

**BOTTLENOSE DOLPHIN TAKE REDUCTION TEAM IN-PERSON MEETING  
DECEMBER 5-7, 2017, ST. PETERSBURG, FLORIDA**

**KEY OUTCOMES**

**I. OVERVIEW**

NOAA's National Marine Fisheries Service (NMFS) convened the Bottlenose Dolphin Take Reduction Team (Team) December 5-7, 2017, in St. Petersburg, Florida. The primary purposes of this meeting were to: (1) review the Bottlenose Dolphin Take Reduction Plan (Plan) progress at meeting its mandated short- and long-term goals; and (2) develop and consider Team consensus recommendations on management measures. Specific objectives were:

- Review pertinent bottlenose dolphin stock updates: abundance and mortality estimates, and potential biological removal (PBR)
- Review and discuss implications of updated observer and strandings data analyses
- Identify and discuss potential options for management measures and/or Plan revisions; consider additional research needs
- Develop and consider Team consensus recommendations to meet Plan goals
- Identify next steps

This summary report, prepared by CONCUR Inc., provides an overview of the meeting's key outcomes. It is presented in the following sections: (1) Overview; (2) Participants; (3) Meeting Materials; (4) Presentations and Meeting Discussion Topics; (5) Consensus Recommendations; (6) Public Comment; and, (7) Next Steps. The meeting agenda is also attached as an appendix.

**II. PARTICIPANTS**

The three-day meeting was attended by 23 of the 43 Team members. Participating Team members (or alternates) were: Paul Biermann, Sara Blachman, Tara Cox, Jane Davenport, Laura Engleby, Joey Frost, Mike Greco, Sonny Gwin, Dennis Heinemann, Jimmy Hull, Alex Costidis (for Mark Swingle), Raymond King, Kristy Long, Lora Snyder (for Beth Lowell), Chris McDonough, Bill McLellan, Red Munden, Megan Rickard, Joe Speight, Courtney Vail, Randall Wells, Angel Willey and Sharon Young. Team members Rob West, Chris Hickman and Sammy Corbett (all of whom were unable to participate in the meeting) provided input into discussions via other Team members at various points during the meeting.

David Bernhart, L. Engleby and Stacey Horstman with NMFS' Southeast Regional Office (Protected Resources Division) convened the meeting. The following supported the deliberations: NMFS staff or contractors supporting NMFS from the Southeast Regional Office (Jessica Powell, David Hilton), the Northeast Fisheries Science Center (Marjorie

Lyssikatos) and Southeast Fisheries Science Center (Lance Garrison, Barbie Byrd); the North Carolina Division of Marine Fisheries (NCDMF; Chris Batsavage and Jacob Boyd); NOAA's Office of Law Enforcement Southeast Division (Jeff Radonski); and the U.S. Coast Guard (Katie Moore). Other observers included staff from the Northeast Fisheries Observer Program (Amy Martins and Ken Keene); Southeast Regional Office (Abigail Machernis); the Northeast Fisheries Science Center (Sean Hayes); NOAA's Office of Enforcement and Litigation (Loren Remsberg); the Marine Mammal Commission (Dee Allen); and non-governmental organizations (Kara Shervanick, Oceana). Scott McCreary with CONCUR and Bennett Brooks from the Consensus Building Institute served as the neutral facilitators.

### **III. MEETING MATERIALS**

A meeting agenda and a number of background meeting materials were provided in advance to support the group's deliberations. NMFS also conducted an orientation for new Team members prior to the meeting on November 17, 2017. Copies of meeting materials can be requested by contacting Stacey Horstman at 727-824-5312 or [Stacey.Horstman@noaa.gov](mailto:Stacey.Horstman@noaa.gov).

### **IV. PRESENTATIONS AND MEETING DISCUSSION TOPICS**

Below is a brief summary of the presentations provided and main topics and issues discussed during the meeting. This summary is not intended to be a meeting transcript. Rather, it provides an overview of the main topics covered, the primary points and options raised during Team discussions, and areas of emerging or full consensus.

#### ***A. Welcome and Introduction***

D. Bernhart opened the meeting by welcoming Team members, thanking them for their commitment to a consensus-seeking process and underscoring the importance of generating recommendations that will help the Plan meet its Marine Mammal Protection Act (MMPA)-driven goals. S. Horstman reviewed the overarching meeting purpose, reiterating the need for the Team to provide the Agency with consensus recommendations on management measures to reduce commercial gillnet mortality and serious injury (i.e. bycatch) for both the Northern and Southern North Carolina Estuarine System bottlenose dolphin stocks (NNCES, SNCES) to below PBR.

S. McCreary walked Team members through the agenda, and B. Brooks briefly reviewed the BDTRT ground rules. Team members participated in a brief icebreaker to enable new and long-time members to meet one another. There were no Team comments on either the agenda or ground rules.

## ***B. Background Briefings and Updates***

To inform Team discussions, much of Day One focused on a series of presentation updates and information related to bottlenose dolphin stock assessment data (e.g. abundance and PBR, gillnet mortality estimates), observer coverage and strandings data with evidence of gillnet entanglement, monitoring and assessing Plan compliance, relevant fishery and research updates. Below is a brief synopsis of the various updates.

- **Presentation: BDTRP Overview and General Updates.** S. Horstman reviewed a series of updates related to the Team and Plan. Presentation highlights included the following:
  - ***Team Membership Updates.*** S. Horstman reviewed a number of recent membership changes, including: state representatives (Sara Blachman replacing Virginia’s Katie May Laumann; Chris McDonough replacing South Carolina’s Dean Cain); federal representatives (the Marine Mammal Commission’s Dennis Heinemann replacing David Laist and Dee Allen as the new alternate); and conservation/environmental representatives (Oceana’s Lora Snyder as new alternate for Beth Lowell). Additionally, she noted that Aimee Gaddis stepped down as Georgia’s state representative. No new representative has yet been chosen, but Lindsey Aubart is serving as the state’s new alternate.
  - ***Plan accomplishments/implementation updates.*** S. Horstman reviewed a series of Plan accomplishments, emphasizing action on 2013 research priorities related to North Carolina estuarine stocks (most of which were reviewed in detail during the fall 2017 Team webinar), 2013 trap/pot gear recommendations and other recent research-related steps.
  - ***Plan regulatory and non-regulatory measures.*** S. Horstman reviewed the existing regulatory and non-regulatory conservation measures implemented under the Plan, and those implemented by the NCDMF in support of the Plan (i.e. 100-yard small mesh gillnet fishing setback).
- **Presentation: Monitoring and Assessing Compliance.** M. Lyssikatos provided a brief summary of monitoring data used to evaluate percent compliance with Plan regulations and NCDMF measures supporting the Plan from 2007-2015 (BDTRT Doc# 12-05-17f), noting the following: (1) soak time and catch for medium mesh gillnets targeting spiny dogfish off North Carolina both increased during 2011-2015, though soak times remained well within the 12-hour time period required under Plan regulation, indicating the regulation is not currently limiting catch; (2) observed sample sizes are currently too small to evaluate Plan compliance in Southern North Carolina state waters and the NCDMF’s 100-yard small mesh setback; (3) increased observer coverage in southern North Carolina may allow for more definitive compliance evaluation in the future; and (4) evidence of non-

