

Mapping Spawning and Hatching Grounds of the American Lobster Tagging Data from F/V Maureen R NEC-DC2002-1 in the Muscongus Bay, Maine from 2002-2005 (NEC-CoopRes project)

Website: <https://www.bco-dmo.org/dataset/2780>

Version: final

Version Date: 2005-11-01

Project

» [Northeast Consortium: Cooperative Research](#) (NEC-CoopRes)

Program

» [NorthEast Consortium](#) (NEC)

Contributors	Affiliation	Role
Cowan, Diane		Principal Investigator

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Dataset Description

Mapping Spawning and Hatching Grounds of the American Lobster Tagging Data

Project Leader: Diane Cowan, The Lobster Conservancy

Additional Participants: *Mathew Thomson, F/V Shearwater*

Win Watson, University of New Hampshire

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Andrew Solow, Woods Hole Oceanographic Institution

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Tim Thompson, F/V Haley & Amy

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Michael Reny

Richard Nelson, F/V Pescadero

Peter Murphy

Jon Murphy, F/V Redeemed

Steve Lash, F/V Streaker II

Troy Hayes, F/V Gray Ghost

Mark Havener, F/V Sarah Ashley

Philip Genthner, F/V Melinda Kay

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Richard Barter, F/V Tammy Jeane II

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Jim Bolen, F/V Finest Kind
Philip Bramhall, F/V Amanda Kate

The Lobster Sonar Tracking Project was launched in late summer 2002, and was implemented for 2 tracking seasons. In September and October of the first season (2002) a total of 191 egg-bearing females were tagged: lobster IDs: 001 - 193. These lobsters were then tracked over the subsequent 13 months. In August and September of 2004 - the second season of the project - 45 egg-bearing females AND 41 males were tagged, a total of 86 lobsters: lobster IDs: 300 - 400.

Each lobster was tagged with three pieces of equipment: a sonar transmitter that emits a unique frequency/code combination, a temperature datalogger ("Tidbit") that records the ambient water temperature every hour, and a ribbon tag with the lobster's ID and The Lobster Conservancy (TLC) phone number to identify the lobster in the event of recapture. Participants were equipped with vessel-based hydrophones to periodically "listen" for sonar signals throughout their fishing territory. Frequency and code were recorded from each observed signal and the lobster ID was subsequently looked up. Hence, the tagged lobsters could be tracked any one of three ways: via hydrophone, trap recapture, or SCUBA dive recapture (using an underwater dive receiver). Information on lobster egg state could only be collected upon recapture. Likewise, temperature data collected by the Tidbit was only useful if the logger was recovered upon recapture and the information downloaded. Temperature data on 30 lobsters from the 2002-2003 season and 18 lobsters from the 2003-2004 season were downloaded as well as data from stationery loggers. Each lobster ID in that data object corresponds to lobster IDs in the associated data objects.

Project website: <http://www.lobsters.org>

Associated data: [water temperature](#), [lobster tracking data](#) and [lobster recapture data](#)

Lobster Tag Data:

South missing

4=dbl crusher

5=dbl seizer 0 if lobster is missing no appendages;

If appendages are missing (other than antennae), this is the number of missing claws,
plus legs, plus maxillipeds, plus uropods.

(see 'comments' for which appendages are missing) 4= hatching explanation of the use of this code)

Validity code:

There is obviously room for human error in the collection of these data, and potential equipment errors as well. Incorrect sonar codes can be recorded, data can be incorrectly entered into the database, and sonar tags can and have fallen off lobsters without the investigators' knowledge (they will continue beeping away on the ocean floor). Therefore, the most confident tracking data was collected on a lobster that was subsequently recaptured (with the sonar tag still visibly attached). Slightly less confidence was awarded to tracking data on a lobster that showed movement, but has not been subsequently recaptured to verify sonar tag presence. Least confidence and most suspicion exists for tracking data that indicates a sonar tag has not moved for some time, and the lobster has not been subsequently recaptured. This indicates a good possibility that the tag has fallen off. Furthermore, through spatial analysis of most of the individual lobster tracks in GIS mapping software, a number of specific data points were noted that were either highly suspicious or downright impossibilities.

