

JOB 4: MARINE FISHERIES GIS

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GOAL

To maintain a geographic information system (GIS) of Project data to support map applications and geospatial analyses, assist with planning and executing Connecticut DEEP Marine Fisheries Program (MFP) surveys that support sport fish restoration goals, help people visualize the spatial extent of MFP project sampling efforts, assist in evaluating the effects of fishing and environmental conditions on the distribution and abundance of living resources in Long Island Sound, evaluate effects of marine spatial planning projects on living marine resources and fisheries in Long Island Sound, and improve coordination with other agencies.

OBJECTIVES

1) Provide GIS-compatible, or GIS-ready, datasets and geo-referenced layers of data collected through other Jobs of this Project that are sanctioned by the Marine Fisheries Program.

2) Provide maps and geospatial analyses of Marine Fisheries Program data or other information relevant to managing living marine resources in Long Island Sound.

INTRODUCTION

In recent years, there has been an increased need for staff to use geospatial technology to map and analyze marine environmental or fisheries related information. Project staff have also experienced an increasing number of requests to provide geospatial data to others (intra-agency, inter-agency, NGOs, academic institutions, etc.) for use in, for example, fisheries stock assessments, habitat assessments, environmental sensitivity maps, and public outreach efforts. Therefore, in 2012, a new job was created within the project to support this need for geospatial datasets, data layers, analyses and products. This report includes results from the most recent year of the Job (2022).

METHODS

GIS work was accomplished using ESRI products licensed by the Connecticut DEEP including ArcMap desktop and ArcGIS Online. Published products comply with Department policy pertaining to GIS data. Script development used well established scripting utilities (*e.g.* Python, HTML, CSS, Javascript). Products designed for the Internet adhere to Agency requirements for Agency websites, pages and products. A number of the custom applications, scripts and tools created during earlier segments of the Job continued to be used as templates in subsequent years.

RESULTS

The main concentration of GIS work in 2022 was on the transfer of data and maps used frequently by the Long Island Sound Trawl Survey (LISTS) from ArcMap to ArcPro. ESRI, the provider of the ArcGIS software that has been used for the program in the past will not be supporting the ArcMap program after March 2026. Although there are years until the full transfer to their new program, the progression over to the new software began in 2022 for LISTS to ensure ample time for a smooth transition. Staff participated in online courses provided by ESRI to gain more experience with the new software. The process of transitioning old data structures used in ArcMap (shapefiles) into the updated ArcPro data files (feature classes in geodatabases) was started in 2022. Data that is used in the execution of the survey such as site selection maps, and tow track data were prioritized over recreating analyses that have already been reported.

ArcPro is a program that is attempting to make GIS more accessible to both the public and scientists that are not as familiar with the older program. Therefore, future goals of using GIS with the LISTS data should include making the data accessible and shareable to the web. The transfer from ArcMap to ArcPro will also continue in the next few years, although some overlap between the two programs will likely occur for the foreseeable future.

MODIFICATIONS

To reduce the administrative tasks related to GIS work in support other jobs in this project, GIS staff plan to incorporate the reporting of GIS work under the respective F54R jobs (instead of maintaining a separate section of the report).

LITERATURE CITED

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