



Photo credit: Jacob Schaefer, Univ. Southern Miss.

#### KEY INFORMATION

##### Area of Concern

Western Atlantic: Alabama, Florida, Georgia, Louisiana, Mississippi, Arkansas, Missouri.

**Year Identified as “Species of Concern”**  
1997

##### Factors for Decline

- Locks and dams blocking habitat access
- Habitat alteration
- Thermal alterations
- Poor water quality
- Siltation
- Dredging
- Bycatch

##### Conservation Designations

IUCN: Endangered  
American Fisheries Society: Threatened  
Species of Greatest Conservation Need:  
AL, AR, FL, GA, KY, LA, MS, MO.

#### Current Status:

##### **Demographic and Genetic Diversity Concerns:**

Although once abundant enough to support commercial fisheries in Alabama, Arkansas, Kentucky, Indiana and Iowa, Alabama shad are now rare throughout much of their former range (Ross 2001, Adams et al. 2000). Gunning and Suttkus (1990) report on collections between 1963 and 1988 in the Pearl River, Louisiana and Mississippi, in which the majority of individuals (384) were collected before 1965, with only 34 collected since then. None have been taken from the Pearl River since 1981 (Ross 2001). Barkuloo et al. (1993) report large declines in the Mobile River basin occurred shortly after new dams were built on the Alabama and lower Tombigbee rivers in the 1960s. Catch rates of adult Alabama shad in the Choctawhatchee River, Alabama, ranged from 0.9 to 7.8 fish per hour during the spawning runs in 1999-2000 (Mettee and O’Neil 2003). The largest remaining population probably occurs in the Apalachicola River, Florida, downstream of the Jim Woodruff Lock and Dam (Barkuloo et al. 1993). Outside of Florida, spawning populations are thought to persist in these drainages: Choctawhatchee and Conecuh Rivers, AL; Pascagoula River, MS; Ouachita River, AR; Missouri, Gasconade, Osage and Meramec Rivers, MO. Adams et al. (2000) and Mettee and O’Neil (2003) summarize the species’ current status in more detail.

##### **Existing Protections and Conservation Actions:**

Recent designation of Alabama shad as “Species of Greatest Conservation Need” in numerous southern states has helped stimulate research on this species.



## Species of Concern

NOAA National Marine Fisheries Service

### Brief Species Description:

The Alabama shad is a **euryhaline, anadromous** species that spawns in medium to large flowing rivers from the Mississippi River drainage to the Suwannee River, Florida. They once reached into freshwater systems as far inland as eastern Oklahoma, Iowa and across to West Virginia; present distributions extend up the Mississippi River drainage into eastern Arkansas and central Missouri. They are found in some Gulf coast drainages, but are thought to be extirpated from those drainages west of the Pascagoula drainage in Mississippi (Adams et al. 2000, Mettee and O'Neil 2003, Boschung and Mayden 2004). Alabama shad belong to the family Clupeidae and are closely related to and similar in appearance and life history to their sister species, the American shad (*A. sapidissima*). They also resemble the skipjack herring (*A. chrysochloris*) which occurs in the same areas (sympatric). Diagnostic characters of the Alabama shad are their upper jaw with a distinct median notch, and the number of gill rakers on the lower limb of the anterior gill arch (41-48). Alabama shad differ from other members of their family in the same area in that the lower jaw does not protrude beyond the upper jaw, black spots are present along the length of the lower jaw, and the dorsal fin lacks an elongate filament.

Alabama shad are a schooling species. During the day in the Pascagoula River system, juveniles use sandbar habitats, and as they grow, switch to open channel and steep bank habitats with large woody debris (Mickle 2006). Within habitats, they select cooler water temperatures (Mickle 2006). While nothing is known of their thermal tolerance, *Alosa* in general are notoriously sensitive to thermal stress (Beitinger et al. 2000). Nothing is known of the species' behavior and habitat use in marine environments. Juveniles remain in fresh water for their first 6 to 8 months, feeding on small fishes and invertebrates (Ross 2001). Adults broadcast spawn in spring or early summer over coarse sand and gravel swept by moderate currents when river temperatures are between 18 and 23°C. Adults likely do not feed during the spawning run; otherwise they are thought to forage on small fish. Females reach 18 inches SL (457 mm), males reach 16.5 inches SL (419 mm). Annual fecundity ranges from 40,000 to 360,000 eggs/female. Juvenile growth rate is about 1.2 inches (30 mm) per month from July to September and then 0.4 inches (10 mm) per month until December. Juveniles enter the seawater in late summer/early autumn when they are about 2 to 5 inches SL (50 - 130 mm). Some **natal** homing occurs. The Alabama shad is relatively short-lived (up to 6 years).

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