compliance with Regulation #1 (remaining within 0.5 nmi of medium- and large-mesh gillnets when fishing at night in New Jersey, Delaware, Maryland, Virginia state waters) and declining compliance with Regulation #3 (restricting small mesh gillnet length in North Carolina state waters to less than or equal to 1,000 feet). Regarding compliance of Regulation #3 for net length, one Team member indicated there are younger fishermen coming in to the fleet, and they may not be aware of the net length requirement. Additionally, K. Moore with the U.S. Coast Guard and J. Radonski with the Office of Law Enforcement provided brief updates on enforcement measures. K. Moore emphasized the importance of putting forward recommendations that can be realistically enforced by the Coast Guard (e.g., regs that don't require pulling gear from the water). Team members posed a handful of clarifying questions on the presentation; there was only limited discussion on this update.

- **Presentation: Bottlenose Dolphin Coastal and Estuarine Stock Abundance and Gillnet Bycatch.** L. Garrison reviewed the SEFSC's latest coastal and estuarine stock data, focusing on the following main points: (1) reviewing coastal bottlenose dolphin structure for estimating coastal stock abundance (least stock overlap in summer; uncertainty in Southern/Northern Migratory, South Carolina/Georgia coastal stock and Northern/Central Florida coastal stock boundaries; complications arising from inter-annual variation in assessment of trends); (2) reviewing summer 2016 coastal stock abundance estimates for Northern Migratory (6,639 animals), Southern Migratory (3,751), South Carolina/Georgia (6,027), Northern Florida (877) and Central Florida (1,218); and (3) reviewing known abundance, mortality, and PBR for both coastal and estuarine stocks. The 2016 estimate was used as the "Nbest" due to the coastwide decline in coastal stock abundance between 2010/2011 and 2016.

In addition to several questions focused primarily on better understanding survey and estimation methodologies, participants offered the following comments:

- One Team member suggested that the Agency consider broadening the boundary of the Northern Migratory stock to include New York waters. This would in turn expand the Plan's geographic scope and Team membership to incorporate fisheries off New York State. S. Horstman noted that New York State already has a representative at the table. L. Garrison noted that the Southeast Science Center is evaluating whether to shift the boundary to include New York and consider whether there is enough information to know how far north the stock may extend and how to parse out the offshore morphotype.
- One Team member sought information on the likely impact of the recent Atlantic Bottlenose Dolphin Unusual Mortality Event (UME) on bottlenose dolphin abundance. L. Garrison noted that, while it is not possible to parse impacts to specific stocks, coastwide abundance may be down as much as

50%. (A more detailed presentation and discussion of the UME was covered during the Team's September 2017 webinar.)

- One Team member recommended that the Science Center consider including waterman in future mark-recapture survey efforts to increase their awareness of and comfort with abundance survey estimates.
- **Presentation: Bottlenose Dolphin Gillnet Bycatch Mortality Estimates.** M. Lyssikatos and B. Byrd presentations focused on bottlenose dolphin gillnet bycatch mortality estimates from 2011-2015 for the Northern and Southern Migratory (NM, SM), NNCES, and SNCES stocks. The precautionary approach outlined in the presentation was to estimate minimum and maximum mortality for each stock from both observer (Part I of the presentation) and stranding data (Part II). M. Lyssikatos first reviewed the stocks' distribution and related data stratification that reflect the delineated boundaries and overlapping migratory movements of animals over the calendar year, gillnet fishing effort within the stocks' distribution, and how mortality was assigned and estimated to stock using the 96 geographic strata based on location and month (accounting for uncertainty in stock identification). She noted the importance of continuing to supplement observed takes with stranding data for monitoring bycatch mortality.
  - Part I: During 2011-2015, there were four federally observed takes (three were mortalities; one was a live release that was determined to be not seriously injured). Three of the four observed takes occurred in areas and times of the year where at least two stocks overlap and were therefore assigned to both stocks (two assigned to NM and NNCES; one assigned to SM and NNCES). One take occurred at a time and place where only one stock occurred and was assigned with certainty to a single stock (NM). M. Lyssikatos noted that the SNCES mortality estimate was considered to be unknown despite having no observed takes because of the low probability of observing at least one bycatch event given the SNCES stock's low population size, low fishing effort, and low observer sample size. Although not included in the 2011-2015 mortality estimates, M. Lyssikatos also updated the Team on recent observed takes: (1) no observed takes in 2016; (3) three federally observed takes (mortalities) in 2017 (one assigned to SM and NNCES, one to NM and NNCES, and one to NM); (3) and one observed take (mortality) by the NCDMF state gillnet observer program in 2017 (assigned to NNCES).
  - Part II: B. Byrd provided an overview of the process used to estimate minimum counts of gillnet mortality based on stranding data. The analysis was based on stranded dolphins with gillnet gear attached or fresh gillnet line markings (i.e. gillnet gear related entanglements). Of the 1,722 total bottlenose dolphin strandings from North Carolina to New Jersey between

2011-2015, 46 strandings were attributed to gillnet gear entanglement<sup>1</sup>. Of the 46, 26 strandings were assigned to NM, 20 to SM, 21 to NNCES and 11 to SNCES. (The total is greater than 46 strandings given that some strandings were assigned to more than one possible stock.). These forty-six gillnet strandings were also assigned to stock using the same methodology for observed takes. B. Byrd noted that the percent of PBR represented by gillnet strandings is less than the estimated take from observer data (when known), which is not surprising because strandings data are considered minimum counts of known mortality (Table 1). This is because not all dead dolphins strand and/or are detected, and if they do, decomposition could obscure evidence of entanglement. She reviewed several recent studies documenting the recovery rates of bottlenose dolphin carcasses from estuarine and coastal waters (with mean recovery rates ranging from 2 to 46% depending on location). B. Byrd also reviewed the mean bimonthly coastal gillnet strandings versus total fishing trips by stock, noting there were some similar trends between the two datasets for each stock, but they did not align closely overall.

