



**Bottlenose Dolphin Take Reduction Team
Webinar 1:00 – 4:30 p.m. EDT
March 20, 2012**

On March 20, 2012, members of the Bottlenose Dolphin Take Reduction Team (BDTRT) and affiliated National Marine Fisheries Service (NMFS) staff participated in a conference call and webinar of approximately three hours. Please see Appendix A for a list of participants and Appendix B for the meeting agenda. More detailed notes follow.

The primary purpose of the webinar was to update the BDTRT on: (1) accomplishments towards their 2009 consensus recommendations; (2) amendments to the Bottlenose Dolphin Take Reduction Plan (BDTRP) based these recommendations; and (3) scientific research. Key meeting topics were:

- Status of BDTRP Amendments based on the September 2009 Regulatory Consensus Recommendations:
 - North Carolina Nighttime medium mesh gillnet prohibitions.
 - Virginia pound net-related updates.
- Accomplishments related to the September 2009 non-regulatory consensus recommendations.
- A variety of research updates related to:
 - 2011 Virginia pound net modification leader study.
 - Biopsy of dolphins in Pamlico Sound.
 - Genetic analyses.
 - Use of pingers in Spanish mackerel fishery study.
 - Stock discrimination of dolphins along the Outer Banks.
- Update abundance and PBR for Northern North Carolina Estuarine Stock.
- Update about BDTRT membership and facilitation changes.

There are no consensus recommendations from this webinar because the main purpose was to provide accomplishment and status updates. A summary of the presentations, questions and answers, and discussions follow.

Summary

I. Status of BDTRP Amendments Based on the September 2009 Regulatory Consensus Recommendations¹ – Stacey Horstman

Stacey Horstman, Bottlenose Dolphin Conservation Coordinator, NMFS, provided BDTRT members with an update on the status of amendments to the BDTRP based on the Team's 2009 consensus regulatory recommendations on North Carolina nighttime medium mesh gillnet prohibitions and Virginia pound net related issues.

Update on Amendments to the BDTRP Based on 2009 Regulatory Consensus Recommendations

NMFS is moving forward with amendments the BDTRP based on the BDTRT's 2009 regulatory consensus recommendations for the NC nighttime medium mesh gillnet restrictions and VA pound nets. The original intent was to amend the plan reflecting the two BDTRT regulatory recommendations in one rulemaking. However, due to some challenges and staff time redirected to the Deepwater Horizon oil spill event, NMFS uncoupled the amendments into two separate rulemakings for efficiency in moving forward.

- *The North Carolina medium mesh amendment* will come first because the sunset clause creates greater urgency and it is less complex than the Virginia pound net amendments. The process for clearance is underway. Should the final amendment occur after the prohibitions sunset, there is little concern about any time gap between the sunset and the new amendment taking effect, because it will occur in the summer when there is no spiny dogfish fishing in North Carolina.
- *The Virginia pound net amendment* is more complex because it may affect current sea turtle regulations under the Endangered Species Act (ESA) for Virginia pound net gear. The potential to impact the ESA regulations means there may be a joint rule-making between the Marine Mammal Protection Act and ESA to ensure consistency in Virginia pound net fishery regulations between statutes. The anticipated release of the proposed rule is in Fall/Winter 2012.

During internal discussion about the team's Virginia pound net recommendations and how to proceed amending the plan, unexpected issues arose with two of the recommendations: Definition of inshore pound net leader and the inspection program. NMFS has a plan for addressing these concerns while still meeting the intent of the BDTRT for both of these recommendations.

Other Virginia Pound Net Related Updates

¹ Slide presentations related to any of the agenda topics are available from Stacey Horstman upon request either by phone (727-824-5312) or e-mail (stacey.horstman@noaa.gov).

- Virginia Marine Resources Commission (VMRC) Regulations:
 - Per the BDTRT's 2009 recommendation, NMFS sent VMRC a letter to inform them of the team's recommendations pertaining to Virginia pound nets.
 - Effective December 18, 2009, VMRC required the use of modified leaders year-round for any fixed gear licensed and fished in Virginia tidal waters east of the Chesapeake Bay Bridge Tunnel; and modified leaders must be inspected at least 72 hours before deployment.
 - This was similar to the BDTRT's recommendations.
 - Effective July 16, 2010, VMRC required any licensed offshore pound net fishing in the ESA Pound Net Regulated Area I (west of the Chesapeake Bay Bridge Tunnel) to use modified leaders between May 6-July 31; and modified leaders to be inspected at least 72 hours before deployment.
 - This differs from the BDTRT's recommendation and extends the ESA requirements to use modified leaders in this area by two weeks.
- Virginia Pound Net Monitoring
 - NMFS Northeast Fishery Science Center conducted characterization and monitoring of pound nets from May 17 – August 5, 2010.
 - Project Goal: to test efficacy of modified leaders; and quantify entangled and impinged turtles and dolphins.
 - No dolphins observed entangled, but two sea turtles were observed entangled (a leather back that was released alive; and a loggerhead that was dead).
- BDTRT 2009 Recommendation:

