What's the Harp About Asian Carp?

Learning the facts about Asian Carp and their non-native presence in the United States

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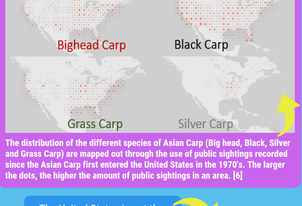
What are Asian Carp?

Asian Carp is a category of fish that are native to China and other Asian Countries. There are about 10 different types of Asian Carp, but only about four of them are a concern of the United States.



The distribution of the different species of Asian Carp (Big head, Black, Silver and Grass Carp) are mapped out through the use of public sightings recorded since the Asian Carp first entered the United States in the 1970's. The large the dots, the higher the amount of public sightings in an area. [6]

The Four Common Types of Asian Carp:

Bighead Carp

Silver Carp

Grass Carp

Black Carp

The United States is not the native habitat of Asian Carp, their presence could cause several issues, including:

- Food-chain disruption
- Loss of native species
- Disruption of the fishing industry (especially in the Great Lakes Ecosystem)
- Overpopulation of Asian Carp due to lack of predator in United States

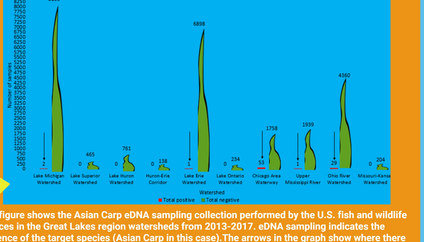
Fun Fact!

- Grass Carp eat plants.
- Bighead and silver Carp eat plankton.
- Black Carp eat snails and mussels.[2]

In the United States, two of the rivers that have the largest populations of asian carp are the Illinois River and the Mississippi River.

This pie chart shows the collection records of Asian Carp for the Illinois River between 2014-2017. Silver Carp was the most common fish collected. The total number of carp collected was 1,248. Statistical analysis indicated that there are significant differences in this graph (ANOVA Test p-value= 3.85E-24)! [3][8][9][11]

Have Asian Carp Invaded The Great Lakes?

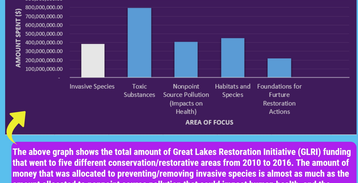


This figure shows the Asian Carp eDNA sampling collection performed by the U.S. fish and wildlife services in the Great Lakes region watersheds from 2013-2017. eDNA sampling indicates the presence of the target species (Asian Carp in this case).The arrows in the graph show where there were positive samples. As the graph shows, more negative samples were collected than positive; this means that there was a very low presence of Asian Carp in the Great Lakes region watersheds from 2013-2017. A statistical analysis showed that the differences observed in this graph are significant (T-test p-value= 0.02)! [4]

Fun Fact!

Silver Carp sightings went from 11 before 1980 to 2,800 sightings before 2018. [6]

One of the most prominent concerns of many researchers is that Asian Carp will invade the Great Lakes ecosystem in a similar way that they invaded the Illinois and Mississippi Rivers, causing irreversible changes.

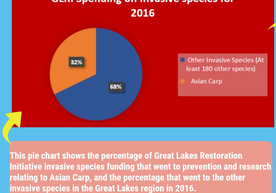


The above graph shows the total amount of Great Lakes Restoration Initiative (GLRI) funding that went to five different conservation/restorative areas from 2010 to 2016. The amount of money that was allocated to preventing/removing invasive species is almost as much as the amount allocated to nonpoint source pollution that could impact human health, and the conservation/protection of native species and their habitats.
A statistical analysis showed that the differences observed in this graph are significant! (ANOVA Test P-Value= 2.1E-09) [5]

Because of this, a lot of funding has been allocated to keeping invasive species out of the Great Lakes region. A very high amount of funding has been allocated specifically to keeping Asian Carp out of the Great Lakes region.

Fun Fact!

Asian carp were purposely brought over in the 1970's to help control weeds and parasites in aquatic farms.[2]



This indicates that in 2016, about a third of the GLRI invasive species funding was spent on Asian Carp, even though invasive species such as the Zebra Mussel are causing major ecological changes **right now!**

This pie chart shows the percentage of Great Lakes Restoration Initiative invasive species funding that went to prevention and research relating to Asian Carp, and the percentage that went to the other invasive species in the Great Lakes region in 2016.
A statistical analysis showed that the differences observed in this graph are significant (ANOVA Test P-Value= 1.87E-45)! [1][5][10]

Is the Asian Carp "Invasion" frequently discussed in the general populous?

This graph shows the amount of U.S. social media postings about Asian Carp across three social media platforms (Twitter, Facebook, and Reddit) from 2004 to 2017. The graph indicates that asian carp posts peaked in 2011 on the social media platforms (mostly Facebook) and has been declining since then.
Statistical analysis indicated that there are significant differences in this graph (ANOVA Test p-value= 4.32E-7)! [7]

While public interest seems to have been declining, the issue **HAS NOT** gone away! It is important for us all to keep the conversation going!

References

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