



STATE OF CONNECTICUT DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION

Robert Klee
Commissioner

Bureau of Natural Resources
Marine Fisheries Division
www.ct.gov/deep/fishing

A STUDY OF MARINE RECREATIONAL FISHERIES IN CONNECTICUT

Find a place to fish with our *Saltwater Fishing Resource Map* !!

State of Connecticut | Governor Dannel P. Malloy | Search

Department of ENERGY & ENVIRONMENTAL PROTECTION
Saltwater Fishing Resource Map

WELCOME

This map shows the locations of points of interest related to saltwater fishing within the state of Connecticut and around Long Island Sound (LIS), including:

- sporting licensing agents
- bait and tackle shops
- enhanced opportunity shore fishing sites
- car top boat launches with LIS access
- trailered boat launches with LIS access
- party and charter boat locations

View information on saltwater fishing in the state of Connecticut or on the [Enhanced Opportunity Shore Fishing Program](#). Additional links are also provided below the map.

Please send feedback about this application to: deep.marine.fisheries@ct.gov.

Select a point of interest to obtain more information about it.

Search for a point of interest by name or vicinity around a location by entering a name or address in the search bar above the map. Wildcard characters include "%" for multiple characters and "." and for a single character.

Zoom by using the zoom buttons on the map, by double-clicking, by using the scrollwheel, or by holding the 'Shift' key and drawing a rectangle on the map.

79 Elm Street, Hartford, CT 06106-5127 | Phone: 860-424-3000
Home | CT.gov Home | Send Feedback
State of Connecticut Disclaimer, Privacy Policy, and Web Site Accessibility Policy, Copyright © 2002-2013 State of Connecticut.

As seen on the CT DEEP website:

<http://www.depdata.ct.gov/maps/saltwaterfish/map.htm>

Federal Aid in Sport Fish Restoration
F-54-R-33 Annual Performance Report
March 1, 2013 – February 28, 2014
Job 7: Marine Fisheries GIS



State of Connecticut
Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
www.ct.gov/deep

Federal Aid in Sport Fish Restoration
F-54-R-33
Annual Performance Report

Project Title: *A Study of Marine Recreational Fisheries in Connecticut*

Period Covered: March 1, 2013 - February 28, 2014

Job Title

Prepared by:

Job 1: Marine Angler Survey Part 1: Marine Recreational Fishery Statistics survey Part 2: Volunteer Angler Survey	Roderick E. MacLeod
Job 2: Marine Finfish Survey Part 1: Long Island Sound Trawl Survey Part 2: Estuarine Seine Survey	Kurt F. Gottschall Deborah J. Pacileo David R. Molnar
Job 3: Inshore Survey	Jacqueline M. Benway
Job 4: Studies in Conservation Engineering	Inactive
Job 5: Cooperative Interagency Resource Monitoring	Matthew J. Lyman Katie O'Brien-Clayton
Job 6: Public Outreach	David R. Molnar
Job 7: Marine Fisheries GIS	Deborah J. Pacileo



Approved by:

David G. Simpson, Director
Marine Fisheries Division

Date: August 27, 2014

Cover: "Saltwater Fishing Resource Map," an interactive GIS map on the Agency website (<http://www.depdata.ct.gov/maps/saltwaterfish/map.htm>) featuring information of interest to recreational saltwater anglers in CT (see Job 7 for more information).

JOB 7: MARINE FISHERIES GIS

TABLE OF CONTENTS

GOAL	2
OBJECTIVES	2
INTRODUCTION	2
METHODS	2
RESULTS	3
MODIFICATIONS	10

JOB 7: MARINE FISHERIES GIS

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 Division (MFD) surveys that support sport fish restoration goals, help people visualize the spatial extent of MFD 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 Division.

2) Provide maps and geospatial analyses of Marine Fisheries Division 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 (Job 7) was created within the project to support this need for geospatial datasets, data layers, analyses and products. This report includes results from the second year of Job 7.

METHODS

GIS work was accomplished using ESRI ArcMap software and extensions licensed by the Connecticut DEEP. Published layers comply with Department policy pertaining to GIS data. Custom scripts were developed using 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 this segment can also be used as templates in the future.