The presentations by M. Lyssikatos and B. Byrd underscored the following core points: (1) stock uncertainty remains a challenge given habitat overlap across these four stocks and location source of stranded dolphin; (2) a precautionary approach is necessary to evaluate fishery impacts on small estuarine stock sizes; (3) strandings data (critical to supplementing limited observer data) are minimum counts of known mortality and likely higher based on carcass recovery rates (4) based on 2011-2015 data, both the NNCES and SNCES estuarine stocks are of greatest concern given the small population size, low PBR and estimated mortalities exceeding (NNCES) or likely exceeding PBR (SNCES). NNCES has a maximum gillnet mortality estimate of 16.42 animals or 210% of PBR of 7.8; for SNCES, stranding data indicate a minimum gillnet mortality count of 2.2 animals that is likely close to or exceeding PBR (the last known PBR was 1.6) (Table 1). Southern migratory stock was also of concern with a maximum estimated gillnet mortality (12.47) that is greater than 50% of PBR of 23 (Table 1).

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<sup>1</sup> During the period from July 2013 to March 2015, there was a Mid-Atlantic Bottlenose Dolphin Unusual Mortality Event (UME). The increase in total bottlenose dolphin strandings during the UME may have resulted in a decreased proportion of fishery interactions relative to total strandings.

Table 1: Gillnet Mortality by Stock. Excerpted from presentation provided to Team.

Five Year Mean (2011-2015)						
Stock	PBR	Observer Data <sup>1</sup>			Gillnet Strandings Data <sup>2</sup>	
		Minimum Estimated Mortality	Maximum Estimated Mortality	Max % PBR	Strandings	% PBR
NM	48	6.11 (CV=0.32)	12.23 (CV=0.22)	25%	5.2	10.8%
SM	23	0.00 (CV=na)	12.47 (CV=0.31)	54%	4.0	17.4%
NNCES	7.8	0.00 (CV=na)	16.42 (0.22)	210%	4.2	53.9%
SNCES	UNK	UNK	UNK	UNK	2.2	UNK

<sup>1</sup> Excludes North Carolina internal waters

<sup>2</sup> Strandings are always considered a minimum count because not all dolphins that die strand and are recovered.

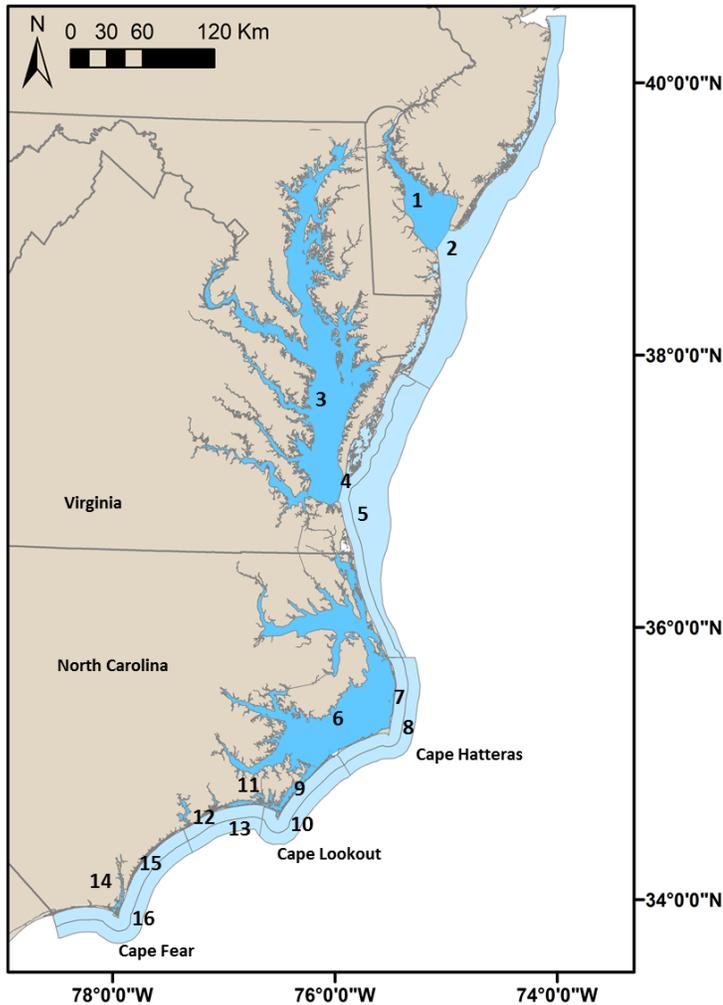
Team member comments centered on a handful of clarifying questions.

- **Presentation: North Carolina Estuarine Stocks Gillnet Interactions.** Given the concern with the level of gillnet bycatch affecting NNCEs and SNCES, M. Lyssikatos and B. Byrd presented an in-depth look at the gillnet interactions for both stocks, with the goals of (1) identifying the seasons and locations where peak gillnet bycatch occurs (i.e. areas of focus); (2) characterizing fishing practices and effort most likely involved in bycatch using observer data and states’ effort data; and (3) providing Team members with sufficient data to identify management measures capable of reducing gillnet bycatch for both stocks. Key presentation points are summarized below.
  - The analyses used observed takes (2011-2017) and gillnet entanglement strandings (2011-2016) assigned to NNCEs and SNCES, and fishing effort, catch and practices. The matrix of 16 geographic strata (see map on following page) and 6 bimonthly time periods (used above in the gillnet bycatch mortality presentation) was populated with the observed takes and gillnet strandings. To identify the areas of focus, the populated matrix was used as a tool to systematically determine areas of focus using a suite of criteria for where peak gillnet bycatch occurs in NNCEs and SNCES stock habitat, including: (1) co-occurrence of observed takes and gillnet strandings; (2) peaks (≥ 3) in gillnet strandings across time/geography (e.g. occurs in one or more bimonthly

periods), and/or that have a certain or likely overlap with NNCES and/or SNCES stocks and may also overlap with Southern Migratory coastal stock at least 50% of the year in addition to one of the estuarine stocks; and (3) emerging areas to monitor based on recent gillnet strandings.

- For each area of focus within both the NNCES and SNCES stocks, the following was reviewed: (1) spatio-temporal distribution of strandings and observed takes; (2) mean number of strandings and trips across bimonthly periods; (3) species composition of gillnet landings (state trip ticket data); and (4) fishing practices, when available (federal observer data).
- Three main areas of focus were identified for the NNCES stock:
  - Stratum 7 (coastal waters; NNCES and Northern/Southern Migratory stocks). Review of information was concentrated to southwest of Cape Hatteras based on the distribution of observed takes and strandings. Of particular note: this stratum had the highest number of gillnet strandings (11, minimum count) in any strata, with occurrence at most times of the year; the highest number of observed takes (5 of 7 since 2011); co-occurrence with landings dominated by Spanish mackerel, bluefish, spiny and smooth dogfish with small and medium mesh gears; overlap with Southern Migratory during 50% of the year.

