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6th INTERNATIONAL FISHERIES OBSERVER & MONITORING CONFERENCE



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Special Edition: Structured around the 6th International Fisheries Observer and Monitoring Conference Presentations and Abstracts

ASSOCIATION FOR PROFESSIONAL OBSERVERS

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Editor's Note

Fall 2009 Mail Buoy Structured Around 6th IFOMC Presentations

The 6th International Fisheries Observer and Monitoring Conference (IFOMC) this past July was a great success, and we are pleased to have the permission of the conference organizers to pre-publish a selection of conference contributions here in the Fall 2009 Mail Buoy. As with Mail Buoy editions following past observer conferences, we are dedicating this edition to a selection of noteworthy conference presentations (many of which are by fisheries observers) that have importance on the lives and livelihoods of fisheries observers. The pieces that were 6th IFOMC presentations are denoted as such with some designation as to whether they were presented during a panel session or as a poster at the conference. The presentation abstracts and overviews published here may be without certain pictures, tables, and graphs exhibited during actual presentations. The soon to be published 6th IFOMC proceedings will fully document all

conference presentations. Keep your eye out for it on the IFOMC website (<http://www.ifomc.com>).

Though we are unsure of the numbers of observers in attendance at the 6th IFOMC in comparison to prior Conferences, we think that observer involvement and the amount of activities directed at observers did increase for this one. Not only were there a great deal of posters authored by observers at the conference, but many observers gave verbal presentations on panels and/or contributed at workshops (i.e. the Observer Professionalism Workshop). We applaud the efforts of 6th IFOMC Chair Dennis Hansford and the IFOMC Steering Committee for ensuring a high level of observer participation at the 6th IFOMC and are grateful to have the opportunity to further expose that participation by publishing many of those presentations here.

APO's 6th IFMOC Presentations

The APO – Strengthening Fisheries Monitoring Through Education and Advocacy, Since 1995

Keith G. Davis, Fisheries Observer/APO, USA, Alicia Billings Lotus Web Design and Consulting/APO, USA, and Ebol Rojas Fisheries Observer/APO, Uruguay

In May 1995, five Fisheries Observers waiting for vessel assignments out of Kodiak, Alaska - discussing the poor treatment of observers by observer providers in the region - decided to take action by founding the Association for Professional Observers (APO).

Founding Actions:

- * Summer 1995: The first *Mail Buoy*, the APO's newsletter, published
- * 1996 - 1997: the APO rallies for Observer representation at the Fisheries Council level and helps initiate representation by way of an employment union.

Founding Principles:

- * Advocate for and increase awareness of Observers' rights

- * Gain a voice in the political mechanism that drives Observer Programs
- * Build an awareness that Fisheries Observers are an essential component to the sustainable management of resources

Prior APO Board Members¹:

- * Erika Acuna, Stock Assessments, NOAA;
- * Steve Copps, Senior Policy Analyst; NOAA;
- * Kim Dietrich, Natural Resources Consultant;
- * Tracey Mayhew, Observer Union Representative;
- * Mandy Merklin, Environmental Consultant;
- * Suzanne Romain, Marine Biologist, Independent;
- * Gillian Stoker, Graduate Studies Student;

¹ Note: this is not a complete list of all Prior APO Board Members. For more information on prior APO Board members please contact us: apo@apo-observers.org

APO—IFMOC Presentation, Cont.

- * Teresa Turk, International Observer Program Coordinator; NOAA.

Historical Overview (Conference History):

The APO has traditionally worked many of its projects around the schedule of the Conferences in the IFOMC Series. The APO has been represented at all of the Conferences and has been a consistent influence to its success and outcomes.

