Skipjack Shad

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(Redirected from Skipjack herring)

The **Skipjack Shad** (*Alosa chrysochloris*) is a migratory North American species of freshwater fish of the subgenus *Pomolobus* (Faria et al. 2006) in the Clupeidae family. The name Skipjack Shad comes from the fact that it is commonly seen leaping out of the water while feeding (Whitehead 1985). Other common names include blue herring, golden shad, river shad, Tennessee tarpon, and McKinley shad. The Skipjack Shad is restricted to the Gulf of Mexico drainage basins. It has been found to be the most basal of the *Alosa* species (Bowen et al.). Skipjack Shad are found in clear to moderately turbid water in areas with flow. Because they are a migratory species, dams often impede their reproduction. Records suggest that this species was much more abundant in the Upper Mississippi River basin before it was impounded. Currently, the Skipjack Shad is most abundant in the Upper Mississippi River below the mouth of the Ohio River. They are known as an "early-run" species as they migrate to spawn in the early spring (Neebling and Quist 2008).

Skipjack shad	
Scientific classification	
Kingdom:	Animalia
Phylum:	Chordata
Class:	Actinopterygii
Order:	Clupeiformes
Family:	Clupeidae
Subfamily:	Alosinae
Genus:	*Alosa*
Subgenus:	*Pomolobus*
Species:	***A. chrysochloris***
Binomial name	
Alosa chrysochloris	
(Rafinesque, 1820)	

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Distribution

The Skipjack Shad is restricted to the Western Central Atlantic of the United States. This refers to the Gulf of Mexico and its drainages. The Gulf of Mexico Drainage includes the ACF (Apalachicola/Chattahoochee/Flint River) basin, the Mississippi basin, and the Rio Grande basin (Bowen et al.). Records indicate that this species was more abundant in the upper Mississippi River before it was impounded, and currently skipjack shad are most abundant in the upper Mississippi River below the mouth of the Ohio River (Neebling and Quist 2008). In recent years, human modifications to the middle Missouri River have made conditions more favorable for skipjack shad and their distribution has expanded upstream to the Nebraska-South Dakota border (Neebling and Quist 2008). Skipjack Shad were historically found in the northern upper Mississippi River and the St. Croix River; however, there have only been four records of skipjack shad in Wisconsin waters since the 1950s (Neebling and Quist

2008). Because this fish is a migratory species, dams have diminished its distribution. It cannot continue to migrate northward over dams; therefore it is rare to see a Skipjack Shad in the upper reaches of the Gulf of Mexico drainages.

Ecology

Skipjack shad are a migratory schooling species. They are a euryhaline species that can enter brackish and fresh waters. They can be anadromous but are not obligated to do so because they can complete their life cycle in fresh water (Etiner and Starnes 1993). Skipjack Shad are strongly migratory within rivers and prefer fast flowing water where they are renowned for leaping (Whitehead 199). They are found in clear to moderately turbid waters in large rivers and reservoirs usually within the current over sand or gravel (Page and Burr 1991). In one study, Skipjack shad have been found to feed on other shad/herring species such as the Threadfin Shad, the Gizzard Shad and young of the year herring species. In some extreme cases, it was shown that they could rely on cannibalism to survive (McLean et al.). They are also known to feed on small fishes, mostly shad, while the juveniles feed on insects (Whitehead 1985). The maximum size of the shad/herring utilized by Skipjack Shad was found to be about 30-35% of the Skipjack's body length (McLean et al. 1985). There is not much data on the predators of the Skipjack Shad. Larger fish species, seabirds, and humans prey upon them. In fact, It is shown that fish species in the family Clupeidae including the skipjack shad comprise up to 45% of the diet of these avian species (Tibbs et al. 1998). Species abundance would be hurt by the presence of more dams and increasing turbidity and siltation in rivers and reservoirs.

Life history

The spawning season for Skipjack shad is from early March to late April in the southern extent of its range (Wolfe 1969). In the upper Mississippi river drainage spawning time is from early May to early July (Coker 1930). Females produce about 100,000 to 300,000 eggs per year, presumably after 2 to 3 years of growth with an average size being 11.8 inches (30 cm) (Etnier and Starnes 1993). Spawning is thought to occur in the depths of main channel over coarse sand-gravel bars (Wolfe 1969). Spawning temperature range is between 16 and 21 °C (61 and 70 °F). Eggs are broadcast over the substrate (Galat and Clark, 2002). Skipjack shad young may reach total lengths of 75–150 millimetres (3.0–5.9 in) during their first year (Etnier and Starnes 1993). The maximum length in adults is 20 inches, but they are most commonly found to be between 12 and 18 inches (300 and 460 mm) (Whitehead). The oldest specimen of Skipjack shad reported was four years old (Wolfe 1969). High population rates and the fact that there it has little to no interest to fisheries tells us that humans do not have much influence on life history. Impoundments have changed their distribution slightly, but they have no trouble spawning as a result.

Management

Human impacts on Skipjack Shad populations seem to be minimal in the southern parts of their distribution. Dams have limited the natural distribution of the species. Skipjacks are no longer found in high numbers in the northern reaches of their distribution because of their inability to migrate over large impoundments. Minnesota's Department of Natural Resources webpage tells us that Further research into the species' life history and ecological requirements is needed. It is known that lock and dam

structures hinder migration of skipjack shads during the early spring. If the skipjack shad is to be reestablished in Minnesota and Wisconsin, where they are nearly extirpated, fish passage features such as ladders or lifts will be required on Mississippi River lock and dams (Minnesota DNR). In Minnesota, the construction of a fish passage facility is being considered at U.S. Lock and Dam 3 near Redwing and could help skipjack shad migration in the Mississippi River drainage. The Minnesota DNR Division of Ecological Services received a State Wildlife Grant to conduct surveys for rare fish species in the Mississippi River from the Twin Cities to the Iowa border. These surveys were conducted from 2006-2008, and while the skipjack shad was a targeted species, none were found (Minnesota DNR). In addition to the extirpation of the Skipjack shad from Minnesota and Wisconsin, the ebony shell (Fusconaia ebena) and elephant ear (Elliptio crassidens), both state endangered mussels for which the skipjack is the sole host during their larval stages, are being threatened to be extirpated as well (Minnesota DNR) .

In order to keep their distribution from shrinking further, humans need to decrease the number of dams that are constructed, or construct dams that Skipjack shads are able to migrate through. In addition to hindering their migration, dams reduce flow. Skipjacks prefer areas with fast flowing water (Whitehead). In addition, it is necessary to keep turbidity and siltation levels down, as this species will only live in waters that are clear to moderately turbid (Page and Burr 1991). Sampling of Skipjack shad has been performed through the use of gillnetting and electro fishing (McLean et al.). These methods are best utilized beneath impoundments over sand or gravel substrates around spawning time each spring, where they are most abundant (Neebling et al.). Sampling should be done across the entire native range to document its abundance in different locations and human induced changes. For now, Skipjack shad have a stable abundance in the southern part of its distribution, and need more management plans put into place in the northernmost reaches of its distribution.[*citation needed*]

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