

Northeast Regional Cod-Tagging Program: Bi-monthly Update – July 2003.

This document represents the second bi-monthly update for the Northeast Regional Cod-tagging Program. It reports on a time during which the coordinating research organization has undergone a name change. Please be advised that the Gulf of Maine Aquarium (GMA) now goes by the name of the Gulf of Maine Research Institute (GMRI).

1. Overview

As the summer unfolds, the Northeast Regional Cod-tagging Program has maintained its momentum and progresses well. Now, almost at the end of our first season of cod-tagging we have tagged nearly 38,000 Atlantic cod, *Gadus morhua* (Table 1). Though tagging will continue through the next two months in Downeast Maine waters, the main focuses during the summer period will be 1) data entry and 2) outreach to raise awareness of the program throughout the coastal communities of the study area, targeting both commercial and recreational sectors of the cod fishery.

Table 1: Summary of tagging efforts to date.

	Tagging start	Tagging end	No. of days	No. of fish tagged
DFO	Mid April 03	Late May 03	10	3,647
Isl. Inst.	Late May 03	Ongoing	>5	~600
DMR	Late April 03	Ongoing	28	6,740
SMAST	Mid April 03	Late June 03	24	6,886
CCCHFA	Mid March 03	Mid June 03	~130	~19,889
Totals			~147	~37,762

2. Program Update Overall – Gulf of Maine Research Institute (GMRI)

Date	Progress
June - 03	<ul style="list-style-type: none">• Six months into the program, a Northeast Regional Cod-tagging Program Update Meeting was hosted by GMRI in Portland (10th June). This all-day event was well attended by all scientific participants in the program. The occasion allowed each organization to review their progress and difficulties to date; review the progress of the database, data entry tool and GIS mapping facility; make decisions regarding ongoing database issues; highlight some outreach needs for the summer season; and consider our options for auxiliary studies of relevance to the goals of the current research program.• A detailed reassessment of the Year 1 budget was carried out which enabled a more accurate calculation of budget requirements for Year 2; these were presented to Earl Meredith for approval during early June. <p>Database:</p> <ul style="list-style-type: none">• Continuation of work with NGI to fine tune the database, online GIS mapping tool and online data entry tool.• Recaptured tagged cod returns: these continue to be called in at a steady pace (see Table 2). However, in order to improve the likelihood of fishermen recording accurate information when recapturing tagged cod, mini-datasheets were designed, priced out and produced for distribution among all multi-species permit holders. <p>Outreach:</p> <ul style="list-style-type: none">• Design, pricing and production of the first Newsletter for the Northeast Regional Cod-tagging Program (see Annex 1); this will be produced quarterly and will feature in mass mailings and on the website.• A new tagged cod image has been designed for the program; this image (see Annex 2) will feature strongly in future outreach materials.• The production of tagging incentives (T-shirts, hats and mugs) was completed during early June; these products are now being distributed among crews of the vessels involved in the tagging. Individuals reporting tagged cod will also receive these reward items along with information regarding the movement of recaptured fish; at present, we are waiting for the database to become live so that data can be entered and ultimately, so that we can provide tagged fish feedback to those who report them.• A meeting was hosted by NAMA (17th June) to raise awareness of the program and to provide initial training to fishermen interested in tagging cod with the Island Institute. Ben Neal (Island Institute) and Shelly Tallack (GMRI) ran this meeting. <p>Training:</p> <ul style="list-style-type: none">• Design, pricing and production of the Tagging Protocol for the Northeast Regional Cod-tagging Program; a detailed book (27 pp.) was developed and distributed among the partner tagging organizations. This book was developed with the aim of it being on board for reference during all tagging trips.• GMRI assisted Ben Neal in running a tagging training meeting for members of the Cobscook Bay Resource Center in Eastport, ME (9th June). Seven fishermen were trained in the procedures of tagging cod and the general attitude was very enthusiastic. <p>Tagging:</p> <ul style="list-style-type: none">• Tagging was carried out by SMAST, CCCHFA, DMR and the Island Institute; DFO has stopped tagging until the fall.

July - 03**Database:**

- NGI has completed the design and implementation of the database and online data entry tool. Though some adjustments may be necessary over the next few weeks, it is anticipated that the data entry tool will be live by **Friday 18th July**. Initial testing of the tool is currently being undertaken by GMRI with DMR.