Map 1: Map of 16 geographic strata used to analyze interactions



- Stratum 6 (Greater Albemarle-Pamlico Sound estuaries; NNCES stock). Review of information was focused on Neuse River and Core Sound based on the distribution of strandings. Of particular note: there were 4 gillnet strandings (minimum count) occurring 50% of the year concentrated around Neuse River and Core Sound; 1 observed take (NCDMF) in Core Sound; more fishing effort in Core Sound but peak gillnet strandings in the Neuse River; co-occurrence in the Neuse River with landings dominated by hickory shad and shad, menhaden bait and striped bass that are generally targeted with small to medium/large mesh gear, respectively.
- Stratum 11 (Bogue Sound, White Oak River, and New River estuarine; NNCES and SNCES stocks). Review of information was focused on Bogue Sound based on the distribution of strandings. Of particular note: there were 3 gillnet strandings (minimum count) all in September/October and in Bogue Sound; co-occurrence with landings

dominated by jumping mullet, spot and flounders that are generally targeted with small and medium mesh.

- Two main areas of focus were identified for the SNCES stock:
  - Stratum 15 (coastal waters; SNCES and SM stocks). Of particular note: there were 8 gillnet stranding (minimum count) occurring year-round; 2 animals with gillnet gear on (small mesh, July and October, targeting Spanish mackerel and spot, respectively); co-occurrence with landings dominated by sea mullet, Spanish mackerel and spiny dogfish targeted with small and medium mesh, respectively (January-August) and Spanish mackerel and spot targeted with small mesh (September-October); fishing practices of note included a mean total gear length of 1,200-1,600 feet in some bimonthly periods, and mean soak durations of greater than 10-20 hours in some bimonthly periods.
  - Stratum 11 (Bogue Sound, White Oak River, and New River estuarine; NNCES and SNCES stock). For the same reasons as identified in the section discussing the NNCES stock.

M. Lyssikatos and B. Byrd emphasized the following: (1) a precautionary approach is needed to evaluate fishery impacts on small estuarine stocks; (2) known mortalities from strandings data are minimum counts and actual rates are likely higher based on carcass recovery rates; (3) NNCES bycatch continues to be well over PBR based on gillnet mortality estimates since 2007; (4) SNCES bycatch likely continues to approach or exceed PBR based on a minimum count of gillnet strandings since 2007; and (5) changes to management measures in Stratum, 6, 7, 11 and 15 likely offer the best chance of reducing gillnet mortality affecting NNCES and SNCES stocks, with additional benefits to the Southern Migratory stock.

S. Horstman followed up the presentation by reviewing the current gillnet regulations for North Carolina both in the Plan and implemented by NCDMF in support of the Plan. She reiterated the Team's focus for this meeting: To identify measures to reduce gillnet bycatch to below PBR per the MMPA required goals for both NNCES and SNCES stocks and to provide the Agency with consensus on specific recommended measures (regulatory and non-regulatory) to reduce NNCES and SNCES gillnet bycatch by at least 50%. S. Horstman identified Strata 6, 7, 11 and 15 as being of greatest concern to the Agency and invited Team members to identify potential measures for other strata as well. Points of discussion for the Team to consider during their discussions of each of these Strata were also identified. The presentation triggered extensive discussions for much of Day Two and Three. (See *Key Discussion Themes* section below for main discussion points.)

Team member comments centered on a handful of clarifying questions.

- **Presentation: North Carolina Observer Program.** Given past Team interest, Jacob Boyd and Chris Batsavage with NCDMF provided an overview of the state's gillnet fisheries observer program. Key presentation points included the following: (1) providing an overview of the NCDMF Observer Program impetus, history and staffing (launched in 2000, focus on commercial gillnet fishery); (2) reviewing the ESA-listed and marine mammal species found within state waters; (3) summarizing the current program's purpose, management units, methodologies and data collection protocols; (4) reviewing current and historical Incidental Take Permits implemented through NCDMF's observer program; and (5) reviewing the marine mammal incidental capture report that they have been working closely with NMFS to develop and implement, along with an associated training for all new and existing staff. NCDMF also presented information on observer coverage levels in 2014, 2015 and 2016, as well as information on trips, gear configurations, fishing effort and gear yardage observed by management unit. Finally, they presented information on the November 8, 2017, observed bottlenose dolphin take (small mesh gillnet gear, Core Sound, targeting spot) – the first in the state program's history.

Team members posed a number of clarifying questions and comments, including requests for additional data if possible (characteristics of observed takes in Bogue Sound, similar to what was presented for the federal observer data). NCDMF later provided a high-level overview of fishing practices, noting that detailed characterizations would take more time.

- **Presentation: Bay, Sound, and Estuary Stocks and Trap/Pot Fisheries Interactions.** Jessica Powell with the Southeast Region provided an overview of recent bay, sound and estuary (BSE) stock interactions with trap/pot gear to continue monitoring the minimum number of entanglements and determine BSE stocks of concern, as well as provide updates on the Crab Pot Working Group efforts to implement the Team's 2013 trap/pot gear consensus recommendations and next steps. Key presentation points included the following:
  - Trap/pot fisheries (Atlantic blue crab and stone crab trap/pot) are the main commercial fisheries interacting with BSE stocks from Florida to South Carolina. Strandings data is crucial to monitor entanglements because there is no fishery observer program for crab trap fisheries. Based on 2011-2016 strandings data for NC-FL, the majority of trap/pot gear entanglements (33 of 40, or 82%) were in commercial blue crab fishing gear; with 2 in commercial stone crab gear, and 5 in trap/pot gear with an unknown fishery type (i.e. target species).
  - J. Powell reviewed the gear characteristics (e.g. buoy line material, construction, diameter; buoy; etc) when available from trap/pot entanglements, as well as the seasonality of trap/pot entanglements by region. Most entangling gear included braided, nylon line with a single buoy. Line diameter varied by region. The data shows a small peak of

entanglements in Florida in late summer/early fall, but it does not suggest any overall significant trends tied to seasonality or gear type. J. Powell noted that the majority of entanglements are around the fluke/fluke insertion by buoy line.

