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M E M O R A N D U M

DATE: February 23, 2016
TO: Chris Moore
FROM: Jason Didden *JDD*
SUBJECT: Blueline Tilefish Catch Time Series

To help develop a Mid-Atlantic blueline tilefish catch time series, the Council contracted with Southwick Associates to conduct a modified Delphi Process with individuals familiar with the Mid-Atlantic blueline recreational tilefish fishery. The goal was to estimate recent blueline tilefish landings. The Delphi Process produced blueline tilefish landings estimates for 2015 for the headboat, charter, and private blueline tilefish fisheries. A report is forthcoming, but this memo summarizes the Delphi Process findings, as well as staff’s recommended use of the results to create a blueline tilefish catch time series. This memo also uses the NMFS Northeast Dealer reports to develop a commercial landings time series. Staff intends for this memo to inform work being conducted regarding potential blueline tilefish Acceptable Biological Catches (ABCs), and all information should be considered preliminary.

The Delphi workshop resulted in the following estimates for 2015 blueline tilefish catch:

	Number of Fish Caught in 2015	
	Low	High
Charter Boats	10,770	17,000
Headboats	15,410	17,152
Private anglers	6,160	16,493
TOTAL	32,340	50,645

For a single number for 2015, staff recommends using the following for each part of the fishery:

Charter boats: 10,770 fish – this was the estimate generated during the Delphi meeting, and represented the participants’ best estimates of how many charter boats participated in the blueline tilefish fishery at various intensities and catch success rates. The participants’ pre-meeting survey results were higher (approximately 17,000), but that may have been the result of their extrapolating their own “hi-liner” experiences to other vessels rather than considering the activity of other vessels more directly, as was done during the meeting (on an area by area basis - Virginia Beach through Long Island). For comparison, the 2015 Vessel Trip Report (VTR) landings of blueline tilefish by charter boats was 1,798 fish.

Headboats: 16,281 fish. This is the midpoint of the participants’ reports from themselves and an extrapolation to account for headboats not included among the Delphi participants but identified by the participants. For comparison, the 2015 VTR landings of blueline tilefish by head boats was 11,636 fish. Given that the majority of headboat vessels with substantial blueline tilefish landings were at the Delphi panel, that their landings are recorded in VTR reports, and that the other headboats would be expected to have lower landings than the primary participants, a middle value is recommended.

The nearly 6-fold increase (5.99) in results from the Delphi process for charter boats and 40% greater findings for headboats is consistent with staff’s understanding of under-reporting issues in the blueline tilefish fishery based on public input at meetings and personal communications with fishery participants. Up until June 2015, vessels with other Northeast permits should have been reporting blueline tilefish but there was no specific permit needed for blueline tilefish.

While the additional attention to blueline tilefish in 2015 has been followed closely by some fishery participants, it does not appear to staff that reporting has dramatically changed for blueline tilefish – similar numbers of charter and headboats reported some blueline tilefish landings in both 2014 and 2015 (15 charters in both years, 9 headboats in 2014 and 8 headboats in 2015). Therefore it appears reasonable to staff to carry the 2015 ratios of Delphi results to VTR data back in time for when blueline charter/party VTRs exist (beginning in 2003 – see below). Staff did switch some trips from one vessel in 2007 from charter to head boat because that vessel’s landings created an outlier, and most trips from that vessel in 2007 appeared to be more consistent with headboat-type fishing.

Staff reviewed the Delphi process results regarding private vessel fishing, which produced a range of 6,160 to 16,493 fish. Staff also reviewed results from the large pelagic survey, which found that from 2011-2015, private boats kept 59% of what charter boats kept for blueline tilefish, but this is only from trips targeting HMS species. Applying this percentage to the recommended 10,770 fish charter boat number would result in 6,354 fish. The Delphi participants also concluded during the workshop that there were 119 charter boats that catch blueline tilefish to some degree (as part of the charter estimate suggested above), and averaging the results of headboat (1.8), charter (1.0), and private (1.1) Delphi participants' collective group estimates of the ratio of private boats to charter boats results in 1.3 private boats for each charter boat. The workshop also found that the typical private boat caught 77 fish per year: $119 \text{ boats} * 1.3 * 77 \text{ fish} = 11,912 \text{ fish}$.