Outreach:

- Our first mass mailing took place in early July. Targeting all federal multi-species permit holders (approximately 4300 individuals) an information package was sent which included: a cover letter presenting the cod-tagging program, the information leaflet, the first quarterly newsletter (see Annex 1), mini datasheets on which to record tagged cod recaptures and self-addressed envelopes in which to return the datasheets and tags.
- Distribution of the “NE Regional Cod-tagging Poster” continues by all tagging organizations, in addition to some individuals who have offered their assistance, in particular, MANOMET (MA), Jackie O’dell with the Study Fleet (MA), NAMA (ME), Cobscook Resource Center (ME).
- The design of the Northeast Regional Cod-tagging Website is currently underway; it is hoped that www.codresearch.org will become live towards the end of July/early August 2003.
- GMRI is working with Maine Public Broadcasting on the production of a program addressing the cod fishery within the Gulf of Maine; this will represent one program out of a series of six.
- Outreach Committee Meeting (15th July): a conference call was held primarily to decide on the logistics of the tagging lottery. Starting in August, the lottery will be drawn once a month and will award \$200 to five individuals according to the following categories: 1) Northern Gulf of Maine and Canadian waters, 2) Georges Bank; 3) Cape Cod and the vicinity, 4) New Hampshire and Massachusetts inshore waters, and 5) returns from processors. The procedure will be reviewed after four drawings (January 2004).

Recruitment:

- Recruitment of five additional field technicians (taggers) to add to the pool of individuals currently trained to tag cod on vessels contracted to perform dedicated tagging trips with DMR. The original pool of 10 individuals had dwindled, in part due to changes in people’s availability, but also due to the sporadic nature of the trip opportunities.

Training:

- A tagging training day was held (1st July 2003) to train field technicians for DMR in the procedures of tagging and conduct at sea (safety, attitude, behavior etc.).

Tagging:

- Most tagging operations have ceased for the summer now; tagging undertaken by DMR and the Island Institute present exceptions to this trend (see their specific updates for more detail).

3. GMRI's Priority Tasks for the next two months

GMRI will continue to make site visits over the next few months, and as GMRI's role in developing the database and online mapping tool with NGI subsidies, more attention can be paid to outreach efforts.

3.1 Outreach

The NE Regional Cod-tagging Poster is being distributed gradually throughout the region, both by GMRI and individual research organizations.

GMRI is currently designing the program's website (<http://www.codresearch.org>). This site will host all information regarding the program, and will provide the link to the online mapping interface being created by NGI.

Outreach in the form of providing feedback on recaptured tagged cod is currently behind schedule as we have been waiting for the database. However, the next two months will see this problem remedied and Pat Foote (Research Administrative Assistant, GMRI) will process these vital packages containing fish information and tagging rewards. A summary of the recaptured tagged cod reported to date is presented in Table 2.

3.2 Database

With the database now fully developed and going live by July 18th 2003, individual tagging organizations will now need to concentrate on entering the data collected to date; this will be no small task bearing in mind the large number of cod tagged to date.

Table 2: The recaptured tagged cod reported to date; recaptured double-tagged fish amount to n=13 and the number of recaptures which have been re-released is n=23.

	NE Tags (this program)		DFO/Canadian Tags		SMAST/DMF Tags		Total
	F	P	F	P	F	P	
DFO	13	-	9	-	-	-	22
Isl. Inst.	1	-	-	-	-	-	1
DMR	20	-	-	-	-	-	20
CCCHFA	49	7	-	-	-	-	56
SMAST	49	7	-	-	4	-	60
Sub-Total	132	14	9	-	4	-	
Total	146		9		4		159

4. Program Update by Tagging Organization

4.1 Canada Department of Fisheries and Oceans (DFO)

- No tagging has taken place since May, 2003; the next tagging trips in Canadian waters will take place during the fall/winter of 2003-4.

4.2 Island Institute

- Tagging inshore in Maine waters has continued and is still underway.
- The capture techniques used include hand-lining by (mainly) older commercial fishermen in the Passamaquoddy Bay area; sport fishing in southern Maine waters; and trawling by one vessel operator working in the central Maine inshore waters. The latter vessel is undertaking dedicated tagging trips while also catching and delivering live dogfish for the Mt. Desert Island Biological Lab. In addition, a few lobstermen dispersed throughout the designated inshore area are carrying out opportunistic tagging.
- Overall, the Island Institute has recruited 11 volunteers and 3 paid fishermen to tag.
- To date, around 600 fish have been tagged out of the Island Institute's annual goal of 2500.

