

**Bottlenose Dolphin Take Reduction Team Webinar
Friday, November 6, 2015: 1-3:30 pm ET**

Key Outcomes Memorandum

BACKGROUND:

The National Marine Fisheries Service (NMFS) Southeast Regional Office convened a webinar of the Bottlenose Dolphin Take Reduction Team (BDTRT) on November 6, 2015. The purpose of the webinar was to provide an opportunity for ongoing discussions in support of the Bottlenose Dolphin Take Reduction Plan (BDTRP). Primary webinar objectives included the following:

- Provide an update on the Atlantic Bottlenose Dolphin Unusual Mortality Event (UME)
- Provide updates on BDTRP regulatory measures and non-regulatory measures
- Provide the latest data on recent observed takes
- Begin planning for the next in-person Team meeting

PARTICIPATION AND MEETING MATERIALS:

The following 21 of the Team's 43 members (or alternates) participated in the call: Paul Biermann, Tara Cox, Jane Davenport, Greg DiDomenico, Laura Engleby, Joey Frost, Raymond King, David Laist, Katie May Laumann, Kristy Long, Beth Lowell, Shanna Madsen, Katie McHugh, Bill McLellan, Tom Pitchford, Andy Read, Rich Seagraves, Mark Swingle, Courtney Vail, Randy Wells and Sharon Young.

The call was organized and managed by Stacey Horstman with the Southeast Regional Office. The following staff from NMFS Southeast and Greater Atlantic Regional Offices, NMFS Southeast and Northeast Fisheries Science Centers and NMFS headquarters also participated in the call: Barbie Byrd, Deborah Fauquier, Lance Garrison, David Hilton, Marjorie Lyssikatos, Patty Rosel, Glenn Salvador, Keith Mullin, Mike Tork, Jessica Powell and Melissa Soldevilla. Scott McCreary with CONCUR and Bennett Brooks with the Consensus Building Institute facilitated the meeting. The following observers participated on the call: Chris Batsavage, Vicky Thayer, and Paula Moreno.

Prior to the call, the agency circulated to the BDTRT an agenda and two meeting documents: (1) NOAA technical memorandum estimating abundance of the Northern North Carolina Estuarine System bottlenose dolphin stock (BDTRT doc #11-06-15 a), and (2) a spreadsheet summarizing observed takes of coastal bottlenose dolphins in gillnets (BDTRT doc #11-06-15 b). Copies of meeting materials and presentations given during the meeting can be obtained by contacting S. Horstman at 727-824-5312 or via email at stacey.horstman@noaa.gov.

KEY OUTCOMES

S. Horstman welcomed participants to the call, noting the importance of interim Team deliberations to take stock of Take Reduction Plan effectiveness in reducing fishery-related

mortalities and serious injuries. She also highlighted a number of changes in membership since the Team last met in March 2014. McCreary and B. Brooks reviewed the agenda and meeting protocols.

The webinar focused on several key topics (agenda enclosed). Below is a brief summary of the primary topics discussed, Team comments and next steps.

Atlantic Bottlenose Dolphin Unusual Mortality Event Update

D. Fauquier provided a detailed overview of the recent Atlantic UME for bottlenose dolphins along the Atlantic coast, summarizing status, potential stock impacts and ongoing research. Key points included the following:

