

# Distribution of the Alligator Gar, *Atractosteus spatula* (Lacépède, 1803), in Illinois

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## ABSTRACT

The Alligator Gar was one of the rarest fishes in Illinois and currently is listed as extirpated from the State. There have been few published records of the species in Illinois, and the author found some overlooked published and unpublished records of the species in the lower Illinois River that expand the northern extent of the species' former range in Illinois. Two voucher specimens exist along with three photographic records and reports in the literature. There are 18 records of Alligator Gar from 12 sites in Illinois (specific locality unknown for one additional record), plus one record from Missouri waters of the Mississippi River, one record from Indiana waters of the Wabash River, and 1 station record from Kentucky waters of the Ohio River, that include a total of about 121 Alligator Gars. Details are given for all Alligator Gar collection records and an updated distribution map for Illinois is provided.

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Smith (1979) recorded three localities in Illinois for the Alligator Gar on his distribution map and mentioned several others in the text. Lee and Wiley (in Lee et al., 1980) provided a more complete distribution for Alligator Gar in Illinois, yet the range did not include the lower Illinois River. More recently, Burr et al. (1996) added 3 more records of Alligator Gar in Illinois based on photographic evidence or verbal accounts from fishery biologists as well as citing the report of Barnickol and Starrett (1951), which listed 85 Alligator Gars captured in the Mississippi River between Grafton and Cairo in 1944. An early account of the Alligator Gar by Forbes (1884, p. 84) stated: "Not common in Illinois, occurring somewhat rarely in the Ohio and Mississippi Rivers, occasionally in the Illinois, and in at least a single instance, in the Big Muddy, near Carbondale."

Weed (1923) cited numerous records of Alligator Gar from the lower Illinois River. A cataloged osteological specimen from the Illinois River at Meredosia was found in the Field Museum of Natural History under the name, *Lepisosteus tristoechus*, and the data indicate it might be one of the specimens to which Weed (1923) had referred in his paper. Although Weed (1923, p. 3) did not specifically list Alligator Gars from Meredosia, he did state that: "Some are taken in the latter stream [Illinois River], almost every year, about as far up as Beardstown, Illinois." The specimen was 8.5 feet (2.6 m) total length and has catalog number FMNH 9926; this is only one of two preserved specimens of

Alligator Gar from Illinois waters. The other preserved specimen, a juvenile collected from the Illinois River at an unspecified location, is in the Illinois Natural History Survey (INHS 64422). Based on the sizes of the gars mentioned by Weed and the existence of two voucher specimens, the records are considered reliable. Using Weed's (1923) collection localities, the known historic distribution of the Alligator Gar thus can be extended farther north in Illinois. Luce (1933) provided reports from local residents about Alligator Gars inhabiting the Kaskaskia River near its mouth and about their spawning in an overflow pond about two miles (3.2 km) above the mouth of the river in early June 1930. The summation of all records reveals that the distribution of the Alligator Gar in Illinois was more extensive than indicated previously by Smith (1979). Figure 1 illustrates the former range of the Alligator Gar in Illinois based on preserved specimens, photographic records, and published accounts. Specific collection and locality information and references are given in Appendix A.

Reports of large Alligator Gars were never common in Illinois and Kentucky (Weed, 1923; Barnickol and Starret, 1951; Barbour, 1963). Most of the Alligator Gars reported by Barnickol and Starrett (1951) were small with the exception of one fish in the size class 64.8-65.7 inches (1.6-1.7 m). The last specimen captured in Illinois in 1966 was about 7 feet (2.1 m) in length (INHS 48182, photograph). The Alligator Gar has declined in abundance in Arkansas and Tennessee as well (Robison and Buchanan, 1988; Etnier and Starnes, 1993). Possibly, the construction of levees that limit access to floodplain habitats and other modifications of aquatic habitats has contributed to the decline of the Alligator Gar in northern portions of its range (Etnier and Starnes, 1993; author, pers. obs.). Individuals who are aware of old photographic records or recent observations of the Alligator Gar in Illinois are urged to contact ichthyologists at the Illinois Natural History Survey or Southern Illinois University.