Coordinate between states and other federal entities to ensure adequate enforcement, especially for regulations pertaining to the Virginia pound net fishery.

 - Accomplished: A Joint Enforcement Agreement with VMRC effective in 2012 allows the State to assist with monitoring and enforcement (resource dependent in future years).
- Update on Dolphin Interactions (strandings and observed takes) with Virginia Pound Nets
 - Where: Majority of interactions were along Lynnhaven and Virginia Beach area, where there are only offshore nets (represents 75% of interactions occurring throughout the Chesapeake Bay); some occur along the Eastern Shore where there are both inshore and offshore pound nets.
 - Results: Interactions with VA pound nets (stranding with twisted twine marks, removed dead from inshore or offshore nets, or observed).
 - Entire Chesapeake Bay from 2002-2011: pound net interactions decreased by 65% compared with the immediate two years prior (2008-2009) and after (2010-2011) VMRC implemented regulations in 2010.
 - West of the Chesapeake Bay Bridge Tunnel from 2002-2011 with both inshore and offshore nets: no dolphins were removed dead or alive from

offshore pound net leaders during the timeframes requiring use of modified leaders; but one occurred just outside of timeframe requiring use, suggesting the modified pound net leaders are effective.

- Southern part of Chesapeake Bay (East of Bay bridge Tunnel) with offshore pound nets: pound net interactions decreased 75% when comparing the immediate two years before (2008-2009) and after (2010-2011) VMRC implemented regulations in 2010; no dolphins were removed dead from leaders since state required modified leaders year-round and there was a decrease in twisted twine strandings.

Questions and Answers

Q: Where do spiny dogfish fishermen fish, how far offshore?

A: They fish in state waters but unsure how far into federal waters they may go.

Q: What are the regulated timeframes for the state management zones that were adopted by the state?

A: The area east of the Bay Bridge Tunnel doesn't have ESA regulations and the state requires offshore pound nets use modified leaders year round and be inspected. For the area west of the Bay Bridge Tunnel, the state requires modified leaders from May 6th and July 31st; this is a 2 week extension of time required under federal regulations.

Q: What timeframe and areas do the recommended BDTRP amendments cover?

A: The recommendations are year round use of modified leaders for offshore pound nets for both areas.

II. Update: Non-regulatory Consensus Recommendations and Accomplishment Updates- *Stacey Horstman*

BDTRT 2009 Recommendation:

Determine stock identity by matching dorsal fin images to Mid-Atlantic catalog

- Accomplished: first step is to update the catalog – established contract with the curator to update the catalog with backlog of 4,500 photos.
- Accomplished: The Federal observer program training manual includes photos and biopsies of any dolphin takes as a priority for data collection, when feasible.

BDTRT 2009 Recommendation:

Refine the understanding of the distribution of Northern NC Estuarine System (NNCES) stock in: 1) Pamlico Sound during the summer using genetics; and 2) Ocean waters, especially with overlap in stocks

- Accomplished: For number one of the recommendation, biopsy sampling occurred in Pamlico Sound in summer of 2010 when NNCES stock is purest (see below for Barbie

Byrd presentation of results).

- Accomplishing: For number two of the recommendation, determining if the NNCES and coastal stocks can be distinguished genetically (see below for Kim Urian's presentation).
 - Awarded a grant to Duke to determine the sampling of coastal waters in the summer and fall 2011 and into 2012.

BDTRT 2009 Recommendation:

Observer coverage for North Carolina inshore Spanish mackerel fishery in Pamlico Sound

- Accomplished: Increased federal observer coverage in NC waters in 2010 by 137 sea days and allocated coverage to inshore waters for first time; continued increase in observer coverage into 2011 by 234 days, with 50 allocated inshore and 16 trips allocated for inshore alternative platform work to better characterize the fishery.