- Reviewed the timeframe of the UME occurrence (July 2013-March 2015) and location (New York to North Florida), as well as the cause (dolphin morbillivirus) and number of bottlenose dolphins stranded during the event (approximately 1,650 mortalities). An overview of the morbillivirus's physiological impacts on both the individual and the population were also provided, as well as a comparison of the 1987-88 morbillivirus UME to the 2013-2015 event.
- Noted that, of the 1,650 stranded bottlenose dolphins, 5% were alive and 13% were fresh dead; 37% were calves (though all age classes were affected); and 44% were male (compared to 27% female and 29% unknown).
- Presented detailed number of strandings compared to the average number of strandings plus two standard deviations by month and location, as well as showed the spread of morbillivirus positive animals along the coast spatially and temporally.
- The presentation highlighted bottlenose dolphin stocks at risk and those estuarine and coastal stocks where animals have currently tested positive for the virus: Northern North Carolina Estuarine System (NNCES); Jacksonville Estuarine System; Indian River Lagoon Estuarine System; Northern and Southern Migratory; South Carolina-Georgia Coastal, and Eastern Gulf of Mexico Coastal. All currently affected stocks are along the Atlantic and those are also the subject of the BDTRP (except for the Eastern Gulf of Mexico Coastal). Additional stocks may be added when the final review of all virus positive data, stranding locations, genetic analysis and photo-identification studies are completed in 2016.
- Reviewed the post-UME surveillance procedures (testing of all live stranded and fresh dead bottlenose dolphins for at least the next five years and conducting health assessments on free-ranging populations as is feasible), as well as outlined ongoing and future research activities (examining infection risk factors, understanding pathogenesis of the virus in dolphins, studying stock-specific impacts - e.g., analyzing genetics, photo identification, and studying the impacts on the surviving population).
- Next steps and priorities moving forward include: continue working to assign UME mortalities to specific stocks via genetics or photo ID; better understanding estuarine stocks involved in the outbreak; assessing the extent of impacts to stocks.

There was significant Team interest in understanding which stocks were impacted by the UME and to what extent. Of the 1,650 UME stranded dolphins, genetic samples were obtained for at least 822. Based on tests thus far of 177 extracted and sequenced samples, only 1 of the 118 genotyped tested as an offshore animal; all others characterized as the coastal morphotype. (This

is not considered surprising, D. Fauquier said, given that most compromised offshore animals sink rather than strand.) The 177 samples were prioritized for sequencing first because they constituted a representative sample across a temporal spatial spread of the region and were confirmed to be morbillivirus positive. Better understanding of baseline genetic data associated with each stock (i.e. “pure” stocks) – an ongoing Center priority and focus of research activities – is needed before the Agency can assign stranded animals to stock and gauge UME impacts to specific stocks. Several Team members noted the importance of prioritizing the assessment of impacts to the Southern North Carolina Estuarine Stock (SNCES) given its small size and low potential biological removal (PBR). This includes prioritizing both a review of morbillivirus testing data, stranding locations, and genetic sequencing of stranded animals within this stock’s boundaries.

Several Team members expressed concern about and sought to better understand the Agency’s efforts to update affected stocks’ abundance estimates post-UME, particularly given (1) the critical need to assess impacts to the most at-risk stocks, and (2) that several estimates¹ are outdated since it has been eight years since the last abundance surveys were conducted (per GAMMS 2005). L. Garrison noted that a coast-wide aerial survey is planned for the summer of 2016 under the Atlantic Marine Assessment Program for Protected Species (AMAPPS). This will provide data to update abundance estimates for the Northern and Southern coastal migratory stocks. Regarding estuarine stocks, mark recapture surveys are currently underway to update abundance estimates for the SNCES stock and will be completed mid-2016. The Science Center and Regional Office are also currently discussing a multi-agency photo identification survey project for the Indian River Lagoon stock.

Team members also inquired about whether NMFS will extrapolate the mortality to larger than the 1,650 stranded animals and how this would be accomplished. The Agency intends to develop a mortality rate model and would expect the rate to be higher than 1,650. This effort will likely take several years to develop because of the complexity of multiple stocks involved, the challenge of detecting stranded animals, etc.

Other points clarified based on Team member questions included the following:

- The spread of the virus across stocks is heavily dependent on both the extent to which stocks are proximate to one another and the frequency of their interaction (see Morris et al. 2015 for details).
- Confirming that the outbreak likely originated in Northern Migratory stock dolphins in the summer of 2013 and spread to the Southern Migratory stock near the Virginia/North Carolina border. It then spread to coastal resident stocks via the Southern Migratory stock dolphins, moving from north to south during the fall.
- Animals of nearly all ages were impacted by the virus. This is to be expected, D. Fauquier said, since the majority of the current dolphin stocks would be naïve to the virus and have no existing immunity since it had been 25 years since the last morbillivirus outbreak (1987-1988). The overall herd immunity of the dolphin populations would be low since only animals that were alive in 1987-1988 would have been exposed to the virus and, therefore, be immune from infection. These animals would have been at least 25 years old in 2013 and would comprise a small segment of the current population.

