

**National Fish and Wildlife Foundation  
Closure Memo**

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**Date:** February 9, 2013

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**Project:** Curbing Invasion Pathways through Aquatic Invasive Species Awareness (CT, NY)  
**Number:** 1401.10.023961  
**Grantee:** University of Connecticut, Sea Grant

**Project Description:** Create and implement a social marketing campaign to educate marine boaters and anglers about aquatic invasives and to change behavior to minimize their potential role in causing new introductions. The project will apply techniques used by commercial marketers, termed "social marketing." The project aims to reduce new invasions by engaging these communities to properly dispose of bait and bait packing materials and changing hull maintenance practices to minimize transfer of invasive species. Bait retailers will also be contacted to encourage them to put "Don't Dump Bait" labels on purchases of live bait for marine use at point-of-sale.

**Final Products:** *(The objectives for this grant, and the extent to which they were met):*

- Build greater awareness among recreational boaters and saltwater anglers of the problems associated with aquatic invasive species (AIS) introductions into Long Island Sound and elsewhere.
- Engage behavior changes that help minimize the possibility of new introductions via the recreational boating and angling pathways (e.g., proper disposal of bait and bait packing materials; hull maintenance to minimize transfer of biofouling organisms, following best management practices. Activities will include:
  - Teaming-up with US Coast Guard Auxiliary (USCGAUX) and the USCG Sea Partners to share information about AIS with recreational boaters, specifically, USCGAUX who will introduce information about AIS when talking with boaters/anglers during safety inspections or when conducting other educational activities (e.g., displays at large events).
  - Distribute outreach items ("Stop Aquatic Hitchhikers" and "Don't Dump Bait" labels, floating keytainers) to boaters/anglers to facilitate raising the issue and provide links to additional information about AIS.
  - Contact bait retailers in Connecticut and New York to encourage them to put "Don't Dump Bait" labels on purchases of live bait for marine use at point-of-sale with assistance from Connecticut Department of Environmental Protection, Marine Fisheries Division. New York Sea Grant fisheries Specialist will work with Regal Marine Products in New York to contact bait retailers to encourage their participation in providing the "Don't Dump Bait" labels to anglers at point-of-sale.
  - Accompany "Don't Dump Bait" labels with posting of plastic signs at public boat launches in Connecticut and New York to serve as a means to remind anglers that live marine bait has the potential to introduce new organisms to Long Island Sound, and proper disposal techniques.

- Post waterproof posters at marinas, particularly those that cater to transient boaters raising the issue of AIS introductions from hull fouling and direct boaters to a web site(s) that has information on best management practices for hull maintenance. Distribute posters with the assistance of the Connecticut and New York Marine Trades Associations and Clean Marina Programs.
- Develop an enhanced set of LIS Invasive Species field cards serve as a visual guide to marine resource users of the more common invasive species currently present, with comparisons to native species. New species added, include the Chinese mitten crab, currently in the Hudson River, and the new tunicate species in eastern LIS, *Clavelina lepadiformis*.
- Share materials and information with boaters and anglers at the annual fishing and boating shows.

*Three flotillas of US Coast Guard Auxiliary from three Divisions in Connecticut shared AIS messages and handed out materials at the same time. Worked with other partners, including the: Coast Guard Sea Partners program, and the CT DEEP divisions of Boating and Marine Fisheries to share the same messages.*

*Produced and distributed outreach materials promoting three simple AIS spread prevention messages (“Don’t Dump Bait”; “Keep Hulls Clean”; and “Stop Aquatic Hitchhikers / Protect Our Waters”) during US Coast Guard Auxiliary inspections or visits, at boating and fishing shows, and by retailers of live marine bait.*

*Applied 40,000 stickers at point-of-sale by ten bait retailers (2011) with four returning bait retailers (2012) volunteering to participate in the project.*