- Based on a review of trap/pot entanglements from the most recent five-year time frame (2012-2016), there were 26 entanglements affecting 5 BSE stocks that were identified as stocks of concern given the number of entanglements relative to PBR of possible PBR range. Fifty-eight percent of them (15 of 26) were classified as a mortality and serious injury; the others were deemed non-serious or could not be determined. (All of the live animals with trap/pot gear entanglements that were determined to be not-seriously injured were a result of an intervention to disentangle the animal from gear). BSE stocks of concern meriting careful monitoring are: Charleston (16-26.7% of PBR); Northern Georgia/Southern South Carolina (12-20%); Southern Georgia (21.1%); Jacksonville (32-53.3%) and Indian River Lagoon (16-32%). J. Powell noted that these data represent minimum counts. Of note, from 2012-2016 within the Jacksonville Estuarine System stock, 6 of the 9 documented trap/pot entanglements were from the same two fishermen. There were no readily apparent differences in the gear characteristics involved with these 7 entanglements compared to others, but it is unclear what other potential differences and/or factors may be involved and play a role.
- The Crab Pot Working Group developed and implemented a template to gather and characterize information on regional trap/pot gear fishing practices and help to identify potential best fishing practices (2013 Team consensus recommendations). The information collection generated detailed information on regional gear characteristics, but the assembled data showed minimal regional differences between FL, GA, and SC, except for the use of bait and gear modifications based on dolphin pot-tipping behavior. The characterization also showed that there tends to be a 3-to-1 ratio of line length used to water depth in all regions; although in South Carolina, fishermen tend to fish in deeper water. Based on discussions to-date, the Working Group has identified the following potential best fishing practices: gear modifications to quickly shorten or lengthen buoy line and/or reduce the amount of line in the water column; deploying various strategies to reduce entanglements closer to the buoy; and gear modifications to reduce regional dolphin pot-tipping behavior in Florida.

J. Powell concluded the presentation by reviewing key challenges: (1) no current abundance estimates or PBRs for most BSE stocks; (2) minimum counts only of mortality based on stranding data, and mortality may exceed PBR if estimated; (3) no observer coverage and systematic coverage of fishery is challenging; (4) dolphin behavior that may lead to entanglements is not consistent across regions; and (5) it is unknown what other fishing practices and/or environmental factors may play a

role in entanglements. Among future actions, the Agency will continue to monitor trap/pot entanglements with BSE stocks; continue refining best fishing practices with the Working Group; pursue existing Team research recommendations related to stiffer line types; and coordinate with stranding networks and NMFS gear analysis team to standardize the type of gear collected from dolphins entangled in trap pot gear and how it is analyzed.

In addition to clarifying questions, Team member comments focused on the following primary points: (1) the potential for minimum counts of reported, entangled bottlenose dolphins to mask the extent of the problem; (2) the need to improve abundance and PBR estimates for BSE stocks; (3) concerns about excess line used in certain areas and times for the entanglement cases reviewed; and (4) a caution against extrapolating trap/pot entanglement stranding data across regions based solely on Wells et. al. 2015.

After reviewing and reiterating the next steps identified in the Agency's presentation, S. Horstman asked the Team whether there were additional thoughts or directions that the Agency should consider. The Team did not identify anything different than what the Agency identified in its presentation for future actions.

### ***C. Key Discussion Themes***

Per the Agency's goal and focus for this meeting, the Team spent the bulk of the meeting discussing North Carolina estuarine stock (NNCES and SNCES) interactions with North Carolina commercial gillnet fisheries. Deliberations focused both on potential regulatory and non-regulatory measures to reduce known mortality and serious injury from commercial gillnet entanglement in North Carolina. Team discussions resulted in a number of consensus recommendations, including regulatory and non-regulatory measures (see Section V).

Immediately below is a summary of key discussion points that shaped the Team's deliberations specifically for reducing gillnet gear interactions with NNCES and SNCES stocks in North Carolina state waters. Key themes, summarized below, centered on (1) range of challenges surfaced and discussed; (2) various regulatory measures considered; (3) numerous non-regulatory measures identified; and, (4) potential use of working groups.

- ***Range of considerations surfaced and discussed.*** Team members across all stakeholder perspectives voiced concerns with gillnet bycatch, focusing in particular on Strata 6, 7, 11, 15 and 14. In general, Team members pressed for the most significant regulatory measures in Stratum 7 and 15, suggesting that the small estuarine stock sizes, gaps in current regulations, a perceived increase in fishing effort and gillnet gear in the water which may be from an influx of fishermen from areas outside the immediate region and/or local fishermen switching gear types (e.g. from crab pots to gillnets), and the high number of gillnet takes relative to estuarine stock PBR warranted immediate attention to reduce bycatch. Ideas

discussed included various measures to reduce gillnet fishing effort and the amount of gear in the water including, nighttime fishing closures to limit soak durations, gillnet length restrictions, net attendance, expanding mesh sizes included in the fishing setback from shore, and/or limits on the total gear allowed in water or on fishing vessels. Other strata (6, 11, 14) were also seen as important to address because they encompassed solely NNCES and/or SNCES estuarine stock habitat, but data limitations and/or a lack of broadly supportable measures shaped the Team's focus on primarily non-regulatory measures in these strata. Discussions were also shaped by the following broad factors:

- **Fishing effort reduction.** While Team members broadly understood the merits of effort reduction as a likely strategy to reduce interactions with bottlenose dolphins, participants wrestled with the challenge of identifying measures that would provide a conservation benefit without unduly hurting the viability of existing fisheries – either by limiting access to areas and times when fishing is best or curtailing fishermen's flexibility when out on the water. The Team also discussed the concern of inadvertently adding more gear to the water and/or shifting fishing effort.
- **Compliance.** Discussions highlighted concerns related to potential areas of emerging non-compliance with Plan measures. Several Team members suggested the potentially declining compliance indicated a need for increased outreach to ensure fleet-wide awareness of Plan measures. Two specific suggestions for strengthening outreach included: (1) providing targeted information on the Plan as part of the annual fishing license or endorsement renewal process, and (2) conducting additional dockside outreach to ensure awareness of regulations, particularly in areas where there is evidence of non-compliance emerging and fishermen are switching gear types. There were also suggestions for stepped up enforcement to foster compliance with existing regulations.
- **Observer coverage.** Team members repeatedly cited the need to expand use of the North Carolina State Observer Program data to enhance and expand the understanding of gillnet interactions with dolphins in inshore state waters and fishery practice characteristics within those areas. Specific suggestions focused on (1) increasing state gillnet observer coverage within North Carolina internal waters (e.g., Stratum 6 and 11); (2) increasing federal observer coverage in southern North Carolina coastal state waters; (3) finding ways to harmonize and expand, as possible, the outputs of state and federal fisheries observer data sets to better inform the Team and Agency's understanding of gillnet fishing practices in North Carolina state waters and bottlenose dolphin interactions (while still recognizing distinctions among current data collection protocols between state and federal observer programs and their resulting data sets); and (4) NCDMF generating inshore gillnet mortality estimates for dolphins using their observer data, especially given the recent observed dolphin take by the state's program.