¹ All 5 coastal stocks and 3 BSE stocks affected under the BDTRP have updated abundance estimates

BDTRP Regulatory and Non-Regulatory Updates

S. Horstman provided a series of updates on both regulatory and non-regulatory measures being implemented by the Agency. Her presentation highlighted the following points:

Regulatory Updates

- Status of Virginia pound net rule implementation. S. Horstman reviewed the elements of the final rule, as well as the status of implementation (final rule published on 2/9/15, effective 3/11/15). The Agency, she noted, is currently working aggressively to ensure affected fisheries are aware of the rule, gear needs and training requirements. Specific implementation steps have included sending out small entity compliance guides to all licensed Virginia pound net fishermen and conducting 4 modified pound net leader compliance trainings in which 12 licensees were trained. As well, the Agency has been working with the State of Virginia since 2012 on enforcement-related monitoring of pound nets via a Joint Enforcement Agreement. With the rule's adoption, BDTRP measures now address four Category 1 or 2 fisheries (mid-Atlantic gillnet, Southeastern U.S. Atlantic shark gillnet, Southeast Atlantic gillnet, Virginia pound net).
- Status of North Carolina 100-yd small mesh gillnet fishing setback. S. Horstman updated Team members on the status of the two areas off North Carolina exempted from the 100-yard setback for gillnets. S. Horstman first reminded participants of the Team deliberations that led to the Agency's request to the State to remove the two exempted areas (See Key Outcomes Memorandum from the June 2013, December 2013, and March 2014 meetings). She then reviewed comments received from fishermen and local elected officials concerned with the potential impacts of the exemption removal (particularly in the southern exempted areas). Finally, she reviewed recent North Carolina Department of Marine Fisheries (NCDMF) trip ticket data on fishing effort/landings for set gillnets < 5 inch stretched in Carteret, Brunswick and New Hanover counties (counties representing what were the two exempted areas). Data for 2014 when the exemptions were removed seemed to indicate either an increase in effort/landings (i.e. number of trips, participants, and pounds landed) in Carteret compared to 2013 when the exemptions were in place or little change to slight increases/decreases in Brunswick/ New Hanover.
- Strandings data with evidence of a fishery interaction in North Carolina from 2007-2014 were also presented and delineated by whether the stranding occurred in a coastal or estuarine county. Since the exemptions were just removed last year, it is too early to determine whether strandings data will and can detect any conservation benefits from the setback (and likely complicated by UME impacts).

Non-Regulatory Updates

- Updated NNCES abundance estimate. S. Horstman provided an update on the NNCES abundance estimate, noting that based on the 2013 photo-ID mark-recapture survey, the new abundance estimate is 823 animals with a PBR of 7.8 (consistent with the 2006 abundance estimate of 950 animals and a PBR of 7.9).

- 2013 NC Estuarine research priorities. S. Horstman provided an overview of the BDTRT's 2013 research priority recommendations and their status. Presentation highlights included the following North Carolina estuarine stock research priorities: (1) mining Mid-Atlantic bottlenose dolphin catalog to refine, where possible, the NC stock distribution (grant awarded, work expected to be completed by January 2016); (2) conducting photo-ID and abundance surveys to better understand SNCES stock range, boundaries and abundance (grant awarded, work expected to be completed in by June 2016); and (3) stratifying stranding data by distance from inlets in NC (no status update).
- 2013 trap/pot gear recommendations. S. Horstman reviewed and provided an update on (potential) regulatory and non-regulatory recommendations from the 2013 Team meeting related to trap/pot gear. In particular, she highlighted the status of the crab pot working group to better characterize regional fishing practices (work group formed; regional data gathered; now shifting to synthesis). The review of fishing practices is expected to identify any additional research and conservation needs.

There were no comments on S. Horstman's presentations.