*Posted 75 laminated posters of sticker by bait retailers and at some boat ramps. Distributed 1,000 neck wallets at boating and fishing shows in 2011. Distributed 15,000 ruler stickers to anglers via bait retailers, CT DEEP, US Coast Guard, US Coast Guard Auxiliary and Sea Grant, and boating and fishing shows. Distribute 8,000 key chains to boaters / anglers via US Coast Guard, US Coast Guard Auxiliary and Sea Grant at boating and fishing shows*

*Posted 800 plastic multi-lingual signs about “Keep Hulls Clean” at coastal boat ramps by state partners. Distributed 1,500 Stop Aquatic Hitchhikers / Protect Our Waters Magnets to boaters and anglers at 2011 boating and fishing shows, and by US Coast Guard, Coast Guard Auxiliary and Sea Grant.*

*Distributed 300 Hull Fouling Posters by mail, Sea Grant, and US Coast Guard Auxiliary Create updated and distribute 1,000 Long Island Sound Invasive Species field card sets by Sea Grant for use / distribution by US Coast Guard Auxiliary during surveys, at US Coast Guard Open Houses, and selectively at 2011 and 2012 boating and fishing shows.*

*Materials were distributed in a variety of ways, including:*

- *Fishing and Boating shows – Space for a small display was provided courtesy of CT DEEP at both the CMTA Hartford Boat Show in January 2011, 2012, and*

- 2013 and the North East Fishing and Hunting Show (Hartford) in February 2011, 2012, and 2013. Neck wallets and magnets were handed out in 2011, ruler stickers and key chains in 2012 and 2013.*
- *US Coast Guard Sector Long Island Sound Open House invasive species display – May 2011 and 2012, New Haven*
  - *Mystic Aquarium World Oceans Day display – June 2011 and 2012 (Mystic); Cove Marina Boat Show, Norwalk (September 2012) – Coast Guard Auxiliary display*
  - *Bait retailers – 10 retailers along Connecticut coast volunteered to apply stickers at point-of-sale, display ruler stickers for pick-up, and post information in 2011; four continued to do so in 2012.*
  - *Laminated copies of the bait sticker in an 8 1/2” x 11” format were generated and shared with both bait shops as well as the Coast Guard Auxiliary Divisions.*
  - *Marinas – posters were to 32 coastal marinas in CT and RI that cater to transient boaters; posters distributed also by US Coast Guard Auxiliary and Connecticut Sea Grant to other marinas. USCG Auxiliary*
  - *Provided introductory training on aquatic invasive species to members of the US Coast Guard Auxiliary during their March 2011 annual District meeting, held in Mystic.*
  - *Through three Coast Guard Auxiliary Divisions. Division 25 had a booth for World Oceans Day at Mystic Aquarium, and Division 7 had one at the Cove Marina in-water boat show in Norwalk. Division 24 shared materials with participants at the Guilford Duck Races (Guilford, September 2012) and the Hammonasset Jamboree (Madison, October 2012). Members of flotillas in Division 7 (Fairfield CT to Mamaroneck NY) conducted 662 vessel inspections during 2012 and spoke about not dumping bait to at least 400 of these boaters. More than 1,000 program visits were made, during which discussions about not dumping bait were conducted about 50% of the time.*
- *Survey boaters and anglers about whether they have heard of AIS, have seen any of the posters or labels, and if so, have they changed their behavior in any way to reduce the risk that they could contribute to AIS introductions and movement. At end of project at least 10% of Connecticut marine anglers surveyed indicate they have seen and followed the “Don’t Dump Bait” labels, are aware of AIS, and dispose of unused live marine bait and seaweed packing material in the trash. At end of project, at least 10% of Connecticut boaters surveyed indicating they have seen the “Stop Aquatic Hitchhikers” label are aware of AIS, and can name at least one best management practice to minimize the transport of aquatic organisms via recreational boating.*
  - *Survey bait retailers who volunteered to use the “Don’t Dump Bait” labels to determine if they have done so during the season and to gauge reactions by anglers to the placement of the stickers on bait boxes, as well as marinas to determine if the hull fouling posters have been displayed prominently. At end of project, at least 25% of participating Connecticut and New York marine bait dealers surveyed share "Don't Dump Bait" advisory messages regularly with anglers at point-of-sale. At end of project, at least 25% of the marinas sent the hull fouling posters have displayed them in prominent space.*

