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## Species Profile

### American Eel

**Scientific Name:** *Anguilla rostrata*

**Taxonomy Group:** Fishes

**Range:** Ontario, Quebec, New Brunswick, Prince Edward Island, Nova Scotia, Newfoundland and Labrador, Atlantic Ocean

**Last COSEWIC**

**Assessment:** April 2006

**Last COSEWIC**

**Designation:** Special Concern

**SARA Status:** No schedule, No Status

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### Information about this species

The American Eel (*Anguilla rostrata*) is a freshwater eel belonging to the family Anguillidae. It is also known as the Atlantic Eel, Common Eel, Silver Eel, Yellow Eel, Bronze Eel and Easgann, among other names. In Mi'kmaq, it is known as *kat*. It has the following characteristics:

- Long, serpentine body
- Deeply embedded scales
- Single dorsal, caudal and anal fin extends around the tail to the ventral side
- Terminal mouth with thick lips
- Lower jaw slightly longer than the upper jaw
- Several rows of small teeth on the jaws and roof of the mouth Well developed lateral line
- Transparent, laterally compressed larvae (leptocephali) resemble a willow leaf in shape
- Juvenile (yellow eels) colouration varies from yellow to green or olive-brown on the belly and dark on the back
- Adults (silver eels) are grey with a white or cream-coloured belly
- Adult females may reach up to 1 m in length; males are smaller at less than 0.4 m

### Distribution

The American Eel has a wide distribution on the western side of the Atlantic Ocean from Venezuela to Greenland and Iceland, including the Sargasso Sea (southern North Atlantic). Its native Canadian range includes all fresh water, estuaries and coastal marine waters that are accessible to the Atlantic Ocean, from Niagara Falls in the Great Lakes up to the mid- Labrador coast.

### Habitat and Life History

The American Eel uses a broad range of habitats encompassing all salinities during its life

stages. It spawns in the Sargasso Sea and eggs hatch within roughly one week. The larvae (leptocephali) are passively, but widely, dispersed by surface currents of the Gulf Stream system to western shores of the Atlantic Ocean. When larvae reach 55 to 65 mm long, they metamorphose into 'glass eels', a post-larval stage characterized by a lack of pigment. As they approach coastal estuaries, they become pigmented or 'elvers'. This stage lasts 3 to 12 months during which they may migrate up rivers or remain in brackish or salt waters eventually becoming 'yellow eels'. The yellow stage marks the growth phase where the skin thickens and sexual differentiation occurs. Between 8 and 23 years are required to become 'silver eels', at which time they are physically and physiologically adapted to migrate the thousands of km back to their spawning grounds where all individuals mate randomly as one population (panmixia). Spawning occurs only once.

## Diet

American Eel larvae are believed to feed primarily on detritus, while glass eels and elvers consume insect larvae. Yellow eels are night feeders and prey on a variety of organisms including small fishes, molluscs, insects and crustaceans. Feeding stops for the spawning migration.

## Threats

The American Eel is faced with a number of threats. Climate change may be causing a deviation of the Gulf Stream system to the north, which could interfere with larval transport to coastal areas. Dams and other barriers result in habitat loss and fragmentation and contribute to reduced or delayed recruitment. Turbines may also contribute to increased mortality or injury of downstream migrants depending on turbine design and eel size. Biological (exotic species, parasites) and chemical contaminants, and commercial fishing are threats in some regions.

## Similar Species

A close relative of the American Eel is the European Eel (*Anguilla anguilla*). This eel inhabits continental waters of the eastern North Atlantic Ocean but also frequents the Sargasso Sea and Iceland.

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## Documents

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## COSEWIC Status Reports

[COSEWIC Status Report - American Eel](#) (2006)

The American eel, *Anguilla rostrata* LeSueur 1817, is in the order Anguilliformes, family Anguillidae. *Anguilla* eels are termed freshwater eels, although some species (including the American eel) are able to complete

their entire life cycle in salt wa...

### **COSEWIC Assessments**

#### [COSEWIC Assessment - American Eel \(2006\)](#)

Designated Special Concern in April 2006. Assessment based on a new status report....

### **Response Statements**

#### [Response Statements - American Eel \(2006\)](#)

Indicators of the status of the total Canadian component of this species are not available. Indices of abundance in the Upper St. Lawrence River and Lake Ontario have declined by approximately 99% since the 1970s. The only other data series of c...

### **COSEWIC Annual Reports**

#### [COSEWIC Annual Report - 2006 \(2006\)](#)

2006 Annual Report to the The Minister of the Environment and the Canadian Endangered Species Conservation Council (CESCC) from the Committee on the Status of Endangered Wildlife in Canada....

### **Permits and Related Agreements**

#### [Explanation for issuing permit\(#DFO-CA SECT 73 SARA C&A 09-006\), pursuant to the provisions of section 73 of SARA \(2009\)](#)

The purpose of the project is to conduct ecological surveys at 2 sites where proposed works involve the construction of municipal storm sewer outlets. Both project sites have been identified as potentially having fish and mussel SAR present. The Es...

### **Consultation Documents**

#### [Species at Risk Act- Legal Listing Consultation Workbook, American Eel \(2007\)](#)

Your opinion is being sought to assist the government of Canada in making an informed decision on whether to add the American Eel to the Schedule 1 (the List of Wildlife Species at Risk) of the Species at Risk Act (SARA). Your input on the impacts of...

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