Finally, M. Lyssikatos with the Northeast Fisheries Science Center provided updates on recent observed takes, highlighting affected stocks, locations and fisheries involved. Key presentation highlights included the following:

- Reviewed 2013 Team recommendations related to observer program priorities to strengthen and prioritize coverage in: (1) summer Spanish mackerel fishery in northern North Carolina; (2) winter spot fishery in southern North Carolina in areas exempted from the fishing setback; and (3) spring and summer Spanish mackerel fishery in Pamlico Sound.
- Reviewed New England Fishery Observer Program sea day allocations from July 2013-June 2015. Overall, in North Carolina, large and small mesh gillnet observer coverage in coastal state waters achieved 50% of the 508 sea days allocated; and internal waters achieved 91% of the 68 sea days allocated; specifics varied widely by location and year (due to weather, funding contractual levels, etc.). (Note: Given Team member confusion over the percentages reported, NMFS later clarified that these percentages are not equivalent to total percent observer coverage levels based on fishery effort. Rather, they represent the percent of NMFS' own targets for observer coverage the Agency achieved as it attempted to accomplish the Team's 2013 observer coverage recommendations in specific times/areas.) M. Lyssikatos said the Center is striving for consistent sampling across any fishery affecting bottlenose dolphins. The Center has opted to devote more effort to coastal areas based on two considerations: (1) North Carolina's state observer program has no documented observed takes in internal waters; and (2) the scale of effort that would be required in internal waters would consume a disproportionate share of the NMFS financial resources, thus precluding coverage in coastal waters where there is more evidence of interactions with gillnet gear.
- Reviewed the location of both the Northeast and Southeast Fishery Observer Programs (NEFOP and SEFOP) observed gillnet hauls and 4 documented dolphin takes from 2012-2015. There were 2 observed takes from 2012-2014 during 5,688 NEFOP hauls and 459

SEFOP hauls: 1 live release in February 2013 (NEFOP) and 1 mortality in September 2014 (SEFOP). In 2015, there were 2 observed mortalities (both NEFOP; 1 in January and 1 in August). Based on the location of the takes, the potential minimum and maximum impact to specific stocks given uncertainty in stock identification is as follows: 1-3 of the takes assigned to the Northern Migratory; 0-1 of the takes assigned to the Southern Migratory; 0-3 takes, including 1 non-serious injury, assigned to the NNCES; and 0 animals assigned to SNCES. No updated mortality estimates were provided because necessary data are not yet available; however, updated estimates reflecting these takes will be provided during the next in-person Team meeting.

Team member comments and questions centered on the following:

- Team members sought to understand whether the Agency was reporting the percentage of observer coverage relative to total fishery effort or whether it was reporting the extent to which it had met its target goal for observer coverage of days at sea. As noted above, the latter were being presented to show the extent to which the Agency had achieved its targeted observer levels intended to address the Team's 2013 consensus recommendations were being accomplished. M. Lyssikatos said *average* observer coverage levels from 2007-2011 were 0.94% overall and 8.59% for offshore, 2.95% for coastal and 0.28% for internal waters. (These data were previously shared with the Team at its 2013 in-person meeting. Barring any significant shifts in effort, coverage levels would be expected to be similar for the 2012-2014 period.) One Team member strongly recommended the Agency present observer coverage levels in the future rather than simply the extent to which it had met its goals for coverage levels. Others voiced concern that the low observer coverage levels are insufficient to accurately document mortality for a number of high-risk stocks and urged the Agency to discuss other creative ways to increase observer coverage, such as partnering with the state of North Carolina on their observer program.
- One Team member recommended that the Agency revisit its strategy for assigning observer coverage given that both SNCES and NNCES takes appear to be over PBR. This Team member noted the apparent disconnect between the high number of SNCES strandings with evidence of fisheries interaction but no observed interactions and recommended the Agency explore partnering opportunities with the North Carolina state observer program.
 - In response to the comment, NMFS staff said the Agency has been and is in discussion with the state to compare program approaches and consider the potential for coordination/information-sharing. The Agency continues to strive to integrate with the state of North Carolina but it is a challenging and complex issue given differences in state vs federal observer data sampling and documentation protocols. The state of North Carolina will be invited to the next in-person Team meeting to discuss the observer program.
 - The Agency also shifts coverage annually based on where the previous year's fishing effort was located to help detect any potential areas for increased risk of takes, but overall increased coverage will be needed to detect Plan effectiveness. (Funding has been fairly constant at \$500-\$600k/year for the entire Greater Atlantic Region (Maine-North Carolina.)

