



Invasive Species Fact Sheet

Northern pike, *Esox lucius*

General Description

Northern pike are freshwater fish with elongated bodies and flattened, duckbill-shaped snouts. Their mouths comprise half the length of their head and are full of sharp teeth. Northern pike are dark green to gray in color on their backs and sides with rows of pale, oval spots (wavy lines in juveniles). The coloration on their bellies is white to yellow. Their pectoral (behind the gills) fins are usually tinted orange and the pelvic (belly) fins are commonly mottled with dark blotches. Most northern pike measure 6 to 24 inches in length. The largest northern pike recorded in North America was from Canada and measured 43 inches and weighed 31.3 pounds.



Northern pike
Photo by CDFW

Current Distribution

Northern pike are not currently found in California. Northern pike were found in Frenchman Reservoir in Plumas County, California in 1988, and were eradicated from the reservoir in 1991 and tributary streams in the Sierra Valley in 1992. Northern pike were discovered in Lake Davis, Plumas County in 1994. An unsuccessful eradication effort occurred in 1997 and northern pike were found again in Lake Davis in 1999. Northern pike were successfully eradicated from California in 2007. Northern pike are native to Eurasia and North America, including most of Canada, Alaska and the interior northern United States from northwestern Vermont and northern West Virginia in the east, across the Great Lakes Region to northeastern Montana and northeastern Kansas in the west. Northern pike are currently found in many areas outside of their native range in the United States and Europe, and have also been introduced to Africa.

Habitat Preference

Northern pike prefer shallow, well-vegetated inshore areas of cold-water lakes, sluggish streams, and river backwaters. Smaller pike tend to be found within patches of aquatic vegetation less than 13 feet from the water surface; larger pike (greater than 15 inches) are usually found at the edge of vegetation in deeper areas. Northern pike are ambush predators that use their coloration and surrounding aquatic vegetation to hide and swiftly snatch prey that passes by. Northern pike can tolerate a wide range of environmental factors, including warm and cold temperatures, brackish waters (low-salinity), and low oxygen levels.

Pathways

Northern pike are one of the most popular game fish in the world due to their aggressive behavior during pursuit of prey. Most northern pike were intentionally introduced to areas outside of their native range when stocked for sport fishing, although some pike have been introduced to new areas via illegal stocking by persons attempting to establish a new sport fishery. Northern pike are on California's list of restricted animals and cannot be imported, transported, or possessed without a permit.

Impacts

Northern pike are aggressive predators at the top of the food chain. Their diet consists mainly of fish, but they will also eat frogs, snakes, small mammals, and birds if given the opportunity. In areas where northern pike have been introduced, they have altered fish community composition and reduced fish species diversity (including eliminating native species) through predation and competition. If northern pike were to become established in California, they would pose a serious threat to many native fish species populations, including salmon and trout.

Actions Taken if Found

Per California Code of Regulations (Title 14), any northern pike found in California **shall be killed immediately** by removing the head. CDFW shall be contacted as soon as possible and within 24 hours by calling (888) 334-2258.

Invasive Species Fact Sheet – *Esox lucius*

References

California Department of Fish and Wildlife. *Lake Davis Fisheries Management*. Retrieved 7 May 2012 from <http://www.dfg.ca.gov/lakedavis/>.

Fuller, P. 21 June 2010. *Esox lucius*. Retrieved 7 May 2012 from the U.S. Geological Survey Nonindigenous Aquatic Species Database: <http://nas.er.usgs.gov/queries/factsheet.aspx?SpeciesID=676>.

Global Invasive Species Database. 7 October 2010. *Esox lucius (fish)*. Retrieved 7 May 2012 from <http://www.issg.org/database/species/ecology.asp?si=1764&fr=1&sts=sss&lang=EN>.

Lee, D.P. 2001. *Northern Pike Control at Lake Davis, California*. In R.L. Cailteux, L. DeMong, B.J. Finlayson, W. Horton, W. McClay, R.A. Schnick, and C. Thompson (Eds.), *Rotenone in Fisheries: Are the Rewards worth the Risk?* (pp. 55-61). Bethesda, MD: American Fisheries Society.

Maniscalco, D. and M. Morrison. 12 May 2006 (Draft). *Assessment of Northern Pike Habitat in California's Central Valley and Potential Impact of Introduction*. In the California Department of Fish and Game and United States Forest Service *Lake Davis Pike Eradication Project Final EIR/EIS* (2007). Retrieved 9 May 2012 from <http://www.dfg.ca.gov/lakedavis/EIR-EIS/>.

Marchetti, M.P., P.B. Moyle, and R. Levine. 2004. *Invasive Species Profiling? Exploring the characteristics of non-native fishes across invasion stages in California*. *Freshwater Fish Biology* 49:646-661.

McGinnis, S.M. 2006. *Field Guide to Freshwater Fishes of California. Revised Edition*. Berkeley: University of California Press.

Moyle, P.B. 2002. *Inland Fishes of California. Revised and Expanded*. Berkeley: University of California Press.

University of California California Fish Website. *Northern Pike*. Retrieved 7 May 2012 from <http://calfish.ucdavis.edu/species/>.