RESULTS

In an effort to encourage more saltwater fishing activity in the state, the CT DEEP Marine Fisheries Division has created an interactive map for the Internet, the “*Saltwater Fishing Resource Map*,” (highlighted on the report cover and shown below) that allows anglers to find saltwater fishing resources in Connecticut and around Long Island Sound.

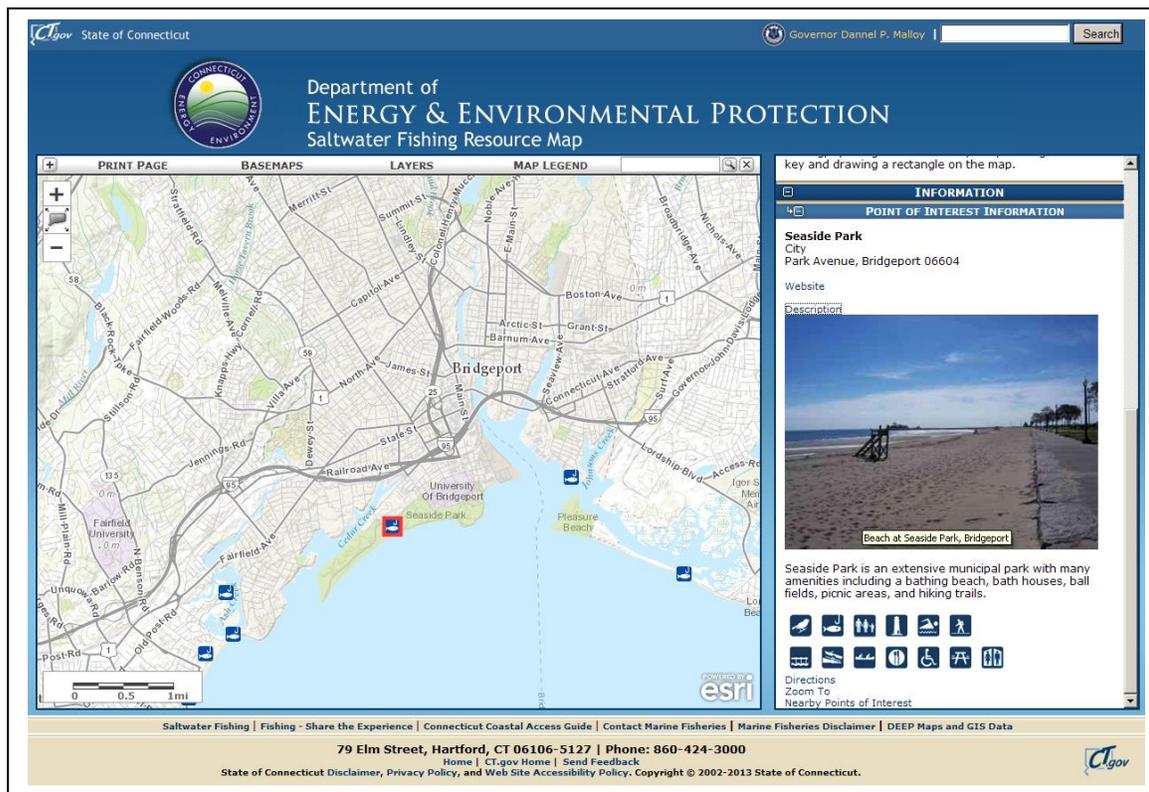
The screenshot shows the 'Saltwater Fishing Resource Map' interface. At the top, it identifies the State of Connecticut and the Department of Energy & Environmental Protection. The map displays various fishing resources across the state and Long Island Sound. A pop-up window for 'Sporting Licensing Agent' is open, providing details for the Cheshire Town Clerk. A table of contents on the right lists resource types with checkboxes.

