# Great Lakes Aquatic Nonindigenous Species Information System

**Providing information about the 182+ non-native species established in the Great Lakes**

http://www.glerl.noaa.gov/res/Programs/glansis/glansis.html

Sea Lamprey
*Petromyzon marinus*

Round Goby
*Neogobius melanostomus*

Goldfish
*Carassius auratus*

Brown Trout
*Salmo trutta*

Common Carp
*Cyprinus carpio*

Rainbow Trout
*Oncorhynchus mykiss*

Ruffe
*Gymnocephalus cernua*

Alewife
*Alosa pseudoharengus*

Bluespotted Sunfish
*Enneacanthus gloriosus*

Zebra Mussel
*Dreissena polymorpha*

Quagga Mussel
*Dreissena rostriformis bugensis*

Asian Clam
*Corbicula fluminea*

New Zealand Mudsnail
*Potamopyrgus antipodarum*

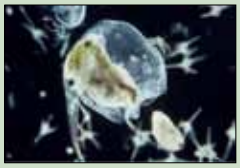
Bloody Red Shrimp
*Hemimysis anomala*

Amphipod (Gammarid)
*Gammarus tigrinus*

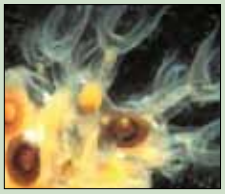
Cyclopoid Copepod
*Cyclops strenuus*

Japanese Fish Louse
(Parasitic Copepod)
*Argulus japonicus*

Fishhook Waterflea
*Cercopagis pengoi*

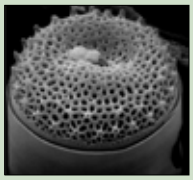


Waterflea
*Eubosmina coregoni*



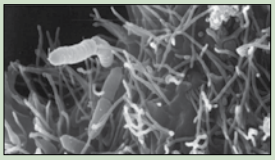
Bryozoan
*Lophopodella carteri*

European water moth
*Acentropus niveus*

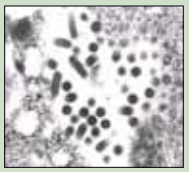


Diatom
*Thallassiosira lacustris*

Starry Stonewort
*Nitellopsis obtusa*



Furunculosis
*Aeromonas salmonicida*



VHS
*Novirhabdovirus sp.*

Eurasian Watermilfoil
*Myriophyllum spicatum*

European Frogbit
*Hydrocharis morsus-ranae*

Purple Loosestrife
*Lythrum salicaria*

Yellow Floating-heart
*Nymphoides peltata*

Narrow-leaf Cattail
*Typha angustifolia*

# GLANSIS

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## Background

The Great Lakes have a long history of Aquatic Nonindigenous Species (ANS) introductions — both intentional and unintentional. As of 2011, over 182 ANS have been reported to have reproducing populations in the Great Lakes basin. The two most recent ANS reported and verified established in the Great Lakes basin were viral hemorrhagic septicemia (VHS) and *Hemimysis anomala*. The number of Great Lakes aquatic nonindigenous species documented in GLANSIS must be interpreted as a minimum. Identification depends on our ability to find, recognize, verify, and document new species, which is, in turn, dependent on our ability to adequately sample the Great Lakes ecosystem.

## About the Database

GLANSIS functions as a Great Lakes node of the national USGS Nonindigenous Aquatic Species (NAS) database. GLANSIS provides targeted access to the information — references, fact sheets, and collection records — for established Great Lakes ANS. GLANSIS contains profiles for all Great Lakes ANS that meet our criteria for listing. Additional information on ANS related to the Great Lakes region that are not included in GLANSIS (e.g., species that have been reported but not established, cryptogenic species, range expansion species, and species native to the Great Lakes that have invaded other regions of the U.S.) may be available through the U.S. Geological Survey (USGS) Nonindigenous Aquatic Species (NAS) information resource at: **http://nas.er.usgs.gov**.

To contribute species reports or other information to GLANSIS, please contact:

**Rochelle.Sturtevant@noaa.gov**

## Types of Information Available

GLANSIS is searchable geographically (by watershed and lake) as well as by scientific and common name. Limited searching by informational categories such as taxonomic group, major pathway (e.g., shipping), status (e.g., established), salinity tolerance (e.g., freshwater vs. marine), and native range (e.g., native transplant within the U.S. vs. exotic) is also possible.

The GLANSIS search results in a table including the following additional information: thumbnail photo, taxonomy, continent of origin, and year first collected in the Great Lakes basin.

Each record in the table is linked to a fact sheet that is dynamically generated from the latest information in the USGS national database. Fact sheets include photographs, identification information, size range, a point map depicting locations where species have been reported, a summary of nonindigenous occurrences, status, means of introduction, ecological information, potential and realized impacts, and a bibliography.

For those requiring more detailed information, a link is provided from the fact sheet to the full set of specimen collection records for the Great Lakes basin, sorted by state and then by year.

For those needing less technical information, links are provided to a variety of additional available web resources.

Image credits:
N. Burkhead, M. Faisal, S. Good, Great Lakes Fishery Commission, GLERL, I. Grigorovich, M. Gongloff, K. Havens, W. Hoagman, R.L. Johnson, D. Jude, L. Lovshin, R. Lowe, R. McDowell, H. MacIsaac, G. Miller, MN DNR, NOAA, T. Ricciardi, M. Tu, USBR, USFWS, USGS, USNPS, Windsor Aquirre, and S. Zienert.

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