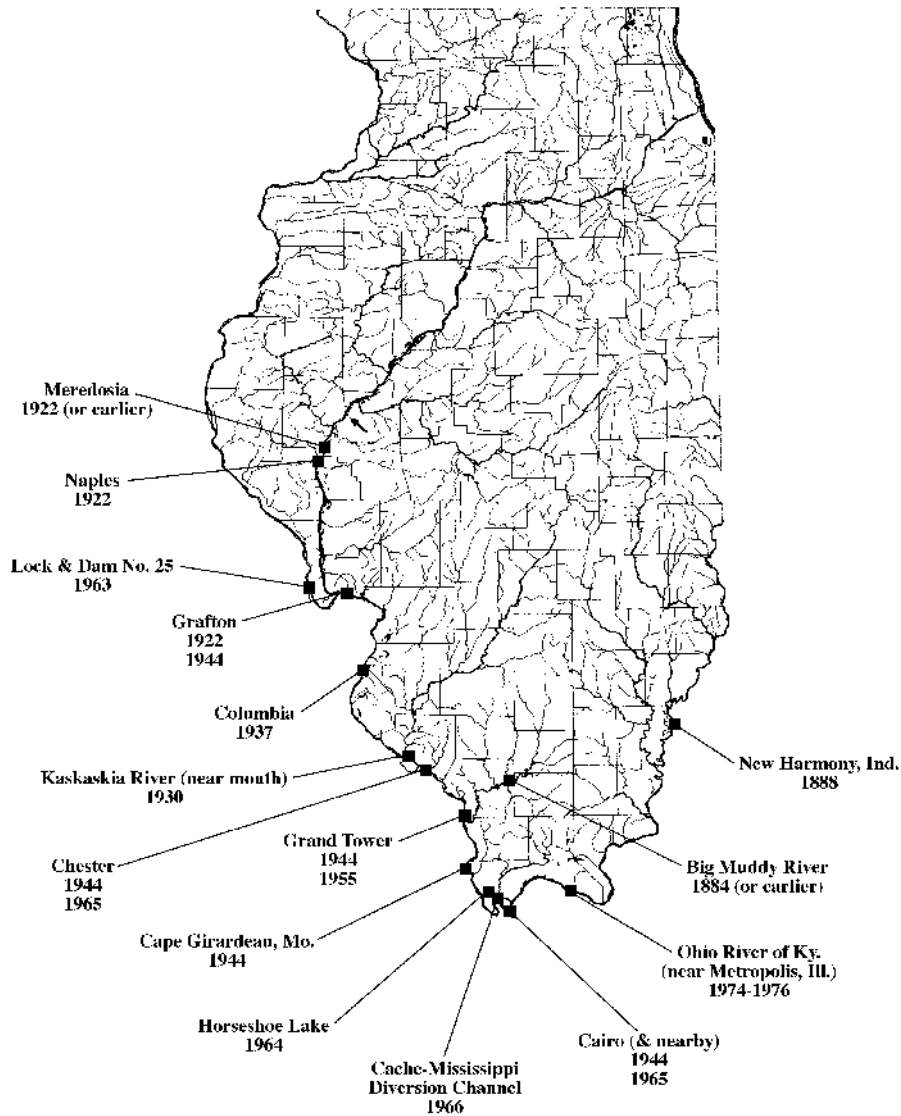
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Figure 1. Distribution and chronology of collections of the Alligator Gar (*Atractosteus spatula*) in Illinois and bordering waters of the Mississippi, Ohio, and Wabash rivers based on records from Forbes (1884), Jordan (1890), Weed (1923), Luce (1933), Barnickol and Starrett (1951), Smith et al. (1971), Hoyt (1979), Smith (1979), Burr et al. (1996), Field Museum of Natural History records, and Illinois Natural History Survey records. The map was modified from Smith (1979). One collection lacking specific locality information was not plotted on the map (INHS 64422). An arrow indicates the location of Beardstown, Illinois, along the Illinois River. Refer to Appendix A for additional collection information.