4.3 Maine Department of Marine Resources (DMR)

4.3.1 Area 1 - Cashes/Fippennies Ledges

- Cod tagging success increased dramatically from late June onwards as fish were located along some near- to mid-shore coastal areas. Prior to June 20th, DMR had tagged 1,316 cod using 14.8 vessel days for an average of 89 fish per day.
- Between June 20th and July 1st, DMR tagged 5,102 fish using only 8 vessel days for an average of 628 fish per day (see Table 3). DMR has now tagged 6,606 fish in Area 1.
- DMR hoped to see some fish in their offshore areas before water temperatures became too high to safely tag. However, offshore trips in early July did not yield good numbers of cod (n=176).
- Cod movements this spring seemed delayed (probably due to low temperatures) and may have contributed to DMR's slow start.

4.3.2 Area 2 - Downeast ME, inshore and offshore

- Only two trips have been made so far, as fishermen have not yet reported large numbers of cod. The offshore trip was made during 6/9-6/14, yielding only 134 fish tagged; the inshore trip yielded no cod (Table 3).
- Tagging trips are expected to increase in July as *G. morhua* become more abundant. Day trips with two inshore hook vessels and one inshore trawler are being scheduled throughout July.

Table 3: Summary of the DMR tagging trips to date.

Tagging Locations	Vessel	Trip #	Date(s)	# Days	# Fish	Temp Range (°C)
Area 1:						
Platts & Fippennies	<i>FV Elizabeth</i>	1	24-25 Apr	1.5	57	1.5 - 2.0
Jeffreys Ledge	<i>FV Tara Lynn</i>	1	7-8 May	1.5	19	3.8 - 5.0
Kettle, Platts & Fipp.	<i>FV Elizabeth</i>	2	19-22 May	3	359	8.0 - 9.0
North of Bigelow Bight	<i>FV Leslie Ann</i>	1	19-22 May	3	372	4.0 - 6.0
Cashes Ledge	<i>FV Titan</i>	1	30 May - 1 Jun	3	264	8.0
Cashes Ledge	<i>FV Tara Lynn</i>	2	29 May - 1 Jun	3	245	8.0 - 9.0
Hue and Cry	<i>FV Titan</i>	2	20 Jun	1	703	11.0 - 13.0
Hue and Cry	<i>FV Titan</i>	3	21 Jun	1	621	11.0 - 12.0
Hue and Cry	<i>FV Titan</i>	4	23 Jun	1	911	11.0 - 12.0
Hue and Cry	<i>FV Titan</i>	5	24 Jun	1	430	13.0 - 15.0
Kettle	<i>FV Elizabeth</i>	3	25 Jun	1	1,023	10.0 - 12.0
Kettle	<i>FV Elizabeth</i>	4	26-27 Jul	2	1,317	9.0 - 12.0
Kettle	<i>FV Elizabeth</i>	5	1 Jul	1	97	10.0 - 11.0
Cashes Ledge	<i>FV Leslie Ann</i>	2	8-10 Jul	3	176	17.0 - 17.0
Woods Island	<i>FV Tara Lynn</i>	3	8 Jul	1	12	18.0
Area 1 Total				23	6,606	
Area 2:						
Jordan Basin	<i>FV Adventurer</i>	1	9-14 Jun	4	134	8.0 - 9.0
Mt Desert Rock	<i>FV Lady Luck</i>	1	8 Jul	1	0	9.0 - 13.0
Area 2 Total				5	134	
DMR Total				28	6,740	

