

RECREATIONAL RELEASED CATCH WORKSHOP

November 6 & 7, 2017

New Orleans, LA

Number 275

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AGENDA

Tuesday November 7th

- 8:30 a.m. Introductions and opening remarks
- 9:00 a.m. Discussion of need and current uses of recreational released catch data by state and federal agencies
- Enumeration of catch, validation of released catch, release mortality, is it necessary for all species, is it necessary every year for every angler interview, others?
- 10:30 a.m. **Break**
- 10:45 a.m. Continued discussion of need and uses
- Noon **Lunch**
- 1:30 p.m. Determine criterion for evaluating existing and future collection methods
- What kinds of information/criterion are necessary to properly utilize released catch data
 - o Scope in time/space of data collection
 - o Statistical design constraints (sampling frame, other?)
 - o Statistical precision
 - o Biological data elements
 - o Validation
 - o Outreach
 - o Timeliness of data availability
 - o Integration into expanded estimates
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- 3:00 p.m. **Break**
- 3:15 p.m. Continued discussion of determination of criterion for evaluation
- 4:30 p.m. Summarize day 1

Wednesday November 8th

- 8:30 a.m. Presentations on existing data collection methods to collect released catch data
- Overview of all released catch data programs (presentation)
 - A few regionally important presentations on current methods
 - How well do existing programs fit with current needs, discuss potential concerns/problems with current methods
- 10:30 a.m. **Break**
- 10:45 a.m. Proposed new methods for collecting recreational released catch data
- Open session for brainstorming potential new methods for addressing current need and uses
- Noon **Lunch**
- 1:30 p.m. Continued discussion of proposed new methods
- Identify potential methods to improve released catch data collection, recommend those most promising for development
 - Identify candidate fisheries for pilot testing of promising released catch data collection methods
- 3:00 p.m. **Break**
- 3:15 p.m. How to evaluate if proposed and existing methods meet Day 1 criterion
- 4:30 p.m. Summarize day 2

Background

Quantifying numbers of fish released by recreational anglers is becoming an area of importance for many species across the country. In response to stock declines, fishery managers have taken regulatory steps to reduce harvest in the recreational sector, including increased size limits and reduced bag limits, and shorter recreational fishing seasons to ensure harvest levels do not exceed management targets. This has translated into a growing portion of recreational catch that is released at sea and unavailable for direct observation in dockside surveys.

Numbers of released fish are more difficult to quantify with precision than harvested catch, due largely to the fact that current methods rely on angler recall sometime after the trip has occurred. Looking at recent MRIP dockside survey data, anglers often round their reported releases in increments of five or ten. There is also concern about anglers recalling and identifying all of the different species released on a specific fishing trip. Angler dockside surveys report a large number of species caught during recreational fishing trips, yet none of the fish being released are actually validated.

For these reasons, this national workshop was developed through collaboration of ACCSP, GulfFIN, NOAA Fisheries, and Pacific RecFIN to evaluate current uses and needs of recreational released catch data and determine if other methods might be available to collect more accurate data.

Workshop Discussions

Data Needs

Initially the workshop focused on the discussion of current uses and needs for recreational released catch data. Much of the discussion focused on the need to obtain an accurate catch composition along with obtaining some data on sizes of released catch. Management concerns were highly focused on accurate reporting of species and numbers in a timely manner and an understanding on the reasons for discarding (e.g. below size limit, closed season), all of which help provide for more reliable management advice. Some species are managed under small annual catch limits and biases from over or under reporting can have significant impacts on recreational management measures, such as season length. Overall, the majority of the discussion focused on stock assessment needs and having discard counts by species with some accompanying size information, either individual lengths or size categories being released. Released catch mortality plays an important role in stock assessments. Collecting depth data through dockside surveys was identified as a data gap that could help provide better information on discard mortality. Florida and Oregon have done some work collecting depth data that can be used by stock assessment scientists. Many participants stated that specific needs can vary depending on the species of interest.

Data Collection Methods

The discussion then turned to focus on the proper approach for collecting data and how to evaluate data collection efforts. The consensus was the baseline on-site surveys that intercept fishing trips to collect catch data are appropriate and necessary for collecting basic information on counts of released catch. For additional data that would feed into released catch mortality, we may need complimentary

specialized surveys to address gaps and needs for specific species or species groups. Challenges to this approach were discussed in detail. The baseline surveys for enumeration were still discussed as important elements to be conducted for all species with full spatial and temporal coverage. Harvest dynamics can be highly variable and monitoring needs to be continuous.

The group talked about problems with species identification. The West Coast conducted a pilot study asking anglers to take pictures of released catch and they compared the angler recall with the picture to assess identification accuracy. Results showed that anglers had difficulty accurately identifying rockfish (complex of species with similar body form and coloration) at the species level. From those results, the West Coast has produced a brochure to help samplers and anglers more accurately identify groundfish caught and released.