Appendix A. Records of the Alligator Gar's (*Atractosteus spatula*) occurrence in Illinois, including several records from Missouri waters of the Mississippi River, Kentucky waters of the Ohio River, and Indiana waters of the Wabash River.

| Water body          | Location  | Size                        | Date       | Reference                  |
|---------------------|---|-----------------------------|------------|----------------------------|
| Big Muddy River     | Jackson Co., Ill.   | -----                       | -----      | Forbes, 1884               |
| Wabash River        | New Harmony, Posey Co., Ind.  | -----                       | -----      | Jordan, 1890*              |
| Illinois River      | Naples, Scott Co., Ill.   | 8 ft., 7 in.                | 1922       | Weed, 1923                 |
| Mississippi River** | Grafton, Jersey Co., Ill.   | ~ 6 ft. (87 lb.)            | 1922       | Weed, 1923                 |
| Mississippi River** | Grafton, Jersey Co., Ill.   | ~ 7 ft., 6 in. (176 lb.)    | -----      | Weed, 1923                 |
| Mississippi River** | Grafton, Jersey Co., Ill.   | 6 ft., 6.5 in.              | -----      | Weed, 1923                 |
| Illinois River      | Meredosia, Morgan Co., Ill.<br>[received 24 August 1922, H.A. Keister]  | 8 ft., 6 in.                | -----      | FMNH 9926                  |
| Kaskaskia River     | Randolph Co. Ill.<br>[near mouth of and in lower reaches]   | -----                       | 1930       | Luce, 1933                 |
| Illinois River      | specific locality unknown<br>[received from R. Yeatter 23 October 1935]   | -----                       | -----      | INHS 64422                 |
| Mississippi River   | floodplain near Columbia, Monroe Co., Ill.<br>[3 mi. W of Columbia; collectors: W. Lopinot & P. Lopinot; photocopy of photographic record]              | 58.5 kg, ~ 2 m              | 1937       | INHS 48200                 |
| Mississippi River   | [near] Cairo, Alexander Co., Ill.<br>[n = 80, total weight = 182.3 lb.]   | -----                       | May, 1944  | Barnickol & Starrett, 1951 |
| Mississippi River   | near Cape Girardeau, Cape Girardeau Co., Mo.  | 1.7 lb.                     | May, 1944  | Barnickol & Starrett, 1951 |
| Mississippi River   | Grand Tower, Jackson Co., Ill.<br>[n = 2, total weight = 58.9 lb.]  | -----                       | June, 1944 | Barnickol & Starrett, 1951 |
| Mississippi River   | Chester, Randolph Co., Ill.   | 2.4 lb.                     | June, 1944 | Barnickol & Starrett, 1951 |
| Mississippi River** | Grafton, Jersey Co., Ill.   | bwtn 26.8-27.7 in., 4.1 lb. | July, 1944 | Barnickol & Starrett, 1951 |
| Mississippi River   | Grand Tower, Jackson Co., Ill.<br>[in Nine-Mile Shute, SIUC, photographic record, caught by C.E. Nickles, also INHS 48190 (photocopy of photo voucher)] | ~ 1,750 mm                  | 1955       | Burr et al., 1996          |

| Water body        | Location  | Size             | Date       | Reference          |
|-------------------|---|------------------|------------|--------------------|
| Mississippi River | [near] Batchtown, Calhoun Co., Ill.<br>[below Lock and Dam No. 25, caught on hook and line by Roy C. Heidinger]                       | > 2 m            | 1963       | Burr et al., 1996  |
| Horseshoe Lake    | Alexander Co., Ill.<br>[caught in trammel net by commercial fisherman, recorded by Ora M. Price]                                      | 67 in. (1.7 m)   | 1964       | Burr et al., 1996  |
| Mississippi River | [near] Chester, Randolph Co., Ill.<br>[caught by commercial fisherman, photographic record furnished by Ora M. Price]                 | 49 kg (110 lb.)  | 1965       | Smith et al., 1971 |
| Mississippi River | [near] Cairo, Alexander Co., Ill.<br>[caught by commercial fisherman, photographic record furnished by Ora M. Price]                  | 58 kg (130 lb.)  | 1965       | Smith et al., 1971 |
| Cache-Mississippi | Diversion Channel 2.5 mi. NW Klondike, Alexander Co., Ill.<br>[at State Route crossing, caught on hook and line, photographic record] | ~ 7 ft., 130 lb. | April 1966 | INHS 48182         |
| Ohio River        | Shawnee Power Plant, McCracken Co., Ky.<br>[n = 20, total weight = 3,375 g, fish were impinged on screens at water intake]            | ----             | 1974-1976  | Hoyt, 1979         |

\*record also listed in Gerking (1945)

\*\*or mouth of or lower Illinois River