Envirothon Training Day
November 15, 2022
Climate Change
Invasive Species Impact

Invasive species are not native to a given ecosystem and can include aquatic and land-based plants and animals, insects, fungus and pathogens. They have reproductive and survival strategies that allow them to outcompete native wildlife. They can threaten biodiversity and alter natural ecosystem functions beneficial to native wildlife. Climate change can make it easier for certain species to gain a foothold in any wildlife habitat.

You are a fisheries biologist responsible for managing fish populations and habitats in the state of NH. You are studying the fish population of Mascoma Lake.

You have been given tools to do a pre-field assessment before starting the field work:

- Bathymetric map of Mascoma Lake: https://www.wildlife.state.nh.us/maps/bathymetry.html
- Information about the Common Carp, *Cyprinus carpio*: https://www.wildlife.state.nh.us/fishing/profiles/common-carp.html
- Information about the Rainbow Trout, *Oncorhynchus mykiss:* https://www.wildlife.state.nh.us/fishing/profiles/rainbow-trout.html

Using this information, answer the following questions:

- How large is the lake? _____ acres
- What is the average depth:_____ maximum depth:_____
- What habitat does the trout need? Where in the lake would it live?
- What habitat does the carp need? Where in the lake would it live?
- Why is the carp considered an invasive species and what harm can it do to Mascoma Lake?
- How might Climate Change give carp an advantage to outcompete the trout?
- BONUS QUESTION: Is there a lot of human impact on the lake? What might landowners do to lessen the impact of carp and climate change?

Question from Judy Tumosa, 11/15/22