The group agreed that validation through onboard observers is the best method for accurate species identification, quantification, and measurement of fish caught and released, but this would not always be feasible on small charter boats or private boats. The group briefly discussed the use of video cameras for validating released catch as hardware costs and capabilities have improved. Some participants worried that onboard cameras could modify behaviors of anglers knowing that their activity is being recorded. A tag and recapture study was also suggested as a possible way to understand species identification bias from angler reports.

The discussions then centered around 3 modules of data collection. The “Fish level would be collecting number of released fish by species and is currently accomplished by angler recall through shoreside or at-sea interview surveys. The second level would be more detailed trip level data to assess essential gaps like depth of capture, use of venting or descending devices, disposition of released fish, and type of hook used for capture. The third level would focus on biological data, specifically ageing structures with associated length data.

Presentations were given by participants from Oregon, Florida, and Connecticut focusing on specific efforts to collect detailed released catch data. Justin Ainsworth from Oregon Department of Fish and Wildlife presented on their at-sea sampling program for for-hire boats focusing on rockfish and groundfish. Oregon’s at-sea program collects reliable species-specific counts of released catch and obtains length measurements for a representative sample of the released fish. They provide spatially-explicit data to stock assessors on total removals, species composition, catch rates, and sizes of released fish. Oregon benefits from a limited number of access points where the for-hire fleet can access the ocean and makes it easier to monitor activity. This approach might not be as successful for regions with coastlines that have many ocean access points. They also provide data from prohibited species that are caught and released. From released fish, observers are able to collect species identification, length, release method and sex from some species. Observers use tablet technology for data acquisition which provides more efficient data entry and quicker access to data for analysts.

Beverly Sauls from Florida Fish and Wildlife Conservation Commission provided a presentation on their work monitoring recreational discards from reef fish trips off the Atlantic and Gulf of Mexico coasts. Florida collects data using dockside samplers and onboard observers. They collect trip level details such as counts of releases by species, incidences of immediate mortality, areas fished, and capture and release methods using dockside samplers. Fish level data collected by onboard observers includes

lengths, depth of capture, capture and release methods and release condition. Onboard observers provide higher resolution of fish data being used in stock assessments. Florida randomly selects vessels for sampling from a list of known cooperative participants. With voluntary participation it is possible that released catch data are not representative of all private boats participating in the fishery and further research might be necessary to determine if any bias exists. Florida is also testing a Gulf Reef Fish Survey for the private boat sector in the Gulf of Mexico. The goal is to provide more accurate estimates of catch and removals and collect additional detailed data on depth fished and area fished that are not collected through APAIS general surveys.

Geoff White from Atlantic Coastal Cooperative Statistics Program (ACCSP) gave a presentation on behalf of Gregory Wojcik from the Connecticut Department of Energy and Environmental Protection on their enhanced shore mode fishing survey. Connecticut developed a voluntary daily angler catch card program to assess less restrictive management measures for certain species at specific shore mode fishing sites. After partial trip interviews, creel agents provided anglers with a catch card and tape measure to record the remaining catch after the creel agent had departed. Catch cards were returned either at drop boxes located at the site or through USPS pre-paid postage. Catch cards collected data on conservation id number, targeted species, hours fished, numbers of harvested and released fish by species, and lengths and disposition of kept and released fish. Connecticut observed a 35.5% return rate on catch cards and was able to collect data on lengths of harvested and released catch that would have been missed by creel agents.

Dave Van Voorhees from NOAA Fisheries MRIP discussed findings from previous work accomplished by an MRIP Released Catch Work Group in 2008 and 2009 regarding possible improvements in released catch data collection methods. That Group suggested taking advantage of existing Headboat At-Sea datasets to compare angler self-reports of released catch with direct observations recorded by onboard observers of a randomly selected subset of anglers fishing on the same headboat trips. Such datasets exist for the Atlantic states from 2004 to the present. Another idea proposed by the Work Group was to utilize shore mode to design a survey where a sampler observes the released catch of a subset of anglers from a fishing pier and compare that with self-reported released catch data provided during typical angler intercept survey interviews. The third idea proposed by the Work Group was to notify anglers ahead of time that you will ask them, at the end of their trip, about the species they released and compare those results with anglers that were not informed prior to their trip. The participants also discussed the concept of providing cameras to anglers or utilizing video cameras to document released catch.