- **Data limitations for internal North Carolina state waters.** Team members suggested it was challenging to press for extensive regulatory recommendations in internal state waters given data gaps that make it difficult to reach firm conclusions regarding bycatch risk and mitigation. At least one Team member called for focusing efforts in Strata 6 and 11 as that has the greatest certainty regarding impacted stocks (solely SNCES and/or NNCES stock habitat). In particular, Team members discussed some regulatory measures in Strata 6 and 11 (e.g. limit soak duration, limiting fishery entrants etc). However, despite this area being pure estuarine stock habitat and the location of the recent observed take, there was uncertainty in the specific fishing practices in these areas and the level of mortality based on 3 gillnet strandings and no mortality estimate.
- **Enforceability considerations.** Team members discussed the feasibility of enforcing several measures under discussion. K. Moore with the U.S. Coast Guard noted that net length restrictions or distance-based gear-tending requirements are difficult to enforce at-sea. Instead, she noted that measures with easily tracked requirements (time or area restrictions, for example) are most readily enforceable.
- **Various regulatory measures considered.** Team members considered a wide range of potential regulatory measures to reduce gillnet bycatch of NNCES and SNCES stocks in North Carolina. Ideas focused primarily on (1) expanding existing regulations (e.g. net length requirements, fishing setback) in area, time, and to include more gillnet mesh size categories; and (2) reducing fishing effort, with some effort reduction measures (e.g. net attendance) having the dual benefit of increasing the likelihood of detecting and disentangling animals alive. Below is a summary of these measures discussed and, where applicable, the associated rationale for not incorporating them into recommended Team actions.
  - Expand current regulatory measures (Coastwide). Based on S. Horstman's upfront presentation, several Team members suggested expanding current regulatory measures to eliminate gaps in time, area, and gillnet mesh size categories. For example, there was broad support for applying the NCDMF's year-round 100-yard small mesh gillnet fishing setback to all gillnet gear mesh size categories (i.e. small, medium, and large mesh; with strike nets, runaround gear and drop nets exempted) to provide a safe-passage corridor for bottlenose dolphins from all gillnet gear along the North Carolina shoreline. Similarly, Team members suggested extending existing BDTRP gillnet gear length requirements that limit small mesh gillnet gear to less than or equal to 1,000 feet to all coastal state waters, seasons and gillnet mesh sizes in North Carolina. Team members agreed that these measures could be expanded without seriously impacting existing fishing practices and would have conservation benefit by reducing the amount of gear in the water

and in critical areas occupied by estuarine dolphins, while also aiding enforcement efforts.

- Prohibit night fishing in Stratum 15. Several Team members proposed limiting night fishing of small mesh gillnet gear in Stratum 15 (either year-round or September-December) as a way to limit soak time and minimize interactions. This suggestion was based on the long soak durations (e.g. > 10-20 hours in some bimonthly periods) documented in this area based on federal observer data and 8 gillnet strandings, including two animals with small mesh gear attached. This suggestion was seen to be consistent with similar existing regulatory measures in Stratum 7 (northern North Carolina state waters in the Plan), where night fishing is prohibited from April 15 to December 15 and conducted without tie-downs for the remainder of the year. Clear-cut prohibitions against night fishing were also seen to be more easily enforced. Feedback from fishermen in Stratum 15 suggested the approach would have significant financial impacts given that night-time fishing is more cost-effective and conducted at a time when many of the small mesh bottom feeding finfish species are easier to catch, especially for sea mullet, weakfish, and bluefish in this area. The suggestion was set aside due to significant industry concerns.
- Require gillnets be tended in Stratum 7 and 15. Several Team members suggested requiring that nets be tended to both reduce the amount of nets in the water and increase the potential of releasing entangled animals alive. The discussion was focused on the potential added conservation benefit that tending nets would make it more likely fishermen could respond quickly enough to release any disentangled bottlenose dolphins alive as they would be close enough to spot and readily respond to an entanglement. Specific suggestions put forward included requiring fishermen to remain within a quarter-nautical mile of gear, similar to other existing Plan requirements. Feedback from fishermen suggested the approach would limit their ability to set a net and move on to look for more fish to set, therefore constraining the amount of gear they could deploy and in one area (and in combination with extending the existing  $\leq 1,000$ ft net length requirement). One Team member noted the inability of being able to detect an entangled dolphin when nets are set to the bottom (i.e. the float is not visible to detect a disturbance as it is in a float net) and that fishermen would be going back to the net every 10-15 minutes to check for entangled dolphins because sharks are frequently entangled. Other concerns raised included that 0.25 nmi is difficult to judge on the water and the need to better define the term “tending”, as it could be subjective. Due to cross-stakeholder concerns, the suggestion of net tending was not pursued pending further discussion on the feasibility in a work group to be formed.
- Limit total yards of gear on board or being fished in Stratum 7 and 15. Team members discussed the potential of reducing bycatch risk by putting in place

effort reduction measures, focusing in particular on Strata 7 and 15. Two specific measures were considered: limiting total yardage of gear carried on board and/or limiting total yards of gear fished at any one time. In North Carolina, there is currently no requirement limiting the amount of gear fished or on the boat in coastal state waters (0-3 miles); the amount fishermen carry on board is based solely on what the net reel can hold. Some Team members voiced strong support for gear caps, suggesting such limitations could provide meaningful conservation benefits by helping to reduce overall effort and, thus, less gear in the water and entanglement risk potential. Industry members suggested that limiting total yards of gear on board may create a hardship for fishermen because they often have two net reels with different mesh sizes on board, giving them flexibility to adapt to target catch present. Discussions then turned to the amount of gear actually in the water, which was seen as the important factor for conservation benefits. Off-line discussions from impacted fishermen suggested such caps on yardage of gear fished and out to a certain distance from shore would be feasible in both Stratum 7 and 15 (the total yardage of gear fished and distance from shore was also recommended by fishermen). Preliminary information was reviewed from NCDMF commercial fish house sampling on the amount of gear being fished to help determine potential conservation benefit. Current yardage of gear fished suggested restrictions would, in fact, result in a reduction of gear in water without unduly impacting the fishery. [North Carolina DMF data showed that the range of maximum net length (yards) of small mesh (< 5 inch) gillnets fished North of Cape Hatteras in coastal state waters was 1,500-2,000 yards; south of Cape Hatteras, the range of total yards fished was 100-2,400. Off Cape Hatteras, data from 2011-2017 found that the maximum yardage that was sampled for a small mesh ocean gillnet was 3,000 yards with a water depth between 26-37 meters, with species sampled including Atlantic croaker, kingfish, smooth dogfish, and weakfish]. Limiting the amount of yards fished within a specified distance of shore (1.5 nautical miles in this case) was seen as a specific conservation benefit to the North Carolina estuarine stocks, as this area would encompass the distance from shore the stocks would expect to be found. A requirement to limit total gear yardage was seen as a complement to other measures focused on expanding current regulations (i.e., limiting individual gillnet length to ≤ 1,000ft and the 100-yd fishing setback).