- Some Team members voiced frustration that several bottlenose dolphin-related abstracts by NMFS biologists will be presented at the December Society for Marine Mammalogy biennial yet were not provided to Team members prior to the call. S. Horstman noted the abstracts are not yet available, but will soon provide abstracts.
- Other discussion points included the following:
 - Suggesting NMFS be more proactive in stepping up coordination with the NC Division of Marine Fisheries observer program
 - Seeking to understand the method used in the extrapolation of overall mortality from the observed takes (A: Analysis not yet complete but will be in preparation for the next in-person meeting)
 - Question to the North Carolina gillnet fishermen on why the potential increase in 2014 small mesh fishing effort per NCDMF trip ticket data (A: The Team member representing the small mesh gillnet industry in this area noted the increase was likely due to a drastic increase in the market value of spot and sea mullet).

Planning for Next In-Person Meeting

Team members discussed the focus of the next in-person meeting. S. Horstman noted that the Agency is already planning to develop the following information to support Team discussions on possible measures to improve Plan effectiveness: (1) strategies to improve observer coverage; (2) updated mortality estimates for North Carolina stocks; (3) updated abundance estimates for the SNCES; and (4) updated stranding/mortality analysis. Additionally, she said the Agency intends to work with North Carolina State observer program in the near-term to identify possible strategies to strengthen/integrate observer coverage. It was also suggested that the in-person meeting include discussion on the Southern South Carolina/Northern Georgia estuarine stock given recent strandings associated with crab/pot gear.

S. Horstman said the next in-person meeting is likely to be held in 2017 (given the timeframe for when field surveys for updated abundance estimates will be complete, etc.). Consistent with its usual practice, the Agency will assess the need to convene interim webinars and work groups, as needed, prior to the 2017 in-person meeting.

Public Comment

There was no public comment.

Next Steps

Team deliberations generated the following next steps:

- S. Horstman will provide requested abstracts for pertinent bottlenose dolphin-related papers being presented by various NMFS staff for the upcoming marine mammal biennial when they are available.

- S. McCreary and B. Brooks are to prepare and distribute for Team comment a draft discussion summary synthesizing webinar key discussion points and next steps. A final version will be posted on the Team website.

Questions or comments regarding this meeting summary should be directed to S. McCreary, B. Brooks or S. Horstman. S. McCreary and B. Brooks can be reached at 510-649-8008 and 212-678-0078, respectively; S. Horstman at 727-824-5312.

Bottlenose Dolphin Take Reduction Team Webinar
Friday, November 6, 2015: 1-3:30 pm ET

Agenda

Webinar registration link: <https://global.gotomeeting.com/join/551047069>

Conference call in information: 1-877-701-3421, 763582#

Purpose: To provide an opportunity for ongoing discussions in support of the Bottlenose Dolphin Take Reduction Plan (BDTRP) implementation and monitoring.

Objectives

- *Provide update on the Atlantic Bottlenose Dolphin Unusual Mortality Event*
- *Provide updates on BDTRP regulatory measures and non-regulatory measures*
- *Provide the latest data on recent observed takes*
- *Provide updates on Team membership changes*
- *Begin planning for the next in-person Team meeting*

- 1:00 PM Welcome and Introductions
- Meeting purpose and objectives (Stacey Horstman)
 - Meeting agenda and webinar discussion protocols (CONCUR)
 - Review of recent membership changes (All)
- 1:15 PM Atlantic Bottlenose Dolphin Unusual Mortality Event Update (Deborah Fauquier)
- Provide update on the Atlantic Unusual Mortality Event for bottlenose dolphins in both the Northeast and Southeast, including status, potential stock impacts and ongoing research
 - Opportunity for Team Q&A
- 2:00 PM BDTRP-Related Updates (S. Horstman, 20 minutes)
- Regulatory updates
 - Status of Virginia pound net rule implementation
 - Update on North Carolina 100-yard small mesh gillnet set back
 - Non-regulatory updates
 - Status of the Team's non-regulatory consensus recommendations
 - Updated Northern North Carolina Estuarine System stock abundance estimates
 - Research-related updates, including consideration of ongoing, new and planned research initiatives
 - Details on recent observed takes - affected stocks, location, fishery, etc. (Marjorie Lyssikatos, 15 minutes)
- 2:50 PM Planning for next In-Person Meeting
- Discuss timing, location and focus for meeting
 - Consider research and information needs to support productive Team deliberations
- 3:10 PM Review Next Steps
- 3:20 PM Adjourn