

## Sturgeon (Acipenseridae) in the United States: Conservation Status and Restoration



Daniel Walker  
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12:20PM 160 PBB

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## Outline

- Acipenseridae
- Distribution
- Threats to Sturgeon
- Current Status
- Research and Restoration

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## Characteristics

- ▶ Heterocercal tail
- ▶ 5 rows bony scutes
- ▶ Subterminal mouth
- ▶ 4 barbels



Saidak 2013



USFWS 2002

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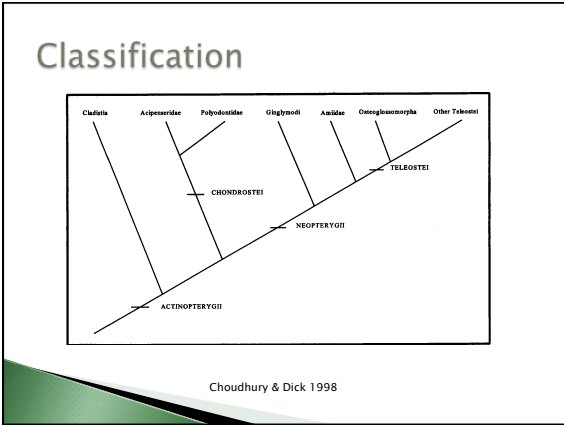
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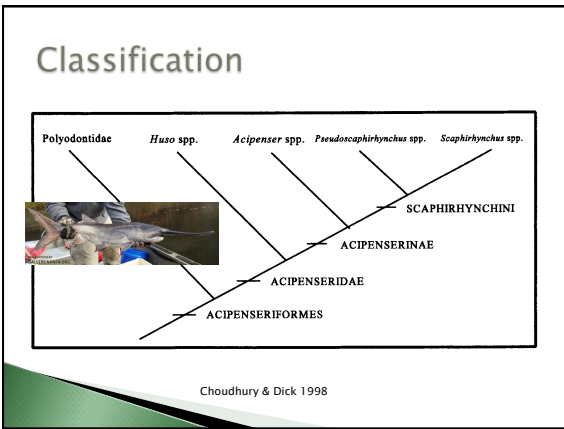
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### Family History

- ▶ **Wide dispersal by Cretaceous** (Choudhury & Dick 1998)
- ▶ **North of 22° N**
  - **Laurasian dispersal**

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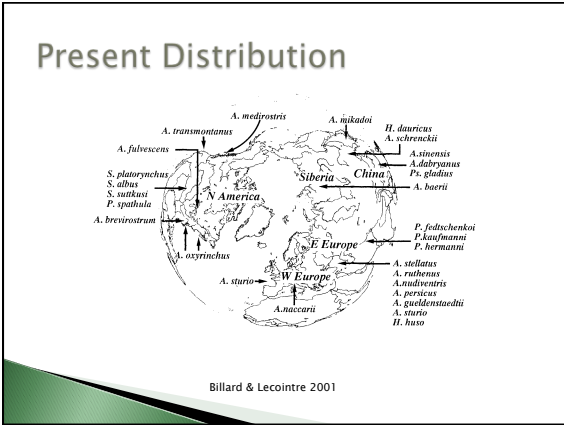
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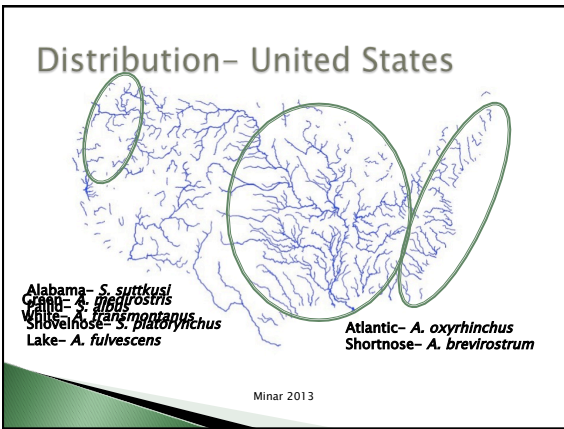
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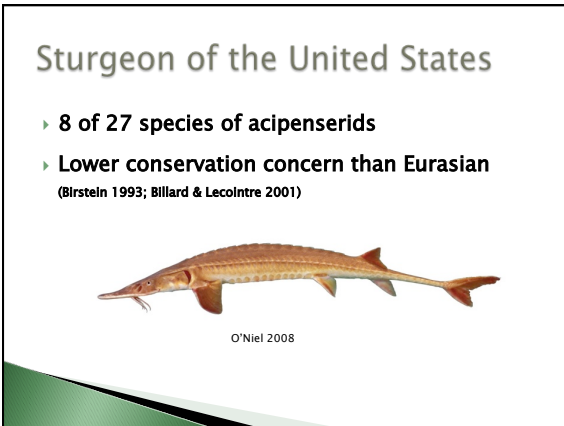
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## Threats to Sturgeon

