

## Sicklefin Chub (*Macrhybopsis meeki*) Proposed as Endangered in Nebraska



### **Description:**

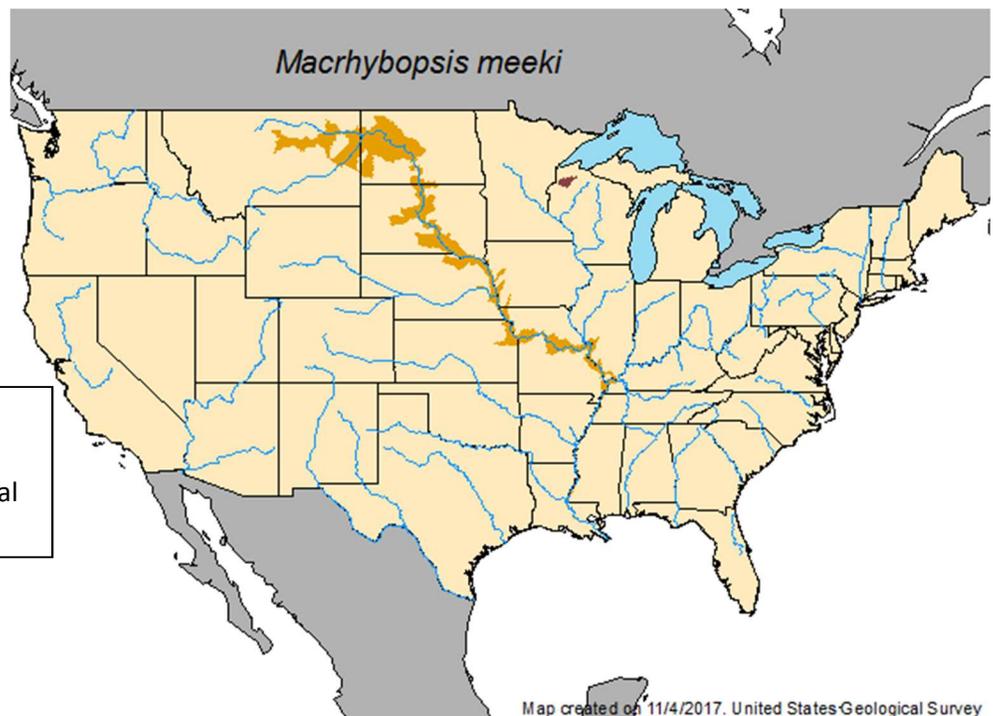
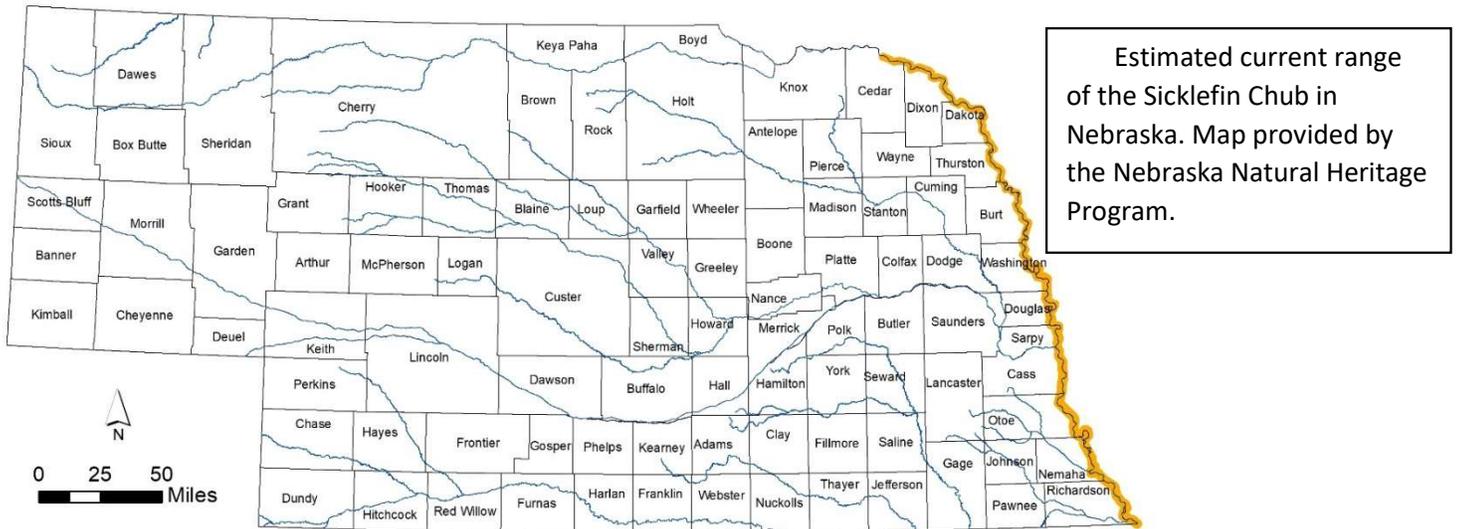
Large rounded snout, streamlined body covered with taste buds, small eyes, prominent mouth barbels, and large sickle-shaped fins. Body coloration consists of silvery sides with no or very few dark speckles and tan along the dorsal surface. Rarely, does this species attain lengths >5 in.