<http://www.depdata.ct.gov/maps/saltwaterfish/map.htm>

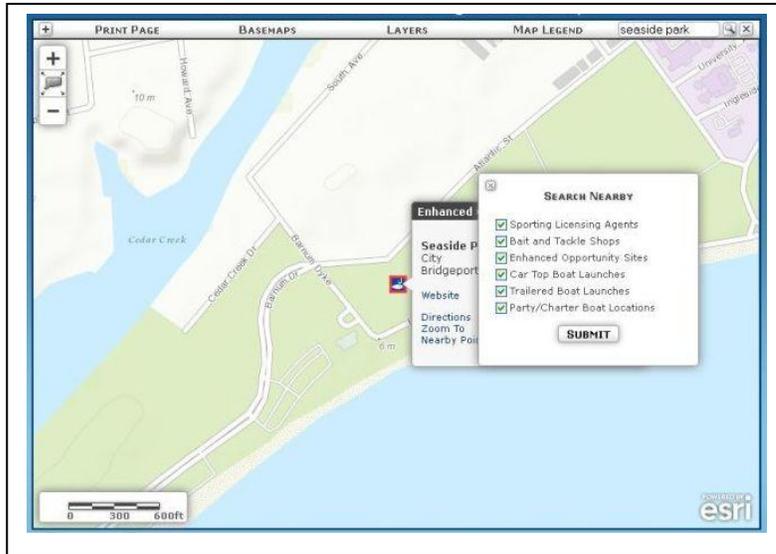
As shown in a close-up of the map’s table of contents (at right), the information provided in the map include where a license can be obtained (sporting licensing agents), bait and tackle shop locations, party and charter boat locations, enhanced opportunity shore fishing sites, and CT boat launches with Long Island Sound Access. Users can select a point on the map directly, search for resources in a vicinity around a location, or search for resources by name. Anglers can get directions and more information for each resource, such as the name, phone number, and website.

The “Saltwater Fishing Resources Map” was custom designed in-house to provide an attractive, easy to use, web-based interface the public could use to find various types of information that might be relevant to saltwater fishing. For example, one of the data layers (enhanced opportunity shore fishing sites), shows the location of over forty sites along the CT coast with special regulations designed to improve the shore angling experience, mainly by increasing the likelihood of catching a legal sized summer flounder (fluke) or scup. That program is explained on our agency website: http://www.ct.gov/deep/cwp/view.asp?a=2696&q=514534&deepNav_GID=1647.

An example of the screen display for one of these enhanced shore fishing sites in an urban area (Seaside Park in Bridgeport, CT) is shown below: Note the right hand column of the screen displays information for this site from the *CT Coastal Access Guide*, another Agency website (<http://www.lisrc.uconn.edu/coastalaccess/index.asp>), and provides an indication of what type of amenities are available.