The group summarized the discussion of separate complimentary survey approaches in the following way:

Total Number of Released Fish

- : Number of released fish by species (current methods using recall at the dock)
- : **Data elements – species identification, number of fish, disposition of released fish, (plus associated trip elements)**
 - Preferred approach would be direct observation by field sampler
 - Possible for shore, harder for boat modes

- Easier to do on headboat (or large for-hire boat) trips than on six-pack charter boat, guide boat, or private boat trips.
- Collected by angler/boat trip level, for all species, survey runs for all months
- Could validate existing methods or test new methods for replacement
- Outreach to discuss importance of accurate reporting, regulations
- A comparison of existing data collection studies to look for trends in similarities or differences, regional FINs could provide coordination between state and federal partners
- Sources of error could include sampling, and non-sampling, such as recall errors, errors in species identification, enumeration errors, length, weight, or depth measurement errors, or release condition errors

Typically these data are collected through shoreside interview surveys and are often collected for all species across all months and geographic areas. There are existing datasets that might allow for direct comparisons between angler reports and sampler direct observations. Those might include but are not limited to Oregon ratio estimation of intercept versus observed reports, headboat observer reports compared with angler recall, Florida charter boat direct observation with dockside angler recall, self-reports from dockside angler intercepts with state logbook census programs, and CPFV observer reports with captain logbooks. Several recommendations were suggested for pilot studies for new methods. A prospective survey for angler recall from the private boat mode was discussed, such as using picture sheets and tally forms to guide anglers on released catch recall, using catch cards similar to Connecticut for boat mode fishing, testing a probability based panel of anglers to report all fishing trips, and using video cameras for observing released catch on the water. All of these methods were focused on assessing the accuracy of enumeration of species identification of current shoreside intercept surveys.

Additional Trip Related Data Elements

: Data elements - number of anglers, area fished, hours fished, depth, fishing method, target species, fishing mode, reason for discarding

- Would be a new survey to test methods for collection
- Likely specific methods needed based on fishing mode, region
- May not be collected every year

Depth was identified as an important data element that would be useful for stock assessments. Comparing existing research that collects depth data would be useful. It was recommended that offshore observers, where possible, would provide better detail and accuracy on depth of capture since this would be another recall variable that could be highly uncertain. Some participants suggested collecting depth from the shoreside surveys might be useful.

Biological/Fish Level

: Collecting biological data from fish released at sea

: Data elements - lengths, weights, release condition, depth, capture/release method, gender

- Might involve observers or at-sea technology
- Methods may vary by fishing mode
- Angler / trip selection methods need development

- Species specific data elements

Lengths would be the primary focus with any biological sampling program. Weights and possibly age structures might be collected through additional specialized surveys. The participants agreed that collecting additional released catch data from private boat mode would be difficult. Some recommendations were utilizing angler logbooks, video cameras, or possibly smartphone applications. All options included discussion of how a representative sample of anglers would be selected for reporting. Significant discussion also focused on providing consistent outreach on how to properly release fish.

Next Steps

The workshop concluded with a discussion of what our next steps should be. NOAA Fisheries staff discussed the need for cataloging historical and present survey data that would allow for direct comparisons to determine if there are biases in current methods that are quantifiable. The key to this first step will be coordination between state and federal agencies on how to identify useful datasets and determine how best to analyze them. It was suggested that each region identify which species are of the highest management concern with respect to recreational released catch data. In February 2016, NOAA Fisheries developed an Action Plan for Fish Release Mortality Science that utilized a rating technique called SMART tool that can be used to identify high-priority release mortality estimate needs. This ranking scale could be useful for identifying current species of high priority although it might need to be reassessed by each region to make sure the list is still accurate based on current priority species.

WORKSHOP RECOMMENDATIONS

- Where possible direct species observation and enumeration by a trained fisheries scientist is recommended. Possible survey methods are:
 - Onboard observer programs
 - Evaluate the use of video technology
- Where self-reported data is required:
 - Evaluate the use of electronic reporting from a probability based sample of anglers or captains (Web based, APP, Email, Text Messaging) for the collection of:
 - ✓ Trip level data (Fishing effort, area fished, depth fished, gear type, etc.)
 - ✓ Fish level data (Size and categorized reason for release, etc.)
 - Studies validating reported data need to be conducted
 - Outreach material should be used to improve an anglers ability to accurately identify species caught and to determine and anglers interest in survey participation and accurate reporting
- Survey methods should be evaluated to reduce angler recall bias:
 - Pre-trip released catch cards
 - Representative panel of anglers providing released catch data
- Improve angler survey response and cooperation:
 - Study angler behavior
 - ✓ Voluntary/Mandatory reporting

- ✓ Vested interest in outcome
- Survey comparison studies
 - Compare data reported by headboat anglers on their released catch with data obtained by a sampler through direct observations of a random subset of anglers who fished on the same boat. This type of analysis can potentially be done with headboat at-sea survey data collected in the Atlantic states from 2004 to the present.
 - Compare data reported by charter boat anglers with at-sea observations
 - Oregon ratio estimation of intercept versus observed angler reports
 - Mississippi Tails n' Scales angler self-reports compared with matching dockside intercept reports
 - Pilot test a comparison survey for angler recall for private boat mode to evaluate differences in released catch reporting between telling anglers at the start of their fishing day to record their released catch and reports provided when intercepted at the end of their fishing trip.

Copies of all presentations, white papers, and links to live stream recordings can be found:
https://www.gsmfc.org/pubs/fin/released_catch_workshop/fin-rcw.php

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