Humpback Chub

(*Gila cypha*)—Endangered

Description

Adult humpback chubs may grow to 18 inches in length and weigh over a pound. This fish has a wide, flattened head tending to be concave in profile, with a large, horizontal mouth overhung by a prominent snout. Its lips lack barbels. It has small eyes, and a prominent hump on the anterior most part of its back. The body tapers very suddenly from the dorsal (back) fin to the insertion of the caudal (tail) fin. The area between the fins is pencil-shaped, and the caudal fin is large and strongly forked. The fins are strong, prominent and well developed in general. Its color ranges from brownish-black above, to paler beneath.

Distribution and Habitat

The humpback chub is found in the Colorado River between Nevada and Arizona, the Moapa and Virgin Rivers and the Pahranagat Valley. Originally, humpbacks chubs ranged throughout the whitewater canyons of the Colorado River and some of its tributaries from the Green River south on the Colorado to Lake Mead.

The USFWS has recognized five populations of humpback chub in the Colorado River Basin. Presently, populations are found in canyon reaches of the Colorado River system. The largest and most stable population is also the only population remaining in the Lower Colorado River Basin and resides in Grand Canyon in and near the confluence of the Little Colorado River. The other populations are in Westwater/Blackrocks Canyons and Cataract Canyons of the Colorado River, Desolation/Gray Canyon of the Green River and in Yampa Canyon of the Yampa River. In addition, aggregations of humpback chub or roundtail/humpback hybrids occur sporadically throughout the basin within confined canyon reaches.

The habitat of the humpback chub is in water with a strong, continuous flow. Occupying this habitat type has led to the evolution of a flat, sloping head which tends to hold the fish against the bottom when pointed upstream. Conspicuous dorsal (back) keels also have a stabilizing effect in strong currents.

The chub is an omnivore, eating aquatic arthropods (as well as those that fall into water, smaller fishes and algae.)

Life History

The humpback chub is a summer spawning fish. Spawning occurs when river discharges are near seasonal highs, or are receding. River temperatures at this time are between 60-72 degrees F. The fish move relatively short distances to spawn, and the breeding process takes place at cobble or gravel bars in the river. During breeding, males develop reddish tinges on the venter, and distinctive red marks on the cheeks.

Humpback chub have been difficult to study because of their rarity and residence in swift, turbid and inaccessible riverine environments. The only sex ratios reported suggest they are approximately equal and that fecundity averaged 3,677 eggs/female in the Grand Canyon of the lower Colorado River basin. Egg survival is optimal between 60 degrees F and 72 degrees F and significantly reduced below temperatures of 50 degrees F which could affect reproductive success of mainstem spawning in the Grand Canyon. In Grand Canyon studies, age-0 fish were noted to disperse 1 to 3 months after emergence. Survivorship in years 0, 1 and 2, collectively was 10% but most likely later life stages survived better. Adult survivorship has been reported as 60% in the upper Colorado River basin and 75% in the Grand Canyon. Humpback chub mature in 2 to 3 years (at approximately 8 inches in length), and they may live 20 to 30 years.

Photo courtesy of Utah Division of Wildlife Resources

Threats and Reasons for Decline

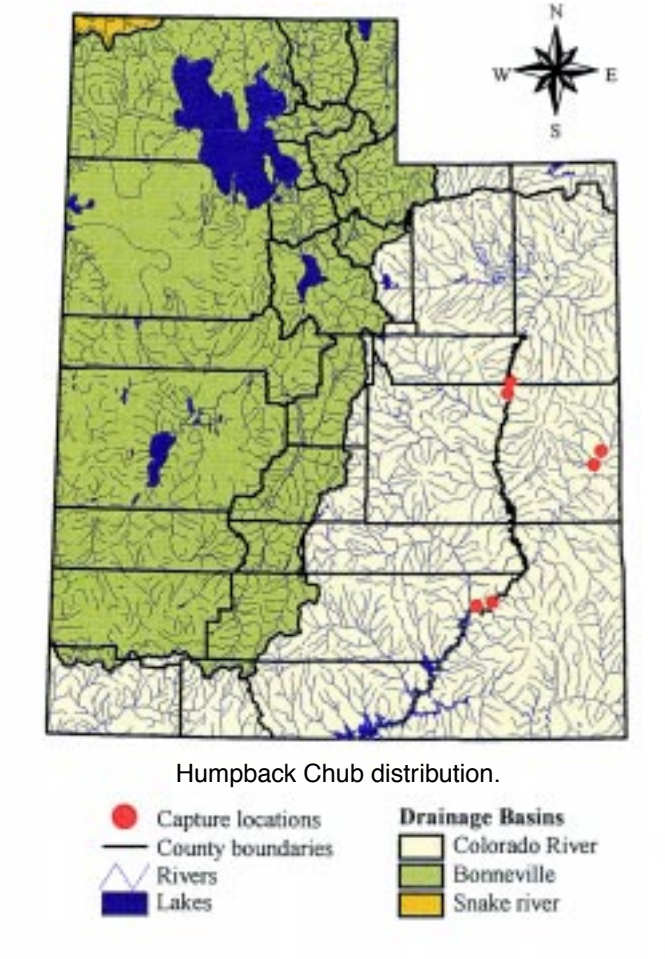
The primary reasons for the decline of the humpback chub are changes in stream flow and water temperature, direct loss of habitat due to inundation by reservoirs, blockage of migration routes, and the introduction of non-native fishes.

Recovery Efforts

The humpback chub was listed as an endangered species under the federal Endangered Species Act in 1967. A Colorado River System Endangered Species Recovery Program agreement, signed in January 1988, includes five basic steps to aid in the recovery of the humpback chub:

1. Provision of instream flow
2. Habitat development and maintenance
3. Native fish stocking
4. Management of non-native species and sport fishing
5. Research, monitoring, and data management

The goal of this program is to maintain and protect self-sustaining populations and sufficient natural habitat to sustain these populations. The program should also be beneficial to other endangered fish species sharing the humpback chub habitat, including the razorback sucker, bonytail chub, and the Colorado squawfish.



Humpback Chub distribution.

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