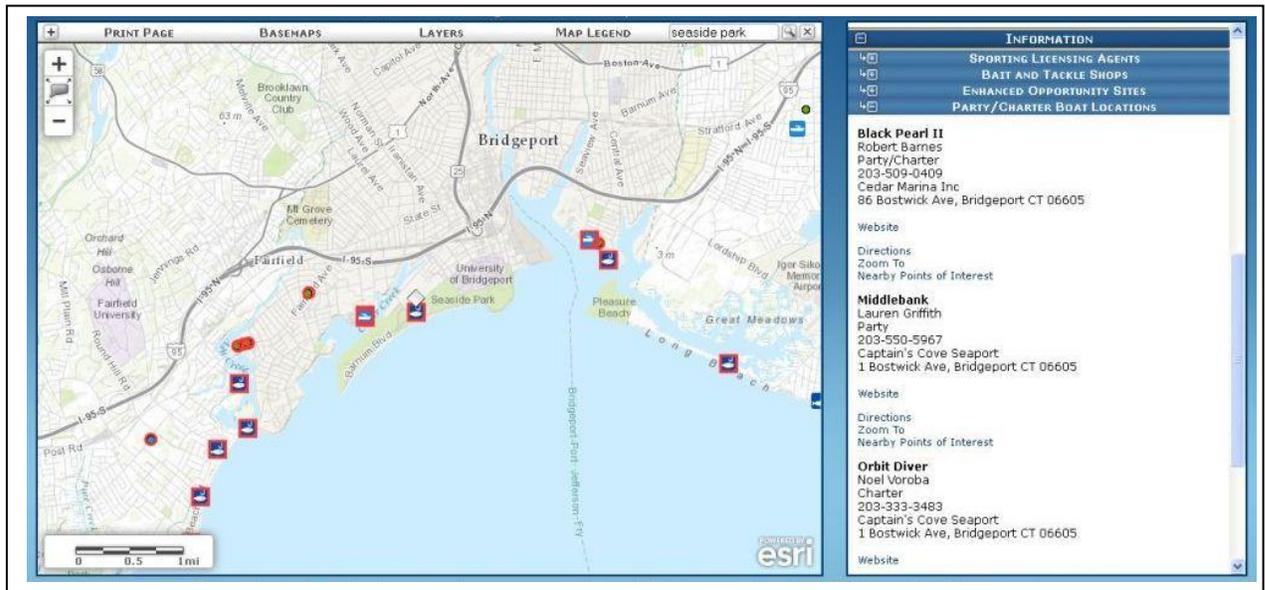


A number of links at the bottom of the web page also direct viewers to other web pages with information related to saltwater angling and contact information for the Marine Fisheries Division.

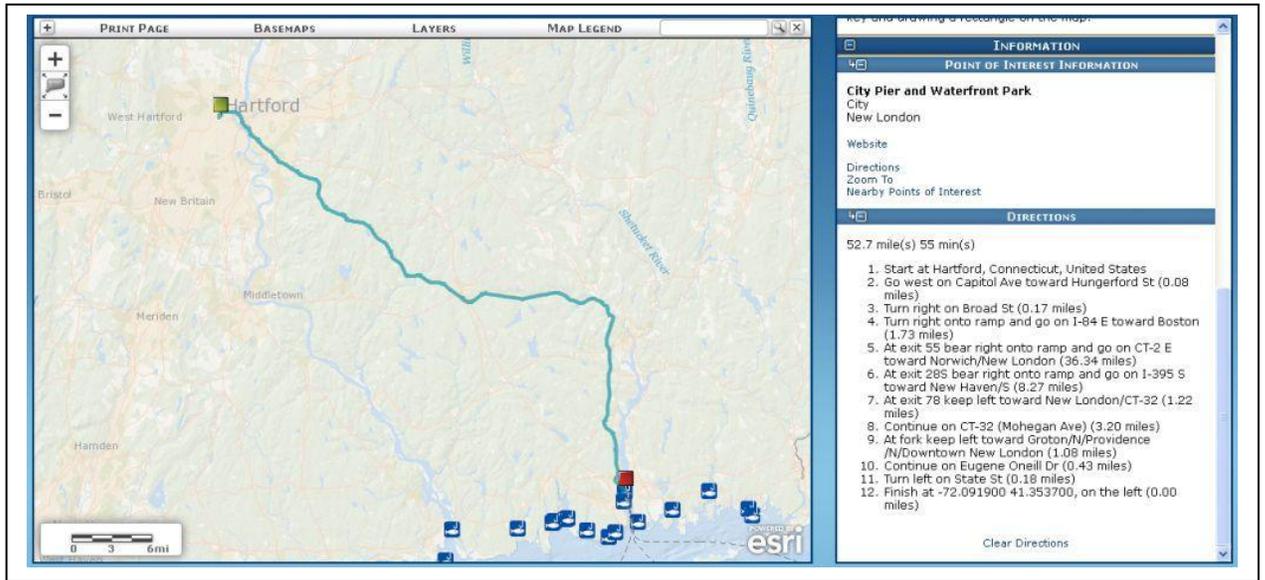


A key feature of CT DEEP’s “Saltwater Fishing Resources Map” is the ability to find nearby resources from any one, or all, of the data layers. This example (at left) shows the “Search Nearby” query for resources near Seaside Park, Bridgeport, CT, from all the available data layers, since all the layers are checked.