BDTRT 2007 Recommendation:

Pinger effectiveness in deterring dolphins without increasing depredation

- Accomplished: Duke University awarded North Carolina Sea Grant Project looking at effectiveness of pingers with Spanish mackerel fishery in Northern North Carolina waters during summer and fall. Final results presented (see Danielle Waples' presentation below).

Additional genetic research – it's important to identify the stock to which dead or seriously injured animals belong (see Patty Rosel's presentation below). Additional Microsatellite DNA markers are needed to better assess dolphin population structure and assign dolphins to stock.

- Contract established in 2011 to develop additional microsatellite markers

Virginia pound net research – follow up research was conducted on modified leaders around VA beach, specifically any catch differences between hard lay versus soft lay vertical lines (see Mark Swingle's presentation below). Results showed no significant catch differential between soft and hard lay lines, although hard lay line likely better for conservation efforts.

Additional next steps - NMFS is drafting a more formal monitoring plan for the BDTRP and developing a white paper to characterize trap/pot fisheries along the mid-Atlantic.

III. Research Updates

2011 Virginia Pound Net Modified Leader Study - Mark Swingle

- *Key points:*

- Study area: Cape Henry (slightly east of tunnel) – bottlenose dolphins are consistently in the areas beginning in April/May; dolphins are observed herding fish into leaders.
- 2007 Pound net pilot experiment to test sampling methodology, 10 sampling trips with no modified leaders.
- 2008 Pound net experiment to compare catch between traditional and modified leader: 25 sampling trips conducted and modified leader was constructed with soft lay vertical line.
 - Results: No reduction in catches between leader types; more Spanish mackerel caught in modified leader and fewer rays and skates caught.
- 2011 Pound net experiment to compare catch of modified leaders constructed with hard lay vs. soft lay vertical line: 15 sampling trips conducted with same sampling methods as 2008 study (only difference was the stiffness of the line; the diameter was the same).
 - Results: No difference in catch between soft-lay or hard-lay vertical line modified leader types.

Note: Virginia Beach observations were made prior to September, which is when the beach seine haul fishing season begins; seine haul uses twisted twine and did not want to confuse takes from twine markings with seine haul net interactions; historically seine haul fishermen are more knowledgeable about how to manage entangled dolphins.

Questions and Answers

Q: Understanding the stringer system and data is important work and most valuable to have scientific work on soft-lay and hard-lay line modification. Having the data peer reviewed will help with the credibility of the data.

A: The 2008 sampling methods and results were peer reviewed and published March 2011 (see below). The sampling methods used in the 2011 study were the same as the published study – only difference was use of soft lay vs. hard lay lines construction of net. North America Fisheries Management Journal (31:1, 88-95), Jason J. Schaffler, Susan G. Barco, Linda R D'Eri, Mark W. Swingle and Cynthia M. Jones.
<http://dx.doi.org/10.1080/02755947.2011.562434>

Q: Has the fishing effort been the same over the years (is it constant when looking at stranding data)? It might be good to see how effort levels compare with interactions.

A: Licenses for the BDTRT's area are capped at 200 and have been stable or even decreasing. Virginia Beach and Cape Henry pound net fishery effort has been consistent over the years with only a few additions.

Q: Why study the difference between hard-lay and soft lay – was it presumed the hard-lay is less apt to entangle animals?

A: Hard-lay is what is required both in the federal and state rules. It was instituted because it is more stiff and harder for turtles to get entangled.

Collection of biopsy samples of dolphins in Pamlico Sound to determine if stocks can be distinguish genetically - Barbie Byrd

- *Key points*
 - Project to refine the understanding of the distribution of NNCES stock in Pamlico Sound during the summer using genetics based on BDTRT's 2009 recommendation
 - Summer 2010 collected 4,230 photo identifications and dart biopsies.
 - Early June in Southwest Pamlico Sound.
 - July and August in Northern Pamlico Sound.
 - Pamlico river area – recorded five groups of dolphins and collected four biopsy samples.
 - Roanoke island area – 39 sightings and 37 biopsy samples; most, but not all sightings were near shore.
 - Results:
 - Goal was 40 biopsy samples and collected 41; Genetic analysis is pending; isotope samples retained and photo identification comparison is ongoing.