- Fishing permit/license capping. Team members struggled to address an ongoing challenge: the potential for fishermen from more distant ports to shift to new areas or local fishermen to shift to new gear types, thereby increasing risk to bottlenose dolphin by adding gear to the water. To address such concerns, some participants suggested the Team consider ways to limit overall effort in North Carolina state waters. Permit-capping was briefly discussed, but was dismissed given the limitations of such an approach within North Carolina's regulatory structure. One Team member suggested that the Team consider devising a protocol to craft aggregate fishing net

volume limits within distinct geographies and then empower industry to propose methods to achieve compliance consistent with the overall net volume cap. Team members suggested such an approach would require both extensive outreach and discussion with industry and development of new analytic methods or metrics before it could be seriously considered as a Team recommendation.

- Prohibit gillnet gear fishing in Stratum #14. One participant suggested the Team consider prohibiting all gillnet gear in internal waters of Stratum #14, with similar existing exceptions for actively fished gillnets (e.g. runaround, strike nets). The rationale for this suggestion was given the small estuarine population size (SNCES), historic takes in the area that would likely extrapolate out to be over PBR and the need to reduce bycatch for this stock overall, and Stratum 14 would reach a directed portion of the SNCES stock habitat. Several industry members saw this as a “net ban” and suggested the proposed ban was not warranted given the lack of takes in recent years and the need for more discussion with industry to better understand the potential impacts to the participants in this area. Instead, Team members agreed to support a working group to better understand the NCDMF’s current regulations in state waters and identify possible strategies to consider in future Team deliberations.
- ***Numerous non-regulatory measures raised for consideration.*** In addition to the two working groups discussed above, Team members brainstormed a range of non-regulatory measures intended to address key information gaps, strengthen compliance with existing measures, ensure the full range of stakeholder perspectives are considered, improve potential to respond to and release entangled dolphins alive, develop strategy/plan to discourage discarding fish in the presence of dolphins, and strengthen state/federal coordination and data gathering and analysis. Specific measures discussed included the following: (1) evaluate broadening the boundary of the Northern Migratory stock north into waters off New York State and adjusting Team membership and Plan scope as needed; (2) expanding and enhancing outreach efforts to improve awareness of and compliance with Plan regulations; (3) including watermen in future abundance surveys to improve industry’s awareness, understanding and buy-in to population estimation methodologies; (4) provide training to improve fishermen’s ability to respond to an entanglement (including the information needed to sufficiently document and report) as they are most likely to be in a position to quickly assist an entangled animal(s) or reach out to appropriate contacts within the stranding network; (5) work with NCDMF to generate gillnet mortality estimates for inshore state waters using their observer data; (6) expediting the forthcoming abundance estimate for the SNCES stock; and (7) coordinating with NCDMF to characterize fishery practices within inshore state waters using the state’s observer program data

- ***Working groups offer pathway to better understand potential mitigation measures and feasibility.*** Given both the strong interest in and concerns with net tending and other possible mitigation measures within North Carolina inshore waters for estuarine stocks, Team members considered and agreed to two working groups to more fully explore the potential and drawback of certain mitigation measures.
  - In response to the interest in net-tending, Team members agreed to convene a cross-interest working group to explore options for potential future net-tending requirement. Work group focus is to include but not be limited to: operational feasibility (by gear type); identifying tending and/or monitoring requirements (by gear type); applicable geography; experience with existing BDTRP tending requirements in other states; experience in other regions, states, fisheries; and whether net-tending increases the potential for safe handling and release of bycaught dolphins.
  - In response to the interest in additional regulatory measures for Strata 6,11 and 14, Team members opted instead to recommend a second work group to (1) more fully understand the suite of existing regulations for all North Carolina internal waters; (2) consider the forthcoming abundance estimate for the SNCES stock and summarized seasonal and spatial distribution of the stock; (3) coordinate with NCDMF to consider potential future mortality estimates for internal waters; and then (4) identify necessary mitigation measures (including for Bogue Sound) to further reduce bycatch to North Carolina estuarine stocks.
  
- ***Other topics.*** Other topics surfaced during Team deliberations included the following:
  - Explore the ability to coordinate with NCDMF as was done previously to implement regulatory measures through their proclamation process as a way to more quickly and adaptively implement conservation measures for dolphins.
  - Encouraging fishermen to reduce discards when bottlenose dolphin are present and, as needed, address North Carolina regulations that require regulatory discards.
  - Encouraging fishermen to retrieve and provide to NMFS any gear involved in bottlenose dolphin interactions. Such gear can then be examined by NMFS gear experts to try and identify both the fishery type and any possible characteristics that make entanglement more likely.
  - Prioritizing efforts to more fully understand stock genetics to genetically distinguish stocks (and assign bycaught animals to stock). L. Garrison noted that the Agency has made considerable progress but the rate-limiting factor is knowing where the SM stock is in order to obtain “pure stock” samples. This requires a concerted effort to understand the movements of the stock and should be a next step. This work process would require considerable

effort, likely about 2 years, including 2-3 seasons of concerted effort to target and sample the stock.

## **V. BDTRT CONSENSUS RECOMMENDATIONS**

Based on its deliberations, the Team unanimously agreed to a number of consensus recommendations – both regulatory and non-regulatory – focused on reducing mortality and serious injury of North Carolina estuarine stocks (NNCES and SNCES) from commercial gillnet interactions in North Carolina state waters. Key drivers shaping the Team’s recommendations centered on the following:

- Reducing commercial gillnet fishing effort in ways and areas that balance needed conservation benefit with industry considerations
- Expanding some existing regulatory measures intended to reduce the amount of gillnet gear in the water to offer additional conservation benefit in times and areas occupied by the NNCES/SNCES stocks.
- Improving compliance through improved education, outreach and enforcement
- Enhancing coordination with NCDMF to (1) Improve cohesive understanding of gillnet fishery practices in both inshore and nearshore coastal North Carolina state waters by combining analysis of state and federal Observer Program data to characterize fishing practices and effort that are most likely involved in bycatch and (2) provide estimate of dolphin gillnet mortality for inshore state waters
- Convening working groups to address areas of concern that currently lack sufficient information and data to inform potential management measures

Effort-reducing regulatory measures centered primarily on reducing gillnet mortality and serious injury to the NNCES and SNCES stocks in Strata 7 and 15 (North Carolina coastal state waters), while also providing conservation benefits to the SM stock during half of the year when the stock is present. Recommendations to expand existing regulatory measures were suggested for North Carolina waters coastwide to also benefit the NNCES and SNCES stocks more holistically, as well as the SM stock. Most recommendations necessitate amending the existing Plan; while some have potential consideration for exploring implementation with NCDMF via the North Carolina proclamation authorities. Non-regulatory measures had a wider geographic reach, extending beyond implementation in North Carolina state waters in some cases.

