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10 April 2012

Ned Cyr, Ph.D.  
Director, Office of Science and Technology  
NOAA Fisheries, 12<sup>th</sup> Floor  
1315 East West Highway  
Silver Spring, MD 20910

Dear Dr. Cyr;

The purpose of this letter is to inform you of the outcome of the recent workshop held in Raleigh, NC, on March 27-29 2012. The overall purpose of the workshop was to develop a methodology for matching catch estimates derived from the old Marine Recreational Fishing Statistical Survey (MRFSS) with estimates derived from the new Marine Recreational Information Program (MRIP) to use in stock assessments and fisheries management. I was contracted by your office to chair the steering committee for the workshop, as well as the workshop itself. I will draft a full report of the workshop proceedings, with the assistance of selected workshop participants, which I expect to have completed by the end of April 2012.

*Preparations for the Workshop*

In anticipation of the release of re-estimated marine recreational catch statistics dating back to 2004, based on the new methodology developed under MRIP, a steering committee was formed in August 2011 to develop terms of reference and, eventually, an agenda and speakers list for the so-called MRFSS/MRIP Calibration Workshop. Committee members initially included representatives from your office (Ron Salz), the Northeast Fisheries Science Center (Jim Weinberg), the Northeast Regional Office (Sarah Heil), the Southeast Fisheries Science Center (Steve Turner), the Southeast Regional Office (Andy Strelcheck), and the NOAA Fisheries Office of Sustainable Fisheries (Wes Patrick). The committee developed the following three terms of reference for the workshop:

1. Review ongoing and completed studies comparing MRFSS methodologies to those slated for use in MRIP, and propose any additional work that would further facilitate MRFSS/MRIP calibration.
2. Propose a methodology for calibrating MRFSS data to MRIP data, based on the years in which paired estimates are available (currently expected to be 2004-2011), and demonstrate how it would work in hind-casting catch and effort for select data sets (pre-2004).
3. Recommend a plan for implementing the calibration methodology into updated and benchmark stock assessments.

The committee also developed a list of working paper topics associated with the terms of reference, as well as background paper topics that would help facilitate discussions at the workshop, in close coordination with the potential authors of those papers. The committee anticipated that some of the papers could be prepared and distributed ahead of the workshop, while others would be prepared following the workshop, based on agreements reached by the workshop participants on their contents.

At this point, the committee agreed (with permission from NOAA Fisheries leadership) to invite the Southeast Data, Assessment, and Review (SEDAR) program to co-sponsor the workshop and become a member of the steering committee. The SEDAR program handled the travel arrangements for non-federal attendees, the venue for the meeting, and the meeting room and catering logistics. The Mid-Atlantic Fishery Management Council handled the web broadcast.

The workshop agenda was designed to address the three terms of reference and allow time for presentation of the background working papers. The finalized workshop agenda, including speakers, is attached (Attachment 1).

### *Workshop Proceedings*

All working papers prepared prior to the workshop, as well as presentations made at the workshop, are posted on the SEDAR website:

[http://www.sefsc.noaa.gov/sedar/Sedar\\_Documents.jsp?WorkshopNum=002&FolderType=Data](http://www.sefsc.noaa.gov/sedar/Sedar_Documents.jsp?WorkshopNum=002&FolderType=Data)

A total of 39 people attended the meeting in person (Attachment 2), while another 48 individuals participated via the web (Attachment 3). All the sessions were also recorded (audio and what was being projected on the meeting room screen); the recording will be made available on the SEDAR website.

### *Workshop Outcomes*

The following consensus statements related to matching MRFSS-derived catch estimates with estimates derived from the new MRIP methodology are as follows:

1. There is a need to re-estimate the marine recreational catch for years prior to 2004.
2. Officially re-estimated catch data represent the best available data and should be used, to the extent available, in stock assessments.
3. Updated and benchmark stock assessments should increase coefficients of variation (CVs) for hind-casted recreational catch estimates, based on 2004-2011 relationships. The methodology for increasing the CVs is still to be determined, but a first order approximation would be to use the ratio of the CVs generated by the MRFSS vs MRIP estimation methodologies for 2004-2011.
4. Prior to 2004 (or whichever year is the first year for which direct re-estimates are available, since ST is still working on re-estimation for years prior to 2004), hind-casted catch data should use a ratio (MRFSS/MRIP) estimator, either constant throughout hind-casted time series

or trended, based on ancillary information. This approach would not preclude more extensive species-specific approaches, but would be a default "acceptable" approach if other procedures are not available. For species that are rare in the catch and have high variance in the estimate of this ratio, then using the ratio for other related species may be prudent.

5. Until there is a new (updated or benchmark) stock assessment, the new MRIP-derived catch numbers should be adjusted to be in the same scale as catch numbers used for calculating the current recreational annual catch limits (ACLs). When these stocks are re-assessed, then ACLs and catch tracking would switch to the MRIP basis.

6. For data poor stocks that have developed ACLs on the basis of historical catch, the same methodology should be used to recalculate these ACLs, but with MRIP re-estimated numbers where available, and adjusted MRFSS numbers for earlier years. Until these recalculations can be completed, the procedure in #5 above can be used.