If a recapture showed that the sonar tag was missing, then every prior tracking record for that lobster received a "transmitter detached" reflecting uncertainty as to when the tag was lost. "Disappeared" means the lobster was never tracked or recaptured. Based upon spatial analysis we were able to determine that some of the tracking entries were "invalid", while others were "suspect". These validity descriptions are complete for every lobster tracked during the first year of the project, but not yet complete for the second year.

Revised Sept 05, 2006; gfh

Methods & Sampling

Each lobster was tagged with three pieces of equipment: a sonar transmitter that emits a unique frequency/code combination, a temperature datalogger ("Tidbit") that records the ambient water temperature

every hour, and a ribbon tag with the lobster's ID and The Lobster Conservancy (TLC) phone number to identify the lobster in the event of recapture. Participants were equipped with vessel-based hydrophones to periodically "listen" for sonar signals throughout their fishing territory. Frequency and code were recorded from each observed signal and the lobster ID was subsequently looked up. Hence, the tagged lobsters could be tracked any one of three ways: via hydrophone, trap recapture, or SCUBA dive recapture (using an underwater dive receiver). Information on lobster egg state could only be collected upon recapture. Likewise, temperature data collected by the Tidbit was only useful if the logger was recovered upon recapture and the information downloaded. Temperature data on 30 lobsters from the 2002-2003 season and 18 lobsters from the 2003-2004 season were downloaded as well as data from stationery loggers. Each lobster ID in that data object corresponds to lobster IDs in the associated data objects.

Data Processing Description

The Lobster Sonar Tracking Project was launched in late summer 2002, and was implemented for 2 tracking seasons. In September and October of the first season (2002) a total of 191 egg-bearing females were tagged: lobster IDs: 001 - 193. These lobsters were then tracked over the subsequent 13 months. In August and September of 2004 - the second season of the project - 45 egg-bearing females AND 41 males were tagged, a total of 86 lobsters: lobster IDs: 300 - 400.

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Data Files

File
lobster_tag.csv (Comma Separated Values (.csv), 31.79 KB) MD5:d4b67d445bf0a5b53e1e1a0f60efb5f2
Primary data file for dataset ID 2780

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Parameters

Parameter	Description	Units
year	year in which lobster was tagged	
day_local	day of the month, local time	
month_local	month of the year, local time	
location	general location; name of island or town	
lob_id	external lobster identification, on sphyron tag and duct tape	
lat_haul	latitude at which trap was hauled, negative = South	
lon_haul	longitude at which trap was hauled, negative = West	

lat_release	latitude at which lobster was released, negative =South	
lon_release	longitude at which lobster was released, negative = West	
depth_tag	depth of the water where lobster was tagged, in meters	
depth_release	depth of the water where lobster was released, in meters	
location_desc	more information about where lobsters were tagged	
bottom_type	brief description of the bottom	
carapace_len	carapace Length in mm	
sex	0=undetermined 1=male 2=female 3=unknown	
num_claws	0=no claws 1= one claw 2= two	
crusher_code	0 = undetermined; too young 1 = left 2 = right 3 = unknown, since both clawsmissing 4=dbl crusher 5=dbl seizer	
num_lost_parts	indicates level of injury by tallying missing appendages (other than antennae); 0 if lobster is missing no appendages; If appendages are missing (other than antennae), this is the number of missing claws, plus legs, plus maxillipeds, plus uropods. (see 'comments' for which appendages are missing)	
molt_code	0=hardshell 1=pre molt 2=molt 3=new shell 4=new hard shell	
notch_flag	0 = no notch 1 = v-notch	

abd_width	width of second abdominal segment, in mm.	
egg_cond_code	condition of eggs: 0 = no eggs 1 = new eggs 2=intermediate 3= old eggs 4= hatching	
orange_egg_flag	0 = absent 1 = present	
validity_code	NSR = not subsequently recaptured; SR = Subsequently recaptured; (see below for an expanded explanation of the use of this code)	
comments		