4.4 School for Marine Science and Technology (SMAST)

- SMAST has taken on a new employee, Darin Jones, to help with the cod tagging program. He has a wealth of fishery observer experience aboard trawlers, longliners, and cod pot boats in Alaska. Darin has worked on tagging programs in the Pacific Northwest, tagging juvenile salmonids and tracking them through the Columbia River system on their way to the Pacific Ocean. He also has experience tagging hatchery-reared white seabass in California. He has a Masters degree from the University of Idaho in Fisheries Resources.
- SMAST's spring cruises are now complete and tagging will start again in the fall. Five New Bedford trawlers were contracted this year, completing 24 out of 40 sea days (see Table 4). This summer SMAST will prepare for two trips in October, one in November, and one in December. SMAST is ahead of their tagging schedule, with 6886 cod tagged out of their target of 10,000 for the year. An additional 3,114 cod need to be tagged during this fall and winter.
- SMAST's final trip aboard the *FV Victory* began by laying a wreath at sea in honor of crewmember Jose Brandao. Jose passed away just prior to the tagging trip following a brief bout with cancer. The wreath of flowers was cast into the sea by the captain once reaching the location of their first tow at the northern edge of Georges Bank. All aboard were in attendance at the bow for a short prayer. Jose had fished with the Captain for over fourteen years. He had experience fishing all over the world, including St. Johns, Newfoundland and Halifax, Nova Scotia, Germany, Portugal, Morocco, and Mauritania.

- During this final trip of the season, 291 cod were tagged on day 1, 889 on day 2, 421 on day 3, and only 18 fish on day 4. Ross and Dave alternated tagging and recording duties with each tow. The crew were invaluable in their assistance with handling fish while Dave and Ross carried out the tagging and releasing; the trip was a successful final trip of the season.
- Most of the fish SMAST has observed on Georges have been in the 50 to 60 cm size range.
- So far two fish tagged by SMAST have been recovered in Canada, and Capt. Tony Santos of the T-Luis recovered a cod tagged in Canada.

Table 4: Summary of the SMAST tagging trips to date.

2003	Vessel	Days completed	#No. of cod tagged
Apr	<i>FV Inheritance</i>	4	82
Apr	<i>FV Trident</i>	5	720
May	<i>FV Sao Paulo</i>	5	2000
May	<i>FV T-Luis</i>	5	2465
Jun	<i>FV Victory</i>	5	1619
Total		24	6886

4.5 Cape Cod Commercial Hook Fishermen's Association (CCCHFA)

- Dedicated tagging trips were scheduled from March 15th until June 12th, 2003. During this first dedicated tagging season, 21 dedicated vessels conducted around 130 trips and deployed 19,048 tags. Also during this time period, 7 non-dedicated vessels deployed 541 tags across 26 trips. Since June 12th, approximately 300 cod have been tagged on 6 vessels carrying out 15 non-dedicated trips. CCCHFA's tagged cod total stands at approximately 19,889.
- The hook fishery has been slow to get started and more intense tagging is expected to commence in August to complete the CCCHFA's cod-tagging contract for Year 1.
- Through the cod-tagging program, the CCCHFA has distributed just over \$220,000 in direct payments to fishermen so far.
- The live wells seemed very effective until temperatures exceeded 50°F (10°C). One dedicated tagging captain commented "below 50 degrees I would recommend tanking the fish to revive them but above 50 degrees it seemed to make the fish sluggish and less lively than when they first came out of the water."
- The CCCHFA hosted WBZ Channel 4 news in Chatham on several occasions to discuss the tagging program and also to take them on a tagging trip. The story should air sometime in early July, 2003.
- CCCHFA has involved non-fishing members of the community as tagging volunteers. This was a great success and got some members of the community more involved in fishing issues. It also brought some recreational fishermen into the program.
- Tagging on Coxes Ledge has been impossible during the last several months since catch rates there have been so low. Some boats have reported jigging 5 or 6 fish in an entire day and as a result only one dedicated tagging trip has been deployed there to date; unfortunately, the number of cod tagged during this trip was zero. More effort will be expended on Coxes Ledge in the fall.

Annex 1: The first Newsletter for the Northeast Regional Cod-tagging Program.

Northeast Regional COD Tagging Program NEWSLETTER

Summer, 2003: Issue No. 1 The latest from the East Coast's region wide, international cod-tagging program.

Tagged cod are hitting the water...

The Northeast Regional Cod-tagging Program began in January 2003. During the early months, considerable effort was put into getting the program up and running; recruiting personnel and commercial fishing vessels to carry out the tagging, developing a standard tagging technique and designing the database and online GIS mapping tool for tracking tagged cod.