### **Habitat:**

- Deep areas of large, turbid rivers with fast currents.
- In Neb., they inhabit the bottom of the MO Riv. where the substrate is firm sand or gravel
- Habitat use changes throughout their life and they gradually move into faster (velocities, mean 0.93 m/sec) and deeper water (moderate depths, mean 3.1 m).
- Sicklefins Chub spawn begins in mid-June and peaks in mid-July in the Lower MO Riv. when water temperatures are around 69 °F
- Sicklefins Chub larvae need 200 mi. or more drift distance

### **Distribution:**

- Found only in the main-stem Missouri Riv. from MT to the confluence with the MS Riv. and the portion of the MS between the MO and OH rivers, including the lower most reaches of the major tributaries (i.e., Yellowstone River, Platte River, Kansas River).
- In Neb., Sicklefins Chub are restricted to the main-stem of the MO Riv. downstream of Gavins Point Dam and in the lower Platte Riv., where they are collected only rarely



North American distribution of the Sicklefin Chub. Map created by Sheehy (2018) for the U.S. Geological Survey.

**Factors Affecting the Species:**

- Species of greatest conservation need in IA and MO. State endangered in KS and SD.
- Sicklefin Chub was petitioned for federal listing under the Endangered Species Act in Aug. 2016
- Sicklefin Chub are captured occasionally but remain rare
- In the channelized MO Riv. in Nebraska, the availability of the habitats utilized by the early life stages is limited to a narrow band along each bankline.
- Sicklefin Chub are likely extirpated from portion of the MO Riv. between Lewis and Clark Lake (~RKM 1,344) and Ft. Randall Dam (RKM 1,416).

- Threats:
  - Spawning cues disrupted (altered stream hydrology), reduced survival of drifting eggs/larvae (fragmented streams), and insufficient habitat complexity (channelization eliminating needed habitats).
  - Negative impacts from channelization and mainstem reservoirs on Sicklefin Chub
  - MO Riv. in Neb. has been fragmented by Gavins Point Dam and further impacted by Ft. Randall Dam which has isolated populations, created river reaches that are not of sufficient length to allow drifting eggs to mature, and has altered the hydrology of the river impacting habitat formation and drift rates
  - Channelization downstream of Ponca State Park has eliminated much of the habitat utilized by Sicklefin Chub, especially the slower habitats used by the younger life stages.
  - High velocities intentionally created during the channelization project to transport sand and maintain a 9 ft. channel may limit the ability of drifting larval Sicklefin Chub to exit the drift and settle into suitable habitats
  - While currently limited in Neb., sand dredging can have a negative impact on habitat for Sicklefin Chub.
  - Lacustrine species can contribute to high mortality rates of eggs and larvae of Sicklefin Chub
  - Susceptible to pollution

(viii) For species proposed to be added under this subsection but not for species proposed to be removed under this subsection, developed an outline of the potential impacts, requirements, or regulations that may be placed on private landowners, or other persons who hold state-recognized property rights on behalf of themselves or others, as a result of the listing of the species or the development of a proposed program for the conservation of the species as required in subsection (1) of section 37-807.

Implications:

- I. Fisheries regulations Title 163, Chapter 2, 009 already restrict baitfish to specific species.
  - A. The collection of state-listed fish species may be allowed with a Scientific and Education Permit issued by the Nebraska Game and Parks Commission.
  
- II. A prohibition already exists against seining or trapping any fish in the streams listed below to prevent take of species currently listed as endangered or threatened
  - i. Brush Creek west of Brownlee in Cherry County
  - ii. Cottonwood Creek in Keya Paha County
  - iii. East Holt Creek in Keya Paha County
  - iv. Gordon Creek west of Highway 61 in Cherry County
  - v. Holt Creek in Keya Paha County
  - vi. Niobrara River east of Box Butte Reservoir and west of Highway 385 in Dawes County
  - vii. Taylor Creek west of Highway 81 in Madison County
  
- III. Any project that is permitted, funded, or carried out in part or full by any state agency on public or private land requires that state agency to coordinate with the Nebraska Game and Parks Commission to prevent the “take” (take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct) of species on the Nebraska State Threatened or Endangered Species List.

- A. Site Specific requirements to prevent “take” of these fish species will be recommended during coordination between the state agency and the Nebraska Game and Parks Commission. Such requirements will only be applicable within or near the modeled distribution of these fishes, and may include, but are not limited to:
- i. New surface water rights (uses) may be limited or reduced.
  - ii. Some chemicals which are approved for overwater use may not be acceptable for use in streams with these fish. Guidance documents will be made available.
  - iii. Release of piscivorous fish may be prohibited in some areas.
  - iv. Work or projects conducted in stream or river channels may not be allowed during the spawning periods of these fish.
  - v. Bank stabilization may be limited.
  - vi. Grazing (as part of a management plan developed with the assistance of a state agency) along streams where these fish occur may be limited or controlled.
  - vii. Upland erosion or soil disturbances will need to be designed to avoid and minimize sedimentation of streams where these fish occur.
  - viii. Certain projects (e.g., pond construction) may need to be located outside of the floodplain of streams and rivers.
  - ix. Aquatic organism passage will need to be considered for in-stream structures (e.g., culverts, dams, weirs)

Proposed Wildlife Regulation:

004.01 Include Sicklefin Chub in Table of Endangered Species, Location: Entire