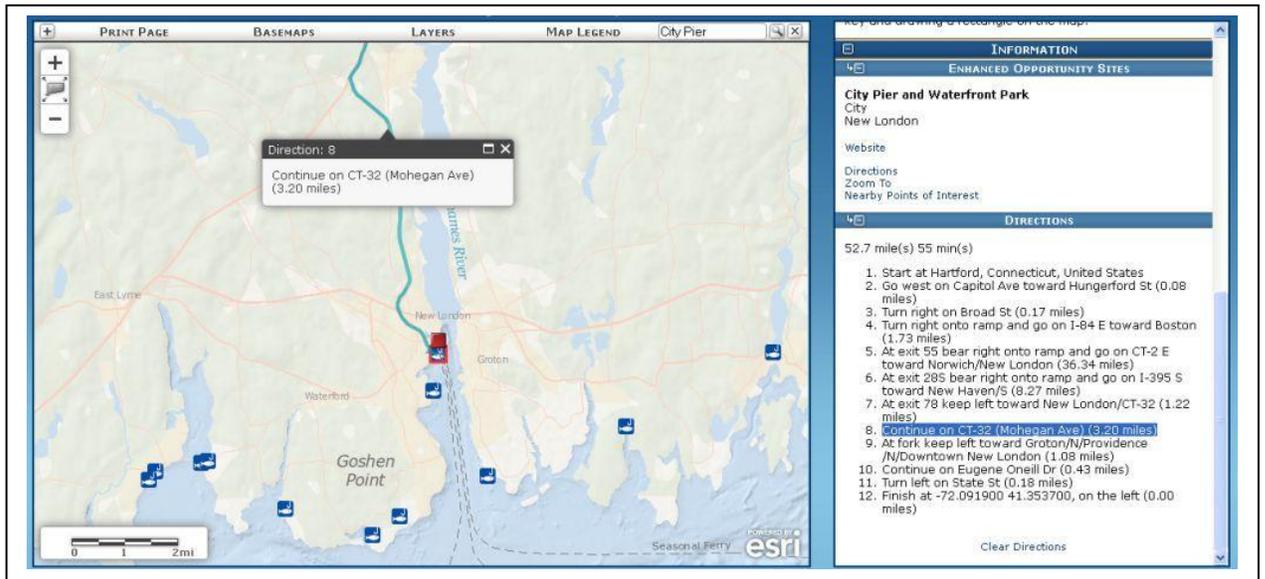
The results of the query are shown below. Note that information about the query results for each active layer can be expanded or collapsed in the column at right to show more or less information. (Information shown in the display should not be viewed as an endorsement of these entities, rather just an example of what information is available in the map.) In the section of the map displayed, there are results available for licensing agents, bait & tackle shops, enhanced opportunity shore fishing sites and party/charter boat locations near Seaside Park, but only the information section for the party/charter boats is expanded.



Users may also select from nine (9) different basemaps and get directions to features in the “Saltwater Fishing Resource Map.” The example below shows a relief basemap with a route highlighted from Hartford to New London. The right-hand panel shows the information for the enhanced shore fishing site selected (City Pier and Waterfront Park, New London) and step by step directions.