- ▶ **Over-fishing** (Smith 1985; Birstein 1993)
  - **Late 19<sup>th</sup> C. Industrial Fishing** (Secor et al. 2002, Saffron 2004)
    - Atlantic
    - Shortnose
    - White
    - Lake



Rich & Tursi 2012

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## Threats to Sturgeon

- ▶ **Habitat Degradation**
  - **Loss of essential habitat**
    - Migration, spawning
    - Feeding
  - **Alabama** (Rider & Hartfield 2007)
  - **Green** (Adams et al. 2007)
  - **Pallid** (Billard & Leclintre 2001)



Mayden & Kuhajda 1996



Klamath-Siskiyou Wildlands Center

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## Current Status

- ▶ **Alabama**– Endangered, 2000
- ▶ **Atlantic**– 4 DPS Endangered, 1 Threatened, 2012
- ▶ **Green**– 1 DPS Endangered, 2006
- ▶ **Pallid**– Endangered, 1990
- ▶ **Shovelnose**– Considered threatened
- ▶ **Shortnose**– Endangered, ESPA1967
- ▶ **White**– 1 DPS Endangered, 1994
- ▶ **Lake**– Endangered, threatened, protected in 18 states

USFWS 2014

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## Steps for Conservation

- ▶ **Reduce commercial fishing mortality**
  - Atlantic & Shortnose (Collins et al. 2000)
  - Cooperation with commercial fishermen (e.g. Rider & Hartfield 2007)
- ▶ **Essential habitat protection**
- ▶ **Captive propagation**
- ▶ **Public education**



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## Ongoing Efforts

- ▶ **Alabama sturgeon**
  - Alabama Division of Wildlife and Freshwater Fisheries (Rider & Hartfield 2007, Rider 2012)
  - Ongoing sampling efforts for Alabama sturgeon
  - Broodstock collection
- ▶ **Pallid and shovelnose sturgeons**
  - Introgressive gene flow from hybridization (Schrey et al 2011)

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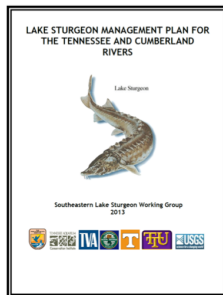
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## Lake Sturgeon in the Southeast



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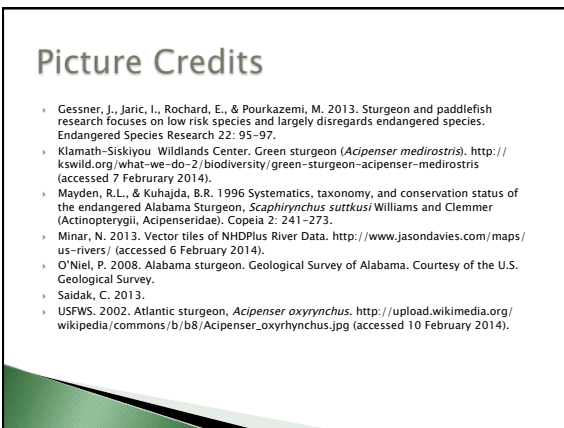
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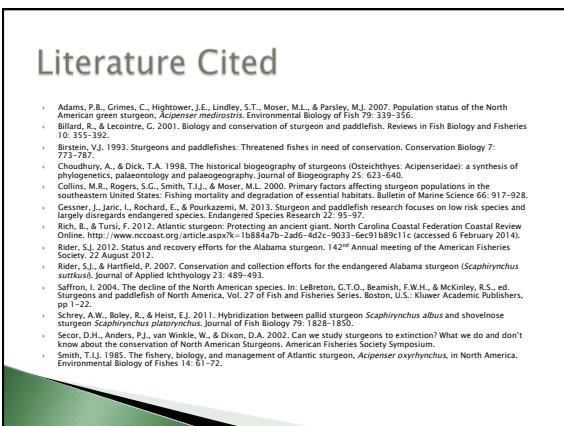
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