Genetic updates (e.g., micro-satellites) - Patty Rosel

- *Key points*
 - Working to improve understanding of stock structure in NC by: (1) analyzing biopsy samples collected from Pamlico Sound (NNCES); and (2) analyzing biopsy samples from nearshore coastal waters once project complete (NNCES and Southern Migratory stocks).
 - Results on analysis of biopsy samples from Pamlico Sound – all are extracted, sexed, sequenced and genotyped; there were 3 duplicates so sample size of 38 (not 41 collected).
 - Biopsy samples from nearshore coastal waters – 25 samples collected and will analyze when study is complete.
 - Also working to improve power to assign individuals to stock by designing, testing, and optimizing additional genetic markers.
 - 2011 - contracted to separate the genome, and now going through their results.
 - Next steps – Evaluate the genome sequence data, test and optimize and evaluate. End of the year will have outer banks' samples and then compare outer banks' and Pamlico Sound's.

Questions and Answers

Q: Are there genetic samples for stranded animals in Chesapeake Bay?

A: Yes, Virginia Aquarium likely collects these.

Pinger efficacy as a deterrent to dolphins in Spanish Mackerel Fishery - Danielle Waples

- *Key points*
 - Pilot study on efficacy of pingers – two types of pingers were used in the NC Spanish mackerel fishery to determine if there is a reduction in fish catch and an effect on rate of depredation.
 - 2008 results with Fumunda Pinger (10 KHz at 132 dB re 1 μ Pa signal):
 - Pingers worked well with fishing gear
 - Pingers did not affect fish catch nor depredation rate
 - One dolphin entangled in control net and released uninjured
 - 2009 study results with new Fumunda Pinger with different frequency and higher sound pressure (70 KHz at 145 dB re 1 μ Pa signal) but same study method as 2008:
 - Pingers worked well in fishery
 - No effect on fish catch nor depredation rate
 - One dolphin was entangled dead in active net
 - Lessons learned:
 - Pingers can be used practically in Spanish mackerel fishery
 - Pingers didn't affect rate of depredation
 - Complex relationship between depredation and bycatch with two likely scenarios here (1) depredation and bycatch are independent; and (2) depredation leads to bycatch, which this study likely highlights because entangled dolphins were depredating and the food motivation may be too great to deter dolphins

Stock discrimination of dolphins along Outer Banks of North Carolina - Kim Urian

- *Key points*
 - Objective: Examine the distribution and extent of overlap between NNCES and Southern Migratory (SM) stock, and how far from shore in summer and fall based on the BDTRT's 2009 recommendation.
 - Study area: coastal waters along Outer Banks out to 5 km from shore
 - Goal is to collect 80 biopsy samples; 20 each from NNCES and SM stocks
 - Results to date from 2011 field work:
 - 25 samples collected; 7 in July and 18 in August
 - 23 group sightings and 4,034 photo images
 - Summary to date:
 - three photo-id matches; 1 to NNCES and 2 to SM stocks
 - Field work to continue in summer 2012

Questions and Answers

Q: Do you make a decision a priori if dolphins in the field were NNCES or SM?

A: There are some discernible markers: SM stock carries heavy xenobalanus on dorsal fins and NNCS do not. From prior work in the field we are able to recognize the animals. And the migratory groups behave differently. We try to target groups that are more obviously one stock or the other.

Q: How often do you expect to find xenobalanus; how good is xenobalanus as an indicator of SM animals?

A: 100% of SM animals have the xenobalanus and are also found further from shore.

IV. Updated Northern Carolina Estuarine Stock Abundance and PBR - Lance Garrison

- *Key points*
 - Original mark-recapture study conducted in 2000 (published in 2003) in estuarine waters of Pamlico Sound; resulting Nmin was 1,203 and PBR = 12.
 - PBR was undetermined since estimate were more than 8 years old
 - Follow-up mark-recapture study was conducted in 2006 in both estuarine and nearshore coastal waters (< 1 km from shore)
 - Animal movements evaluated and identified stock boundaries corresponded to presumed boundaries between the NNCS and SNCS stocks
 - Survey effort didn't include waters north of Pamlico Sound up to Virginia beach but the stock is mostly in the estuarine waters during hotter months
 - resulting Nmin 785 and PBR = 7.9.
 - These estimates are provisional since the source document is not yet published.
 - The updated values will be incorporated into the Draft 2012 SAR and reviewed before public comment.

Questions and Answers

Q: What is the status for the source document being published?

A: Awaiting comments from ASRG and NMFS before publishing.

Q: What are the plans for the next survey if these numbers expire in two years?

A: Currently there are no plans. There needs to be consideration of a building a regular schedule for estuarine stock surveys.

V. Update: BDTRT Membership And Facilitation Changes

Fishery Representatives

- Virginia pound net representative – new representative is Kenny Heath.
- North Carolina gill net and trap/pot representative – need a new representative; Dave Beresoff retired.
- Georgia shad gillnet – evaluating the need to keep representative.

