

# WHAT IS THE NEUSE RIVER WATERDOG?

The Neuse River Waterdog (*Necturus lewisi*) is a permanently aquatic salamander. This means they only live in the water and they keep their external gills into adulthood, which is unlike most other salamanders.



They require large, flowing streams and rivers with many large rocks or logs to hide under, decomposing leaves for young to live in, and minimal silt in the water. They also live for 20+ years!

# WHAT DO THEY LOOK LIKE?

- 1** Dark brown spots on back and sides
- 2** Dark line through the eye
- 3** Smooth, slimy skin
- 4** **ONLY** found in the streams of the Neuse and Tar River systems



---

If you have any questions, please contact the Pacifici Quantitative Ecology Lab at [jkpacifi@ncsu.edu](mailto:jkpacifi@ncsu.edu)

# GET TO KNOW THE NEUSE RIVER WATERDOG



Pacifici Quantitative Ecology Lab

---

Department of Forestry  
and Environmental Resources

**NC STATE**  
UNIVERSITY

College of  
Natural Resources

# CURRENT RESEARCH

Researchers are working toward understanding why this species is declining, how individual and population health change throughout its range, and what management is needed to help protect it.

Our ultimate objective is to promote clean water practices by raising awareness about the Neuse River Waterdog.



With this species being federally listed as threatened, our research is funded and supported by the USFWS and NCWRC.



# WHY THEY ARE DECLINING AND WHY THAT MATTERS

Erosion and pollution from development and other human land uses likely limit their ability to reproduce by filling nesting and foraging spaces with silt and muck.

These threats also make it difficult to breathe using their external gills.



The picture above shows preferable (left) and undesirable (right) water quality for Waterdogs.

Salamanders are important indicators of healthy water quality.

The Neuse River Waterdog is **ONLY** found in the Neuse and Tar River basins in NC, so by preserving their populations, we are maintaining the ecological culture of this region!

# WE NEED YOUR HELP!

People who live and work within the Neuse and Tar River basins can help by supporting and participating in clean water practices that benefit Waterdogs, watershed health, and our communities.



## To help with increased sediment:

- Reduce erosion on your property by leaving trees and plants along the banks of streams to help with stabilization

## To maintain healthy water quality:

- Minimize the use of pesticides, herbicides, and other chemicals

## To preserve places for Waterdogs to live and reproduce:

- Do not create dams or stack rocks that restrict water flow