Southwick Associates indicated that their range for private catch may tend slightly toward the high side given the avidity of the participants, so considering the above information, staff suggests using the midpoint of 11,326 fish, which is slightly below the calculated 11,912 fish described above. The ratio of private to charter boat catch would thus be $11,326/10,770 = 1.0516$.

Staff also considered discarding in the blueline tilefish fishery. Delphi participants report that minimal discarding occurs (all fish would be dead) and VTR reports over the last 5 years suggest a 2% discard rate. The table below combines the charter, headboat, private, and discard information to construct a recreational catch time series.

Table 1. Proposed 2003-2015 Recreational Time Series for VA-MA (numbers of fish)

Year	Charter VTR	Headboat VTR	Adjusted Charter (5.99X)	Adjusted Headboat (1.40X)	Private (105.16% of Charter)	Total landings	Total Catch (2% Discards)
2003	Confidential but low - 2003-2006 data averaged for annual total amounts					211	215
2004						211	215
2005						211	215
2006						211	215
2007	500	2,498	2,995	3,495		6,490	6,623
2008	216	391	1,294	547		1,841	1,878
2009	313	3,861	1,875	5,402		7,277	7,426
2010	159	2,127	952	2,976		3,928	4,009
2011	324	3,261	1,941	4,563	2,041	8,544	8,719
2012	381	9,670	2,282	13,530	2,400	18,212	18,584
2013	711	11,127	4,259	15,569	4,479	24,306	24,802
2014	983	14,866	5,888	20,800	6,192	32,881	33,552
2015	1,798	11,636	10,770	16,281	11,326	38,377	39,160

Staff also examined dealer weighout data to develop a commercial time series for landings north of the North Carolina-Virginia border. For years with blueline tilefish data (1999-2014), staff examined the NMFS dealer weighout “AA” tables. The “AA” tables have area information integrated via a matching process with VTR information. Staff removed landings from statistical areas south of the North Carolina-Virginia border and landings without area information landed in North Carolina. Virginia landings without area information were multiplied by .89 because commercial VTR information suggested that 89% of Virginia VTR catch with area information came from areas north of the North Carolina-Virginia border. Landings into states north of Virginia without area information were included fully as being from north of the North Carolina-Virginia border. Landings coming from statistical areas 631 and 632 (which straddle the North Carolina-Virginia border) were apportioned half to north of the North Carolina-Virginia border and half south. While VTR data suggest that 67% percent of catch in these areas comes from north of the North Carolina-Virginia border, the VTR information does not capture all of the landings from these areas, 81% of which went into North Carolina, so staff judged that lowering the percent from 67% to 50% seemed reasonable. Also, in terms of latitude, the 631 and 632 statistical areas are 55% off of North Carolina. All 2015 preliminary landings (they have not been added to the AA tables yet) from Virginia north were included as being north of the North Carolina-Virginia

border, which should be a reasonable proxy for 2015 given the existing management measures in place for waters south of the North Carolina-Virginia border. The resulting time series is presented below, and represents the landings in the NE dealer weighout database that can be attributed to the areas north of the North Carolina-Virginia border. Reported VTR discards of 1% are also included (blueline tilefish discards are not estimated in the SBRM). Minimal discarding incentive should exist, but staff will perform additional analyses of observer data to see if additional information can be obtained on discarding.

Table 2. Commercial Landings from North of North Carolina/Virginia Border.

YEAR	Pounds Landed	Pounds Caught
1999	33	33
2000	2,446	2,471
2001	935	944
2002	304	307
2003	6,212	6,274
2004	7,332	7,406
2005	4,164	4,206
2006	28,153	28,437
2007	25,835	26,095
2008	7,803	7,881
2009	38,813	39,205
2010	7,365	7,439
2011	17,494	17,670
2012	40,856	41,268
2013	33,275	33,611
2014	201,977	204,017
2015	73,637	74,381