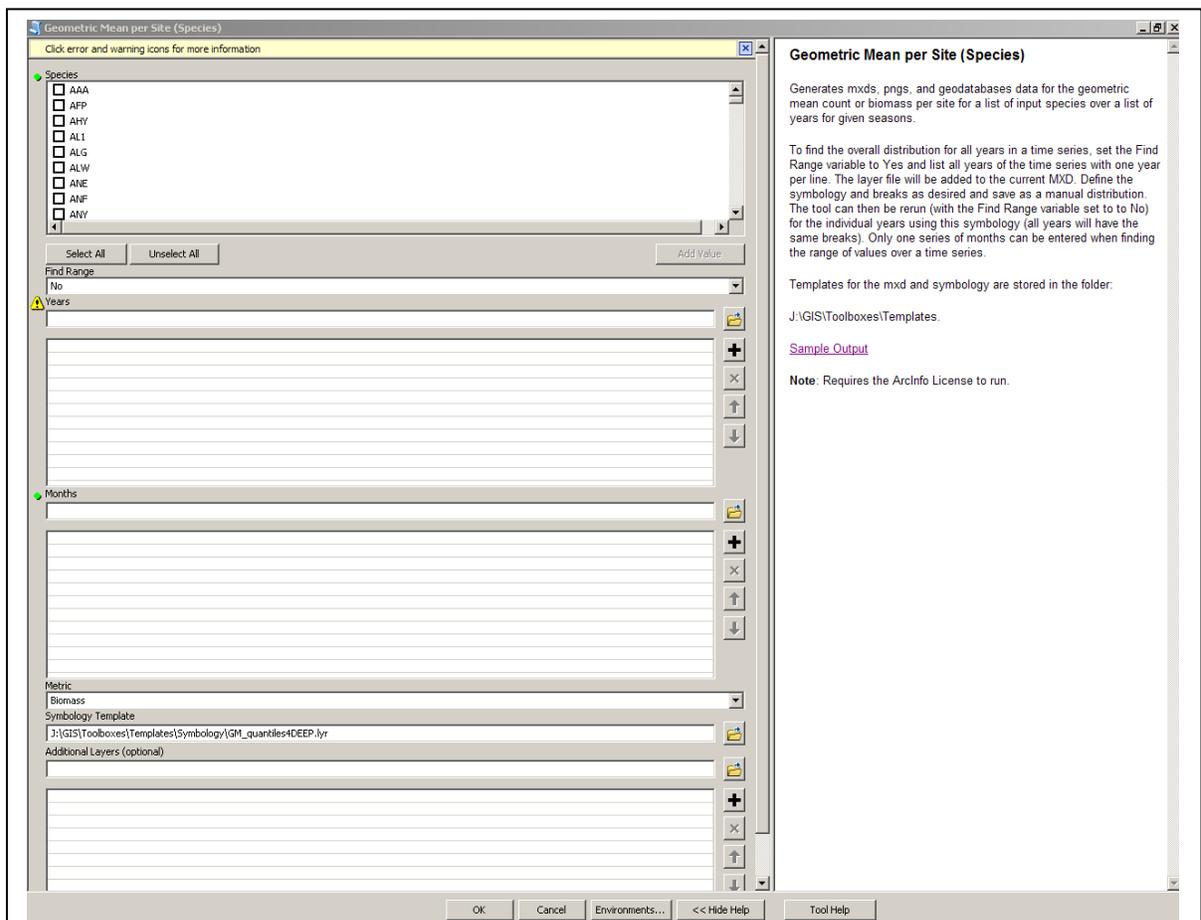


If the user hovers over an item in the Directions window, the map will zoom in and identify that section of the route (see below).

