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ENVS 3999-003: Independent Study

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May 7, 2025

End of Semester Reflection

The project I worked on this semester with my partner, Courtney, involved developing a vulnerability assessment for critical natural resources in Northwestern Connecticut. This assessment was centered on threatened habitats and species in Norfolk, Connecticut and was presented to the Norfolk Conservation Commission. Throughout the semester, Courtney and I worked with John Anderson, a member of the Conservation Commission. After discussing with John, we set the goals of the project to focus on identifying Norfolk's critical habitats and predicting which invasive plant species pose a risk to each habitat type. The scope of this project was divided into four main parts: critical habitat identification and descriptions, invasive plant species identification and predictions, the role of land use and climate change on invasive plant dispersal, and the best management practices for removing invasives. The final product included a report and presentation to the Conservation Commission.

Overall, I really enjoyed working on the vulnerability assessment this semester. My favorite part involved identifying critical habitats using GIS. One of John's acquaintances, Stacy Demming, emailed me a set of habitat data, which I uploaded onto ArcGIS. I had previously taken a course in Geographic Information Systems (GIS), so it was fun to use what I learned from the class in order to create a map of Norfolk's critical habitats. The data involved a variety of layers, but I only used the "Critical Habitats" one to provide the best visual of the locations of the critical habitats in Norfolk. From there, I clicked on the locations and read the comments to

learn more about the habitat type, location name, and vegetation found there. The critical habitats we researched were poor fens, acidic red/black spruce basin swamps, and dry sub-acidic forests. Once I gathered that information from the GIS data, I was able to do additional research to learn more.

One of the challenges I faced with this project was finding specific information about the critical habitats in Norfolk, such as habitat threats or the most vulnerable species in each habitat type. A lot of my research involved using the Norfolk Natural Resource Inventory (NRI), Connecticut Critical Habitats dataset, CT Eco's Resource Guide, Norfolk's Plan of Conservation Development, and the 2015 Connecticut Wildlife Action Plan. These resources were useful in describing general definitions and characteristics of the critical habitat type. They also provided insight into the town's unique ecological features and biodiversity. Sources such as the 2015 Connecticut Wildlife Action Plan and NRI revealed threatened species in Connecticut/ Norfolk, but it was a challenge to determine which species specifically lived in the locations of poor fens, dry sub-acidic forests, or acidic red/black spruce basin swamps. I did my best to draw connections to the habitat type and research I was able to find.

The independent study concluded with a final presentation to the Norfolk Conservation Commission. I always get a bit nervous before public speaking and presentations, but I felt well prepared and excited to share the project. The presentation followed by questions lasted about an hour. Overall, it went very well, and we received positive feedback from the Conservation Commission. Following the presentation, Courtney and I also submitted a typed report containing the vulnerability assessment and all the research we had conducted.

I enjoyed working on this independent study for the semester. I think it is great that UConn offers these Climate Corps programs with a one semester class followed by a semester of

hands-on experience. While researching the impacts of climate change and land use on habitats and invasive plant dispersal, I was able to draw connections back to discussions from class the previous semester.

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