They also serve as important nursery areas for many species of fish. Because of their ecological value, emergent plants cannot be removed without a DNR permit.

Since Fish Lake is connected to Pelican Lake, population dynamics of the fish community tend to reflect those in Pelican Lake. The northern pike test-net catch rate exceeded the normal range for this class of lake. Age data indicate that pike reproduction is consistently good. Pike ranged in length from 10.9 to 33.7 inches with an average length and weight of 19.6 inches and 1.8 pounds. Seventeen percent of the northern pike were 24.0 inches or greater in length. Pike attain an average length of 21.9 inches at five years of age.

The walleye test-net catch rate was within the normal range for this class of lake. The 2002 and 2006 year classes are strong. These year classes are also strong in Pelican Lake. Walleyes ranged in length from 10.0 to 22.6 inches with an average length and weight of 15.3 inches and 1.3 pounds. Walleye attain an average length of 14.1 inches at four years of age.

The bluegill test-net catch rate was within the normal range for this class of lake. Bluegill size structure is very good. The average length of bluegill was 6.9 inches. Sixty-five percent of the bluegills were 7.0 inches or greater in length. Bluegills attain an average length of 7.5 inches at five years of age.

Anglers can maintain the quality of angling by practicing selective harvest. Selective harvest encourages the release of medium to large size fish while allowing the harvest of more abundant smaller fish for table fare. Releasing the medium to large fish will ensure that the lake will have enough spawning age fish on an annual basis and will provide anglers with more opportunities to catch large fish in the future.

Bass Lake

Bass Lake is considered an extension of Fish Lake, therefore it doesn't have its own DNR fisheries status report.

Fish Consumption Guidelines

These fish consumption guidelines help people make choices about which fish to eat and how often. Following the guidelines enables people to reduce their exposure to contaminants while still enjoying the many benefits from fish.

The guidelines below are specific to Pelican Lake, but since Little Pelican, Bass and Fish Lakes are attached to Pelican, we can assume that they should have the same guidelines.

General Population

LAKE NAME County, DOWID	Species	Meal Advice				Contaminants
		Unrestricted	1 meal/week	1 meal/month	Do not eat	
PELICAN Otter Tail Co., 56078600	Bluegill Sunfish	All sizes				
	Cisco	All sizes				
	Crappie	All sizes				
	Largemouth Bass			All sizes		Mercury
	Northern Pike		All sizes			Mercury
	Walleye		All sizes			Mercury

Pregnant Women, Women who may become pregnant and Children under age 15

LAKE NAME County, DOWID	Species	Meal Advice				Contaminants
		Unrestricted	1 meal/week	1 meal/month	Do not eat	
PELICAN Otter Tail Co., 56078600	Bluegill Sunfish		All sizes			Mercury
	Cisco		All sizes			Mercury
	Crappie		All sizes			Mercury
	Largemouth Bass			All sizes		Mercury
	Northern Pike			All sizes		Mercury
	Walleye			All sizes		Mercury

DOWID - MN DNR, Division of Waters' lake ID number.

Contaminants listed were measured at levels high enough to warrant a recommendation to limit consumption.