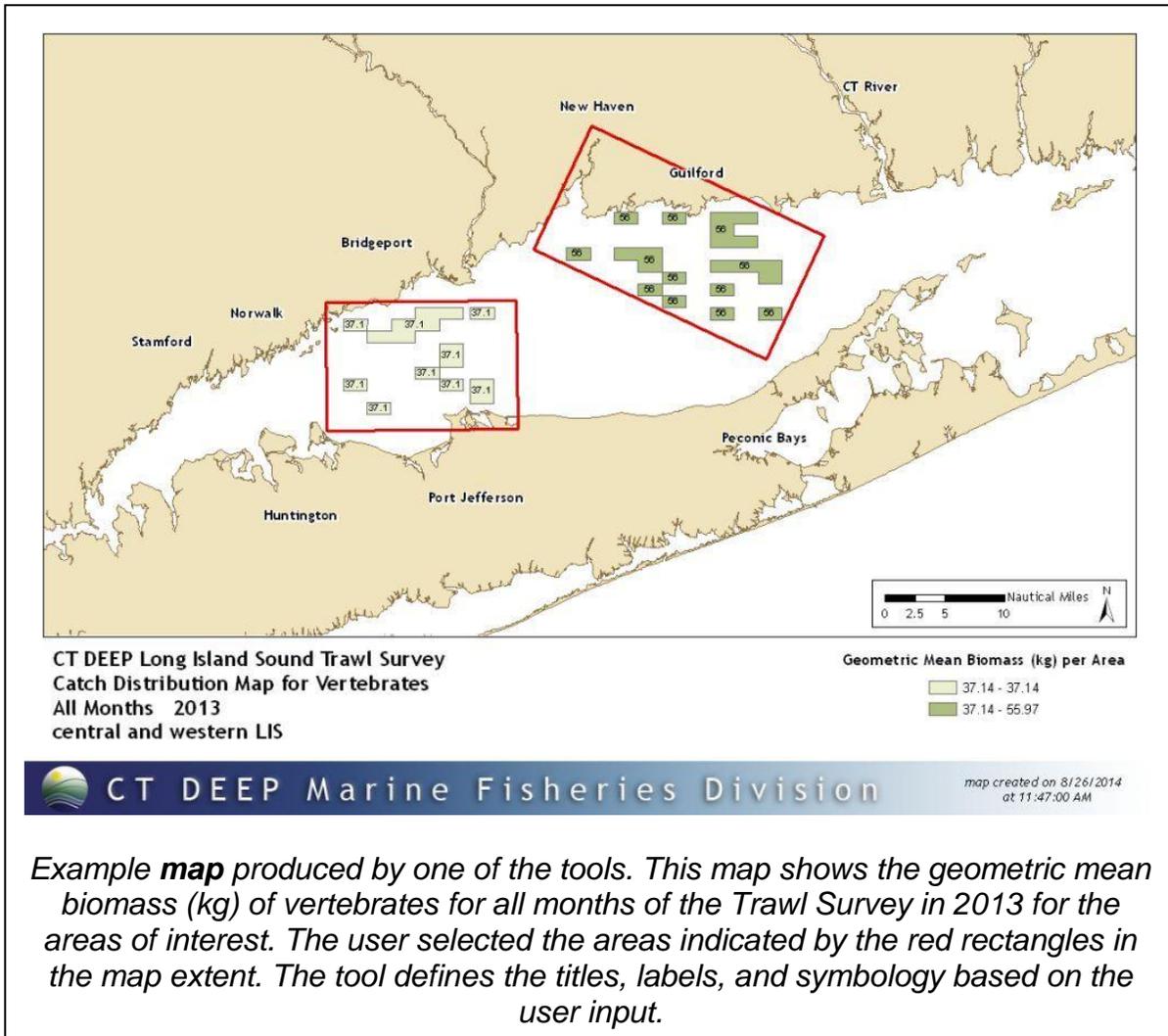


These features (and more!) make the “Saltwater Fishing Resources Map” a useful tool for saltwater anglers in CT and an impressive addition to the Agency website.

The DEEP receives many data requests regarding information collected during the Long Island Sound Trawl Survey (Job 2). Many of these data requests regard the distribution of different species or groupings of species during specific months and years. In order to make fulfilling these requests more efficient, the Marine Fisheries Division created custom tools for ArcMap using Python scripting that will produce the required maps. The tools can calculate the raw count or weight information directly from the Survey database, as well as the geometric mean by site or area. The tools have an easy to use graphical interface with plenty of “Help” information and allow for customization of the final map by selecting the symbology, modifying the template or incorporating additional GIS data layers. The tools will also catalog the data that they generate, allowing the Marine Fisheries Division to send data along with the maps. The tools will display messages as they run which show their progress. For long series of years, movie files can be created from the individual years to make it simpler to view changes over the time series. A selection of the custom tools, maps and dialog boxes are shown below.