7. Caution is urged regarding applying MRFSS/MRIP ratios on a scale smaller than the spatial scale of the stock. Uncertainty in the estimates will increase in direct relation to the diminution of scale.

8. Integration of new numbers should not require a full benchmark stock assessment. An update should be sufficient if the magnitude of the "bias" is relatively small, recreational catches do not dominate the overall catch, and major changes in the age composition (induced by re-weighting of the intercept biological samples) do not occur. If re-weighting occurs, then there is the potential for changes in the selectivity pattern for the fishery, which may have implications for biological reference points (BRPs) and may then require a new benchmark assessment.

9. The above recommendations are based on the re-estimation of the MRFSS intercept data and represent the current state of the best science information available. Ongoing work on revision to the effort data collection procedures could result in future recommendations for revision of historical effort estimates. Implementation of the current set of revisions based on the intercept data should not be delayed to wait for possible revisions based on the effort data. The potential effects of revisions to the biological data could be important if the age or size structure of the recreational landings and discards change.

Since the new MRIP methodology for catch estimation has already undergone independent peer review, and the applications proposed at the workshop only involve applying ratio estimators to adjust the MRFSS time series to match the MRIP time series (and vice versa), the workshop attendees saw no need to subject the consensus recommendations listed above to further independent peer review. A peer review may be needed, however, if a methodology is developed to expand the variance estimates for catch in hind-casted years.

The sequential release of MRIP data may cause some inconsistencies in the provision of scientific advice. These inconsistencies may arise if adjustment factors derived from the 2004-2011 data are different than estimators derived from the 1998-2011 data (assuming ST can successfully develop re-estimates for 1998-2003). If the entire data set is ultimately available, then we can compare hind-casted values with the revised estimates as a check for consistency. Similarly, changes in selectivity could occur when the length samples are revised. As noted previously, changes in selectivity could result in some changes to the BRPs, which could then

require new benchmark assessments.

### *Follow-Up Actions*

The workshop participants agreed that a working group should be formed to: (1) establish a priority in each region for which species assessments should be updated to incorporate the new MRIP-derived catch estimates; and (2) develop a technical approach (or approaches) to hind-casting and forecasting catch estimates. Members of the working group should be representatives from the two NMFS science centers, the two interstate management commissions, and your office (S&T). Work on both tasks should be completed by May 1<sup>st</sup> to accommodate the timetable for pending updated and benchmark assessments. [As of this date the following people have been named to the working group: Katie Drew (ASMFC), Gregg Bray (GSMFC), Tim Miller (NEFSC), Erik Williams and John Walter (SEFSC), and Ron Salz (ST)].

I am still waiting for the full set of notes from the workshop rapporteurs, and anticipate completing a draft of the full report of the workshop by the end of April, but I wanted to get the conclusions from the workshop to you as soon as possible.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "John Boreman", with a long, sweeping horizontal line extending to the right.

John Boreman, Ph.D.

Chair, MRIP Executive Steering Committee

Chair, MRFSS/MRIP Calibration Workshop

cc: MRIP Leadership Team, MRFSS/MRIP Calibration Workshop Steering Committee

Attachments (3)

## **MRFSS/MRIP Calibration Workshop: Agenda**

### *Day 1*

- 1300 – 1320 Welcome and Introductions (J. Boreman)
- 1320 – 1340 Overview of MRFSS/MRIP comparisons of 2004-2011 estimated catch and effort (J. Foster)
- 1340 – 1400 Discussion
- 1400 – 1420 How the transition from the MRFSS-based survey to the for-hire survey undertaken in 2003 was handled (V. Matter)
- 1420 – 1430 Q and A
- 1430 – 1450 Lessons learned from the calibration of ALBATROSS IV to BIGELOW trawl survey data (R. Brown and P. Rago)
- 1450 – 1500 Q and A
- 1500 – 1520 The switch from MRFSS to the new RecFin methodology in 2003-2004 (D. Van Voorhees and H. Lai)
- 1520 – 1530 Q and A
- 1530 – 1550 Refreshment Break
- 1550 – 1630 Changes to the sampling design and estimation methodologies that are anticipated when MRIP is fully implemented in 2013, including descriptions of the completed and ongoing MRIP-funded projects that could potentially impact MRFSS/MRIP calibration efforts (R. Andrews and R. Salz)
- 1630 – 1640 Q and A
- 1640 – 1700 Open Discussion of Day 1 Topics
- 1700 – 1730 MRIP data sets and analysis methods (J. Foster)

### *Day 2*

- 0830 – 0850 Recap of Day 1 presentations and discussion (J. Boreman)
- 0850 – 0910 Issues associated with how changes to historical recreational catch and effort data influence derivation of biological reference points in benchmark stock assessments (R. Methot)
- 0910 – 0920 Q and A
- 0920 – 0940 Impacts of re-estimates on NEFSC stock assessments (NEFSC staff)
- 0940 – 0950 Q and A
- 0950 – 1010 Impacts of re-estimates on SEFSC stock assessments (SEFSC staff)
- 1010 – 1020 Q and A
- 1020 – 1040 Refreshment Break