The Team’s full regulatory and non-regulatory consensus recommendations, as agreed to during the Team meeting, are provided on the following pages.

**BDTRT Consensus Recommendations**  
(as confirmed at December 2017 Team meeting)

**Coastwide: North Carolina Only (coastal state waters)**

1. Regulatory: All gillnet gear (small, medium, large mesh) subject to 100-yard fishing setback year-round
  - o Exempt strike nets, runaround gear, or drop nets that are used to surround fish and immediately retrieved (language currently included in NCDMF Proclamation)
2. Regulatory: Extend existing BDTRP gillnet gear length requirement ( $\leq 1,000$  feet) to coastwide, year-round, and for all small, medium and large mesh gillnets [use same regulatory language in Plan]
3. Non-regulatory: Convene cross-interest working group to explore options for potential future net-tending requirement. Work group focus to include but not limited to:
  - a. Operational feasibility (by gear type)
  - b. Monitoring requirements (by gear type)
  - c. Applicable geography
  - d. Experience with existing BDTRP tending requirements in other states
  - e. Experience in other regions, states, fisheries
  - f. Potential for safe handling and release of entangled dolphins

**North Carolina Internal State Waters**

1. Non-Regulatory: Convene working group to more fully understand the suite of existing regulations for all internal waters; spatial and temporal distribution of estuarine stocks, especially SNCES; consider latest mortality estimates when developed for internal waters; and identify necessary mitigation measures (including Bogue Sound). Work group timing to be determined.

**Stratum 7 Only**

1. Regulatory: Measures #1 & 2 identified in coastwide section above
2. Regulatory: Cap on total gillnet gear fished at any one time of 1,600 yards between 100 yards of beach extending to 1.5 nautical miles offshore (small, medium, large mesh gillnets)
  - a. Geographic area defined: From NC/VA border to Cape Lookout (specific latitude/longitude needed as currently included in the Plan)
3. Non-regulatory: Increased education, outreach on existing regulatory measures for compliance
4. Non-regulatory: Potentially increase enforcement as needed of current regulations

**Stratum 15 Only**

1. Regulatory: Measures #1 & 2 identified in coastwide section above
2. Regulatory: Cap on total gillnet gear fished at any one time of 1,200 yards between 100 yards of beach extending to 1.5 nautical miles offshore (small, medium, large mesh gillnet)
  - a. Geographic area defined: From New River to South Carolina State line (specific latitude/longitude needed)
3. Non-regulatory: Expedite forthcoming SNCES abundance estimate

**BDTRT Consensus Recommendations**  
*(as confirmed at December 2017 Team meeting)*

**Stratum 6 and 11 Only**

1. Non-regulatory: Evaluate and analyze applicable fishery characteristics using NCDMF observer data to improve understanding of fishery practices within waters associated with Strata 6 & 11
2. Non-regulatory: Recommend increases in NCDMF state observer coverage as warranted
3. Non-regulatory: Use NCDMF state observer data to generate mortality estimates for internal waters. Encourage NCDMF to estimate bottlenose dolphin bycatch from their program and consistent with federal MMPA estimation; in coordination with NMFS

**Cross-Cutting Recommendations**

1. Non-regulatory: Increased education/outreach on all BDTRP regulations to improve compliance
  - a. Link to annual license or endorsement renewal
2. Non-regulatory: Consistent with other applicable regulations and when and where it is possible to do so without state and federal regulations, discourage discarding fish in presence of dolphins (add caveat for “live” discards)
  - a. Consider need for North Carolina state proclamation to allow for temporary holding of discards (while dolphins in area)
  - b. Consider incorporating into additional training components on additional ways to reduce bycatch
3. Non-regulatory: Provide disentanglement training and outreach for fishermen coupled with expectation of reporting
  - a. Provide training on photo-identification to capture fin images of disentangled animals; and photo-documentation and video of entanglement lesions and nature of entanglements
    - i. Provide video documentation of event in order for NOAA to conduct serious injury determination
  - b. Invite fishermen to Sarasota Dolphin Research Program capture-release health assessments for training on safe handling
  - c. Strategies to decrease bycatch (discards, etc. see #2 above)
  - d. Retrieve and retain carcasses for necropsy
4. Non-regulatory: Broaden geographic scope of Plan, Team members and data gathering (as needed) to address NY waters (as related to Northern Migratory stock)
5. Non-regulatory: Include watermen participation in mark-recapture abundance survey efforts
6. Non-regulatory: Investigate ways to harmonize/integrate state/federal observer data to better understand fishery interactions and their consequences
7. Non-regulatory: Observer Program-related
  - a. Consider potential for increasing coverage in southern North Carolina
  - b. Encourage NCDMF to estimate bycatch from their program and to be consistent with the federal observer program and in coordination with

NMFS

## VI. PUBLIC COMMENT

Opportunities for public comment were also provided on each of the three meeting days. There were no public comments on any of the days.

## VII. NEXT STEPS

Based on the discussions, the meeting generated the following next steps:

- **Working Groups.** Based on the discussions and consistent with the Team's consensus recommendations, NMFS is to convene two Work Groups in the coming months: one to address the viability of net-tending regulations and a second focused on North Carolina internal waters. Agency staff is to solicit interest in Work Groups from all Team members, including those unable to attend the in-person meeting. The following Team members voiced interest at the in-person meeting in participating on one or both work groups:
  - Net-Tending Working Group: Bill McLellan, Randy Wells, Red Munden, Courtney Vail, Dennis Heinemann, Alex Costidis and Joey Frost
  - NC internal waters Working Group: Sonny Gwin, Red Munden, Bill McLellan and Joe Speight; Sammy Corbett's participation was also suggested though he was not in attendance

Working Groups are expected to meet in the coming year, with the exact timing to be determined.

- **Future Team Meetings.** NMFS anticipates holding a BDTRT webinar in approximately year from now to provide updates on any Plan-related actions. Team members offered the following recommendations to foster stronger participation by fishermen (all steps the Agency notes it is already undertaking): (1) avoid active fishing seasons; (2) host in-person meetings in areas closer to where gillnetters fish (e.g., Virginia, North Carolina, etc.); and (3) consider subgroups between meetings to get more input. One Team member also asked that the Agency explore the viability of paying fishermen for service on the Team given that they are foregoing income to participate.
- **Key Outcomes Memorandum.** CONCUR is to distribute for Team comment and review a Key Outcomes Memorandum summarizing primary discussion points, consensus actions and next steps. Team members are asked to flag errors and glaring omissions.
- **Meeting Materials.** Copies of meeting materials can be requested by contacting Stacey Horstman at 727-824-5312 or [Stacey.Horstman@noaa.gov](mailto:Stacey.Horstman@noaa.gov).

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.