Non-Governmental Representatives

- Whale and Dolphin Conservation Society, Courtney Vale – replaced seat held by Nina Young.
- Ocean Conservancy – finding replacement for Vicky Cornish who resigned (Janis Jones will cover until replacement is found).
- Oceana – finding replacement for Elizabeth Griffin who resigned (Beth Lowell is the alternate).

States

- North Carolina – finding a replacement for Red Munden who retired.
- New York – finding a replacement for Nicole Mihnovets who resigned (Steve Heinz will cover until replacement found).
- New Jersey – Peter Himchak replaced Hugh Carberry.

Federal – NOAA Fisheries

- Kristy Long replaced Melissa Andersen.

Research Representative

- Virginia Aquarium – Maggie Lynott is Mark Swingle's alternate replacing Sue Barco.

Possible new fisheries to be represented (all were promoted to Category 2 fisheries, therefore BDTRT may need representatives in future)

- Stone crab trap/pot
- Atlantic shrimp trawl
- Atlantic menhaden purse seine

Facilitation Changes Keystone /Concur

As of March 31, 2012, facilitation responsibilities will be shifting from Keystone to Concur. Scott McCreary of Concur and Bennett Brooks of the Consensus Building Institute will serve as the BDTRT facilitators. Keystone thanked the BDTRT for the privilege of serving as its facilitator for the last five plus years and noted that the team would be in good hands with Scott and Bennett. Concur noted that it currently worked with four other take reduction teams, already knew a number of BDTRT members and is looking forward to working with the entire team.

VI. Next BDTRT In-Person Meeting

The next in person meeting will occur in about a year, depending on circumstances.

Appendix A: Participants

Members/Alternates

Brian Balmer
Dean Cain
Greg DiDomenico
Lewis Gillingham
Steve Early
Laura Engleby
Michael Greco
Doug Haymans
Kenneth Heath
David Laist
Kristy Long
Beth Lowell

Margaret Lynott
Bill McLellan
Rich Seagraves
Andy Read
Joe Speight
Mark Swingle
Courtney Vail
Lenard Voss
Randy Wells
Rob West
David Woolman
Sharon Young

NOAA/NMFS:

Barbie Byrd
Deirdre Casey
Richard Chesler
Jason Forman
Lance Garrison
Annie Gorgone
Shepard Grimes

David Hilton
Stacey Horstman
Jessica Powell
Patricia Rosel
Duane Smith
Kate Swails
Carrie Upite

Observers and Guests

Sara McDonald, Duke University
Danielle Waples (speaker), Duke University
Kim Urian (speaker), Duke University
Bennett Brooks, CBI
Scott McCreary, Concur

Facilitators

Amber Brummer, Keystone
Jody Erikson, Keystone
Doug Thompson, Keystone

Appendix B: Agenda



Bottlenose Dolphin Take Reduction Team Conference Call/Webinar 1:00-4:30 p.m. ET March 20, 2012

Purpose

Provide updates to the BDTRT regarding 2009 consensus recommendations, BDTRP amendments, and scientific research.

Agenda

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| 1:00 | Roll Call, Agenda Review and Discussion Guidelines | <i>Keystone</i> |
| 1:10 | September 2009 Regulatory Consensus Recommendations and Status of BDTRP Amendments | <i>S. Horstman</i> |
| | ○ North Carolina: Nighttime medium mesh gillnet prohibitions | |
| | ○ Virginia: Pound net-related updates | |
| 2:00 | Accomplishment Updates: Non-Regulatory Consensus Recommendations | <i>S. Horstman</i> |
| 2:15 | Research Updates | |
| | ○ 2011 Virginia Pound Net Modified Leader Study | <i>M. Swingle</i> |
| | ○ Biopsy of dolphins in Pamlico Sound | <i>B. Byrd</i> |
| | ○ Genetic updates (e.g., micro-satellites) | <i>P. Rosel</i> |
| | ○ Pingers in Spanish Mackerel Fishery | <i>D. Waples</i> |
| | ○ Stock discrimination of dolphins along Outer Banks | <i>K. Urian</i> |
| 3:45 | Northern North Carolina Estuarine stock abundance and PBR | <i>L. Garrison</i> |
| 4:00 | BDTRT Organizational Issues | |
| | ○ BDTRT membership changes | <i>S. Horstman</i> |
| | ○ Facilitation changes | <i>Keystone /Concur</i> |
| 4:25 | Adjourn | <i>Keystone/S. Horstman</i> |