1040 – 1120 Proposed methodology or methodologies that could be used to hind-cast MRIP-based estimates prior to 2004 (J. Foster, J. Breidt, J. Opsomer)

1120 – 1130 Q and A

1130 – 1220 Open Discussion of proposed methodologies and agreement on approach

1220 – 1330 Lunch Break

1330 – 1700 Continue discussion

1700 – 1730 Wrap-up Day 2

### *Day 3*

0830 – 0850 Recap of Day 2 presentations and discussion (J. Boreman)

0850 – 0920 Proposed process and constraints to incorporating MRIP-based estimates into stock assessments (J. Carmichael, J. Weinberg, J. Coakley)

0920 – 0930 Q and A

0930 – 1030 Open discussion and agreement on approach

1030 – 1050 Refreshment Break

1050 – 1200 Workshop wrap-up (second thoughts, writing assignments, timeline for completion of workshop report, procedure for peer review and updates for its terms of reference, etc.) (J. Boreman)

**MRFSS/MRIP Calibration Workshop:  
In-Person Attendance**

Alexi Sharov, DNR, MD  
Carolyn Belcher, DNR, GA  
Cynthia M. Jones, ODU, VA  
Dave Van Vorhees, NMFS, MD  
Erik Williams, NMFS, NC  
John Foster, NMFS, MD  
Gary Shepherd, NMFS, MA  
Greg Stunz, TX A&M, TX  
John Carmichael, SEDAR, SC  
Jason T. Didden, MAFMC, DE  
John Boreman, MRIP, NCSU, NC  
John Froeschke, GMFMC, FL  
John Walter, NMFS, FL  
Kari Fenske, SEDAR, SC  
Katie Drew, ASMFC, VA  
Laura Lee, DENR, NC  
Mike Errigo, SAFMC, SC  
Mike Murphy, FWC, FL  
Paul Rago, NMFS, MA  
Nick Farmer, NERO, FL

Phil Haring, NEFMC, MA  
Pres Pate, MRIP, NC  
Rick Methot, NMFS, WA  
Rob Andrews, NMFS, MD  
Ron Salz, NMFS, MD  
Steve Turner, NMFS, FL  
Timothy Miller, NMFS, MA  
Tom Sminkey, NMFS, MD  
Vivian Matter, NMFS, FL  
Wes Patrick, NMFS, MD  
Ben Hartig, SAFMC, FL  
Matt Cieri, DNR, ME  
David Cupka, SAFMC, SC  
Jeffrey Brust, DEP, NJ  
Kathy Knowlton, DNR, GA  
Ryan Rindone, GMFMC, FL  
Mac Currin, SAFMC, NC  
Dick Brame, CCA, NC  
Ken Pollock, NCSU, NC  
Gregg Bray, GSMFC, MS

## MRFSS/MRIP Calibration Workshop: Web Attendance

Gordon Colvin, NMFS, MD  
 Scott Ward, Fifth Estate, DC  
 Tony Kratowicz, PA  
 Dick Brame, CCA, NC  
 Beverly Sauls, FWCC, FL  
 Lewis Gillingham, VMRC, VA  
 Moira Kelly, NMFS, MA  
 Andrew Cox, Billfish Foundation, FL  
 Chris Wilson, NCDMF, NC  
 Ed Bracken, NJ  
 Ray Mroch, NCDMF, NC  
 Sonya Davis, VMRC, VA  
 Ed Zlokovitz, MDDNR, MD  
 John Depersenaire, RFA, NJ  
 Forbes Darby, NMFS, MD  
 Doug Mumford, NCDMF, NC  
 Shizhen Wang, NOAA, MD  
 Geoff White, ACCSP, VA  
 Russell Porter, PSMFC, OR  
 Kevin Sullivan, NHFG, NH  
 Rob Swit, TU, NJ  
 Patrick Lyman, Envirotactics, NJ  
 Claudia Friess, Ocean Conservancy, TX  
 Roy Crabtree, NMFS, FL

Lauren Anderson, Fifth Estate, DC  
 Ed Hibsich, PSMFC, OR  
 Julia Byrd, SCDNR, SC  
 Hongguang Ma, HI  
 Joe Weinstein, CDFG, CA  
 Todd Phillips, Ocean Conservancy, TX  
 David Heil, FWCC, FL  
 Toby Carpenter, CDFG, CA  
 Lauren Dolinger-Few, NMFS, MD  
 Dustin Addis, FWCC, FL  
 Helen Takade-Heumacher, NC  
 Han-Lin Lai, NMFS, WA  
 Lou Arangio, Fortescue Anglers, NJ  
 Allison Watts, VMRC, VA  
 Michael Burton, NMFS, NC  
 Kyle Shertzer, NMFS, NC  
 Ed Schweitzer, JCSA, NJ  
 Mike Collins, SAFMC, SC  
 Stewart Caldwell, NJ  
 Doug Vaughan, NC  
 Scott Baker, NC Sea Grant, NC  
 Amy Didden, DE  
 William Heitzman, NJ  
 Joe Cimino, VMRC, VA