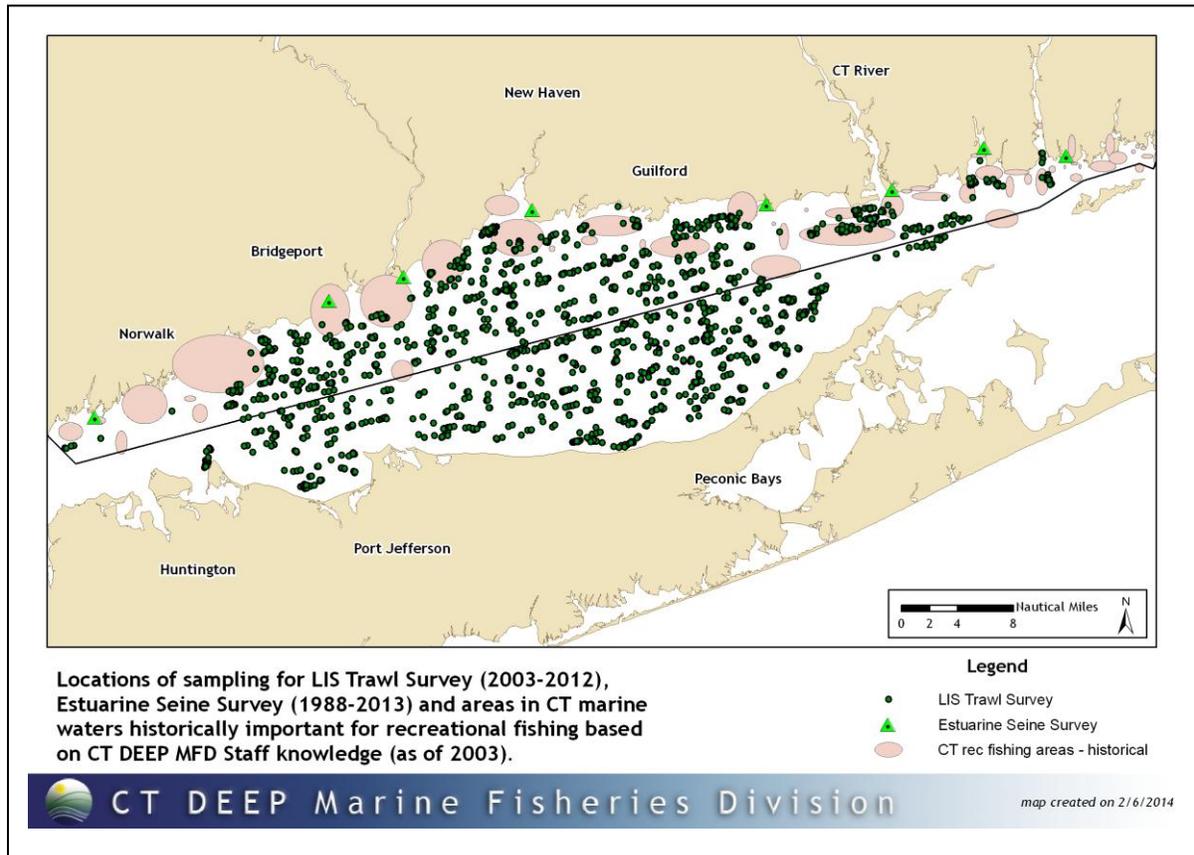
*The appearance of one of the custom **tools** project staff developed for use in ArcMap 10.0. This tool allows users to select which species, months, and years to calculate the statistics for display on the map. It also allows users to select biomass or count as the metric and to add additional GIS layers. Helpful information for the overall tool and individual parameters is displayed on the right to guide users in the use of the tool.*



*Progress (status) **dialog box** that displays while one of the tools runs. It show the execution status, as well as, the name and location of files generated by the tool.*

To further improve efficiency within the Department, additional tools were created to automate tasks that are performed on a regular basis. These tools perform tasks such as updating the data for the “*Saltwater Fishing Resource Map*,” creating maps for reports, cataloging the SAS datasets for the Trawl Survey into a format compatible with ArcMap, and updating the datafiles in ArcMap when the SAS datasets are modified. Creating scripts to execute these tasks improves consistency and reduces the amount of time spent on repetitive tasks.

In cooperation with a NOAA data request, GIS layers providing the spatial extent and corresponding metadata files were created and disseminated electronically for sampling locations of Job 2.1 (LIS Trawl Survey), Job 2.2 (Estuarine Seine Survey) and Job 3 (Inshore Seine Survey). An image showing the data layers of the sampling locations in LIS (not including sites up rivers) in relation to historically productive recreational fishing areas in CT marine waters is shown below. This is some of the information to be included in the 2014 revision of the Environmental Sensitivity Index (ESI) Atlases for Long Island Sound. Previous ESI maps focused on fish and invertebrate resources from the Estuarine Living Marine Resources database. Since the updated ESI maps will incorporate relevant human use activities, in addition to biological resources, providing a layer to show the spatial extent of historically productive fishing areas was important. After further refinements, this layer will be made available to a number of public viewers for GIS data on the internet.



MODIFICATIONS

None.