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Deployments

NEC-DC2002-1

Website	https://www.bco-dmo.org/deployment/57757
Platform	F/V Maureen R
Report	http://northeastconsortium.org/ProjectFileDownload.pm?report_id=450&table=project_report
Start Date	2002-09-05
End Date	2005-05-20
Description	<p>Many fishing vessels were used for this dataset. Others include: F/V Finest Kind, F/V Amanda Kate, F/V Sarah Ashley, F/V Steacker, F/V Redeemed, F/V A-Bill, F/V Haley & Amy, F/V Pamela B. Most of these are based in Friendship, Maine, with the exception of F/V Maureen R, which is based in Waldoboro. See Deployment Report for details.</p> <p>Methods & Sampling Each lobster was tagged with three pieces of equipment: a sonar transmitter that emits a unique frequency/code combination, a temperature datalogger ("Tidbit") that records the ambient water temperature every hour, and a ribbon tag with the lobster's ID and The Lobster Conservancy (TLC) phone number to identify the lobster in the event of recapture. Participants were equipped with vessel-based hydrophones to periodically "listen" for sonar signals throughout their fishing territory. Frequency and code were recorded from each observed signal and the lobster ID was subsequently looked up. Hence, the tagged lobsters could be tracked any one of three ways: via hydrophone, trap recapture, or SCUBA dive recapture (using an underwater dive receiver). Information on lobster egg state could only be collected upon recapture. Likewise, temperature data collected by the Tidbit was only useful if the logger was recovered upon recapture and the information downloaded. Temperature data on 30 lobsters from the 2002-2003 season and 18 lobsters from the 2003-2004 season were downloaded as well as data from stationery loggers. Each lobster ID in that data object corresponds to lobster IDs in the associated data objects.</p> <p>Processing Description The Lobster Sonar Tracking Project was launched in late summer 2002, and was implemented for 2 tracking seasons. In September and October of the first season (2002) a total of 191 egg-bearing females were tagged: lobster IDs: 001 - 193. These lobsters were then tracked over the subsequent 13 months. In August and September of 2004 - the second season of the project - 45 egg-bearing females AND 41 males were tagged, a total of 86 lobsters: lobster IDs: 300 - 400.</p>

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Project Information

Northeast Consortium: Cooperative Research (NEC-CoopRes)

Website: <http://northeastconsortium.org/>

Coverage: Georges Bank, Gulf of Maine

The Northeast Consortium encourages and funds cooperative research and monitoring projects in the Gulf of Maine and Georges Bank that have effective, equal partnerships among fishermen, scientists, educators, and marine resource managers.

The Northeast Consortium seeks to fund projects that will be conducted in a responsible manner. Cooperative research projects are designed to minimize any negative impacts to ecosystems or marine organisms, and be consistent with accepted ethical research practices, including the use of animals and human subjects in research, scrutiny of research protocols by an institutional board of review, etc.

Program Information

NorthEast Consortium (NEC)

Website: <http://northeastconsortium.org/>

Coverage: Georges Bank, Gulf of Maine

The Northeast Consortium encourages and funds **cooperative research** and monitoring projects in the Gulf of Maine and Georges Bank that have effective, **equal partnerships** among fishermen, scientists, educators, and marine resource managers.

At the 2008 Maine Fishermen's Forum, the Northeast Consortium organized a session on data collection and availability. Participants included several key organizations in the Gulf of Maine area, sharing what data are out there and how you can find them.

The Northeast Consortium has joined the Gulf of Maine Ocean Data Partnership. The purpose of the GoMODP is to promote and coordinate the sharing, linking, electronic dissemination, and use of data on the Gulf of Maine region.

The Northeast Consortium was created in 1999 to encourage and fund effective, equal partnerships among commercial fishermen, scientists, and other stakeholders to engage in cooperative research and monitoring projects in the Gulf of Maine and Georges Bank. The Northeast Consortium consists of four research institutions (University of New Hampshire, University of Maine, Massachusetts Institute of Technology, and Woods Hole Oceanographic Institution), which are working together to foster this initiative.

The Northeast Consortium administers nearly \$5M annually from the National Oceanic and Atmospheric Administration for cooperative research on a broad range of topics including gear selectivity, fish habitat, stock assessments, and socioeconomics. The funding is appropriated to the National Marine Fisheries Service and administered by the University of New Hampshire on behalf of the Northeast Consortium. Funds are distributed through an annual open competition, which is announced via a Request for Proposals (RFP). All projects must involve partnership between commercial fishermen and scientists.

The Northeast Consortium seeks to fund projects that will be conducted in a responsible manner. Cooperative research projects should be designed to minimize any negative impacts to ecosystems or marine organisms, and be consistent with accepted ethical research practices, including the use of animals and human subjects in research, scrutiny of research protocols by an institutional board of review, etc.