March 2003 saw the release of the first tagged cod associated with this program. Since March approximately 31,100 cod have been tagged and released throughout the region. All of these cod sport our program-specific yellow T-bar tags. Some cod have been double-tagged to monitor for tag retention rates. Over the next two years, we aim to tag 100,000 cod.



The T-bar tag



A double-tagged fish

What to do if you find a tagged cod:

If you catch a tagged cod, you are eligible for a **REWARD**. To claim your reward please collect the following information and call our toll-free number: 1-866-447-2111

Date	Water temperature
Tag #	Depth fished
Location	Gear type
Fish Length	Spawning condition

If possible, re-release the fish (if survival is likely).

You can also report a tagged cod online by visiting:

www.codresearch.org

Keeping the fish alive:

Different gear types are being used to catch the cod for tagging, e.g. trawl, hook, long-line and traps. Precautions are taken to ensure we tag strong, healthy cod:

- Tows or sets are short
- Haul-back is very slow
- Cod are not carried by the eyes or gills
- Cod are kept in a live well while waiting to be tagged
- Handling time is minimized



Cod in a live well

Word from the field...

Cape Cod Commercial Hook Fishermen's Association (CCCHFA): Tagging began on March 15th, 2003. The 2003 spring tagging season in the Cape Cod area has come to an end, but approximately 19,000 tagged cod have been released by CCCHFA hook fishermen in the waters of Chatham, Middle Rip and the Mussels. "Our fishermen have done a wonderful job ensuring that the work is done accurately and carefully" said Tom Rudolph (CCCHFA Tagging Coordinator), "... our crews are able to be flexible, quickly shifting their effort to where the fish are".

School for Marine Science and Technology (SMAST), UMASS Dartmouth: Focusing on Georges Bank with commercial trawl vessels, the tagging season got off to a slow start, but recent trips have more than made up for it. The current total of tagged cod from this season is around 5000, which will be exceeded during the final trip for this season in late June. Tagging operations will then be on hold until the fall when David Martins (SMAST Tagging Coordinator) will again begin to schedule trips.

Department of Marine Resources (DMR): The slow start experienced by SMAST was mirrored on Fippennies Ledge, Cashes Ledge and around Jordan Basin. Despite valiant efforts to locate cod for tagging in these study areas, just under 1500 cod have been tagged offshore by DMR to date. Recent tagging trips focusing on inshore waters from Casco Bay to the Canadian border have been very productive and DMR has now tagged approximately 3000 cod in total to date.

Island Institute: Tagging by the Island Institute will be a less intense operation than by other organizations. Ben Neal (Island Institute Tagging Coordinator) has recruited primarily lobster fishermen, though some hook and trawl fishermen will also be participating. Focusing on the inshore waters from the Sheepscot River to Downeast Maine, tagging has just begun. The most intense effort so far has been undertaken by the Cobscook Bay Resource Center, based in Eastport, ME.

Department of Fisheries and Oceans Canada (DFO): DFO also got off to a slow start in April on Brown's Bank; very few cod were caught. However, the next tagging trip in the Bay of Fundy was a highly productive trip; just under 4000 fish were tagged in six days. Tagging by DFO will start again in the fall/winter with a second trip to Brown's Bank.



Tagging with CCCHFA



Tagging with DFO



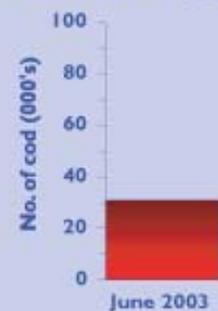
A tagged cod being released

Watch this space...

Posters: You will soon be seeing NE Regional Cod-tagging posters distributed throughout the region. These will spread the word about the program and tell people what to do if they catch a tagged cod. If a poster is missing from a spot where it should be, please contact Shelly Tallack or Pat Foote at the Gulf of Maine Research Institute (Tel: 207-772 2321).

Website: Our website (www.codresearch.org) will be up and running by the end of June, 2003. This website will allow you to track the tagged cod you have found, produce a report and printout and report your tagged cod information. In future months, this website will also provide detailed information on the Northeast Regional Cod-tagging Program, in addition to links to other cod research projects which can be found online.

No. of cod tagged



Northeast Regional Cod-tagging Program Partners



This program is supported by NOAA Fisheries NE Regional Office

Annex 2: The new cod image, by Michael Lewis (Portland, ME).

