



# Reconnect with your environment

Learn about environmental issues, their effect on your community and actions for your involvement.



ILLINOIS-INDIANA SEA GRANT/Contributed photo

Learn to identify Asian carp before you go fishing.

## Take these 3 steps to prevent carp invasion

Anglers and boaters can help prevent an Asian carp invasion by taking the following steps:

### Step 1

Be knowledgeable about Asian carp before you go fishing or boating.

### Know how to identify them

Check the following United States Geological Survey links to find out where confirmed Asian carp sightings have occurred:

- **Bighead carp:** <http://nas2.er.usgs.gov/viewer/omap.aspx?SpeciesID=551>
- **Silver carp:** <http://nas2.er.usgs.gov/viewer/omap.aspx?SpeciesID=549>
- **Black carp:** <http://nas2.er.usgs.gov/viewer/omap.aspx?SpeciesID=573>
- **Grass carp:** <http://nas2.er.usgs.gov/viewer/omap.aspx?SpeciesID=514>

### Step 2

Think you found an Asian carp? Immediately contact agency personnel for the state you are in and:

- If possible, take a picture of the fish from nose to tail with

the fish laid out flat.  
 ■ Know the location where you caught the fish, including the river or lake, nearest town, and county, and then contact:

**Ohio:** John Navarro; (614) 265-6346; [John.Navarro@dnr.state.oh.us](mailto:John.Navarro@dnr.state.oh.us)

**Pennsylvania:** Bob Morgan, (814) 359-5129, Online reporting form: [www.fish.state.pa.us/promo/form/ais\\_reporting.htm](http://www.fish.state.pa.us/promo/form/ais_reporting.htm)

**New York:** Bill Culligan, (716) 366-0228, New York State Dept. of Environmental Conservation

### Step 3

- If state personnel want to examine the fish:
  - Put the fish on ice or place in a plastic bag.
  - Do NOT keep a live Asian carp in your possession.
  - Do NOT travel across state lines with an Asian carp in your possession.
  - Do NOT move an Asian carp to another body of water even if it is dead.

For other state contacts and more information, go to <http://www.AsianCarp.org>

SOURCE: Asian Carp Regional Coordinating Committee



USFWS/Contributed photo

A temporary lab at the Ohio Department of Natural Resources Lake Erie Fisheries Research Unit prepares Lake Erie water samples to be sent to an eDNA testing facility. If the presence of Asian carp eDNA is confirmed, rapid response actions that include commercial fishing crews, electrofishing boats, larger sweeping nets and additional sampling gear will try to locate any invaders.

# Catch phases

## Hunt for Asian carp is similar to crime probes

By ANNA MCCARTNEY  
Contributing writer

Asian carp leave a trail of DNA just like criminals at a crime scene.

Like the forensic scientists who use DNA technology to identify criminals and take them off the streets, fish biologists are using the same technique to detect Asian carp to keep them from causing mayhem in the Great Lakes.

At the heart of DNA evidence is the biological molecule which serves as an instruction manual and blueprint for every living thing. Scientists can obtain enough DNA information from just a few cells to identify crime suspects. The same holds true for invasive intruders like Asian carp.

Scientists use "environmental DNA" (eDNA) when they can't see the organisms they suspect are present. Aquatic eDNA surveillance is particularly useful because there's an expanding cloud of eDNA that can be detected even when the invader is hiding. This technique is better than traditional methods for finding a species because it is more sensitive. It can be executed earlier with fewer traces of specimens before a thriving population takes hold.

Asian carp genetic fingerprints keep showing up repeatedly in samples taken above the electric fence in Chicago — the only barrier between the invaders and Lake Michigan. Water samples from Lake Erie taken in 2011 and 2012 have also tested positive. While the eDNA testing can detect the faintest trace of a particular fish species, it can't tell biologists if there are live fish, where the fish came from, how many of them are in the area or if they are of breeding age.

Scientists are trying to determine other potential reasons for the positive findings, including transfer of the genetic material by birds, through contaminated bilge water from barges or sewage overflows that contain the

genetic material after it was ingested by people who consider the carp a delicacy.

Some say the intruders have not yet entered the gate because there is not enough physical evidence (live carp) proving their presence. Only two Asian carp have been found, with one live specimen above the electric fence in 2010. None have been reported in Lake Erie, although three adult bighead carp were caught there in 1995 and 2000.

Once an area tests positive for Asian carp DNA, wildlife agencies use traditional intense fishing expeditions to look for live specimens. That method has its holes. The U.S. Geological Survey once used four boats to chase three radio-tagged Asian carp for two days on a Missouri River tributary using electroshocking gear and commercial fishing nets. Even though the radio tags signaled the precise location of the fish, which had been trapped between two sets of nets stretching the entire width and depth of the river, the carp avoided capture in the nets.

The biologists who developed the eDNA technology say the only plausible explanation for all the positive samples is at least a handful of fish in the tested areas. The frequency and location, including areas where barges can't travel, upstream of sewage treatment plant outflows, in cold months when many birds that might move DNA aren't feeding in Chicago waterways and the difficulty of catching live specimens, may support their claim.

But even with the best technology the best way to stop criminals is when people become vigilant. Learn how to identify Asian carp and other invaders before they strike. Don't let them hitch a ride with you. Report them when you see any.

ANNA MCCARTNEY, a communications and education specialist for Pennsylvania Sea Grant, can be reached by e-mail at [axm40@psu.edu](mailto:axm40@psu.edu).



USFWS/Contributed photo

During Lake Erie eDNA sampling in Sandusky Bay, Ohio, the location of each water sample, the depth and water temperature are recorded.



KEVIN IRONS, ILLINOIS DEPARTMENT OF NATURAL RESOURCES/Contributed photo

In August 2011 after Asian carp eDNA was confirmed in Lake Calumet, in Chicago, intensified efforts to determine whether live Asian carp were present included the use of these nets.



USFWS/Contributed photo

Electrode-equipped booms are lowered into the water as a generator sends out a mild electrical current to attract and stun fish, which can be scooped up and examined before they are dropped back into the water.



CONTRIBUTED PHOTO

Students from the Neighborhood Art House participate in a school cleanup for the International Coastal Cleanup.

## We all strive to make world cleaner, better



Savanna

Dear NIE,

On Monday, Sept. 24, my class was part of the International Coastal Cleanup at the Neighborhood Art House. We collected 187 food wrappers, 742 cigarette butts, 17 cups, 59 bags, and 21 tobacco wrappers.

It was ugly but we can all make the world a better and cleaner place. So remember we can all make a difference!

— Savanna

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Check out these websites to learn more:

- [www.asiancarp.com](http://www.asiancarp.com)
- [www.asiancarp.us/edna.htm](http://www.asiancarp.us/edna.htm)
- <http://environmentalchange.nd.edu/>
- [www.protectyourwaters.net](http://www.protectyourwaters.net)
- [www.seagrant.psu.edu/publications/ais.htm](http://www.seagrant.psu.edu/publications/ais.htm)

Find articles that warn citizens about impending danger. What important information do the reporters include to warn people about the threats?

Use the techniques used by the reporters as a guide to write an article about invasive species. What information should the public be aware of so they can help to prevent the spread of invasive species?

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