Surveys were conducted of boaters and anglers 18 years and older at boat ramps. The purpose of the survey was to determine the level of awareness of coastal boaters and anglers about AIS, document current behaviors that could increase / decrease risk of spreading organisms, and determine the success of the AIS messaging and outreach. Surveys were completed with 229 boaters and anglers (168 self-identified as both an angler and a boater), at 22 ramps/marinas in 16 coastal towns in 2011. An additional 166 boaters and anglers (80 self-identified as both an angler and a boater) were at 14 boat ramps in eight towns in southwestern Connecticut. 395 interviews were conducted with boaters/anglers from 131 Connecticut town and 10 New York towns, at 34 coastal boat ramps from Groton to Greenwich. Overall, 395 boaters and anglers were interviewed during the course of two summers

*At least 10% of Connecticut marine anglers surveyed indicate they have seen and followed the “Don’t Dump Bait” labels, are aware of AIS, and dispose of unused live marine bait and seaweed packing material in the trash. Baseline = 0 marine anglers*

**Have seen “Don’t Dump Bait” labels:** In 2011, 18.2% (35) anglers and in 2012 63.1% (99) of anglers/boaters indicated they had seen the message.

**Awareness:** 94.3% (216) of all boaters and anglers in 2011 and 76.5% (127) of all boaters and anglers in

2012 indicated “yes” when asked if they had ever heard of aquatic invasive species.

**Disposal of bait:** Of 147 anglers in 2011 and of 85 anglers in 2012 that use live marine bait, 96.6% or 142 in 2011 and 92.9% or 79 in 2012 disposed of marine bait by one or more appropriate ways (take home, share, put in trash) and only 2.7% or 4 in 2011 and 6 or 7.1% in 2012 dumped the unused live bait over the side.

**Disposal of seaweed/packing materials:** Of 147 anglers responding in 2011 and of 80 responding in 2012, all 147 or 100% disposed of the packing materials in an appropriate way (take home, dump in trash, share) in 2011 and 72 or 90% disposed of the packing materials in an appropriate way (take home, dump in trash, share) in 2012. Eight or 8% in 2012 indicated they dumped it over the side.

**Indicator 3 (met):** At least 10% of Connecticut boaters surveyed indicate they have seen the “Stop Aquatic Hitchhikers” label, are aware of AIS, and can name at least one best management practice (BMP) to minimize the transport of aquatic organisms via recreational boating.

*Feedback was also received from participating bait retailers. Several boat shops owners/managers requested larger signs with more information on invasive species to post in their shops in lieu of applying the individual stickers at point-of-sale. Many of the bait retailers did indicate support for sharing the message, and some have volunteered to distribute the remaining stickers available in 2013. Ten Connecticut bait retailers volunteered to apply the bait stickers at point of sale in 2011 as well as post laminated signs in 2011. Post-season follow-up with 7 of 10 bait retailers found that only one had trouble applying the stickers at point-of-sale due to the time it took in a busy store. One other applied them, but found it hard, given the small number of staff. Five retailers or 50% had no problem applying the stickers during sales and felt the stickers were largely well-received by anglers. In 2012, four (4) bait retailers offered to distribute the stickers again. All requested more stickers during the season. Follow-up indicated that all four (100%) applied the stickers at point-of-sale while supplies lasted and all 10 retailers participating in 2011 posted the laminated bait sticker signs in 2012. The NY Sea Grant project partner did not pursue working with bait retailers on Long Island due to lack of the time.*

**NFWF award:** \$33,222.93  
**NFWF funds spent:** \$31,650.68  
**Match requirement:** \$11,974.00  
**Match spent:** \$11,974.000

Recommend closing this grant.