- * **1st (Seattle, 1998) Conference²**; APO Representation: Teresa Turk:
 - ◆ **North Pacific SDM:** “real and apparent conflicts...”
 - ◆ **Retention:** “high turnover rate may indicate that observers feel discouraged and unmotivated by their working conditions.”
 - ◆ **Safety:** “observers in some programs could be fired and replaced for refusing to board a vessel they considered unsafe.”
- * **2nd (St. John’s, 2000) Conference³**; APO Representation - Kim Dietrich:
 - ◆ **Observer Bill of Rights (OBR):** The idea to establish an OBR started with the APO in 1997, and the Observer Bill of Rights (OBR) document was created as the outcome of a workshop and panel/discussion session led by Teresa Turk and Kim Dietrich at the 2nd Conference.
- * **3rd (New Orleans, 2002) Conference⁴**; APO Representation - Kim Dietrich, Suzanne Romain, Gillian Stoker, and Tracey Mayhew:
 - ◆ National Observer Support Standards
 - ◆ Safety issues and Incentives to improve safety
 - ◆ Evaluating Contractor Performance
 - ◆ Challenges of Effective Observer Training

- ◆ **Jerry Dzugan concluded a 3rd Conference session by paraphrasing Sir Walter Scott: “It’s not data you’re gathering, it’s risk.”**

- * **4th (Sydney, 2004) Conference⁵**; APO Representation - Mark Wormington, Dave Wagenheim, and Keith Davis⁶:
 - ◆ Conflict of Interest: “Explicitly define professional duties of all participants...”
 - ◆ ObserverNet: “online forum to discuss topics such as sampling techniques, data use, vessel safety and accommodations, and compensation.”
 - ◆ Heightened Observer Program Standardization and Communication
- * **5th (Victoria, 2007) Conference⁷**; APO Representation - Liz Mitchell, Brad Justin, and Keith Davis:
 - ◆ Membership on Observer Professionalism and Observer Safety Working Groups
 - ◆ Short-story Book project proposal
 - ◆ Ecosystem-based Management
 - ◆ APO poster presentation

Other APO Accomplishments:

- * **Mail Buoy:** important avenue for disseminating fisheries information for 14 years
- * **Letter Writing:** input into rule changes that influence the lives of Observers
- * **Web Resources:** the APO website is an increasingly important resource for understanding the Observer profession
- * **Observer Recruitment and Retention Study (2005):** Contracted by the US National Observer Program (NOP) – Later formalized into NOP Report

²McElderry, H., Karp, W.A., Twomey, J., Merklin, M., Cornish, V., & Saunders, M. 1999. Proceedings of the First Biennial Canada/U.S. Observer Program Workshop. U.S. Dep. Commer., NOAA Tech. Memo. NFS-AFSC-101. 113p.

<http://www.st.nmfs.noaa.gov/ifomc2009/1st%20IFOC%20Proceedings%20Seattle.pdf>

³Anon. 2000. Canada - U.S. Fisheries Observer Program Workshop - Proceedings. NMFS and DFO, St. John’s, Newfoundland, Canada. 52p.

<http://www.st.nmfs.noaa.gov/ifomc2009/fisheriesprogramrev.pdf>

Link directly to the OBR document at:

<http://www.apo-observers.org/docs/ObserverBillofRights.pdf>

⁴NMFS. 2004 Proceedings of the Third International Fisheries Observer Conference. U.S. Dep. Commerce, NOAA Tech. Memo. NMFS-F/SPO-64, 192p. <http://www.st.nmfs.noaa.gov/ifomc2009/ThirdProceedings2002IFOC.pdf>

⁵Mcvea, T.A, Kennelly, S.J. 2005. Proceedings of the 4th International Fisheries

Observer Conference. NSW Department of Primary Industries, Cronulla Fisheries Research Center of Excellence, Cronulla, Australia. ISBN 1 9209 12 20 2. 230pp.

<http://www.st.nmfs.noaa.gov/ifomc2009/4th%20IFOC%20Proceedings%20Sydney.pdf>

⁶Note: None of these APO members were APO Board members at the time, though all are now

⁷McVea, T.A and Kennelly, S.J. (ed.), 2007. Proceedings of the 5th International Fisheries Observer Conference –15 – 18 May 2007, Victoria, British Columbia, Canada. NSW Department of Primary Industries, Cronulla. Fisheries Research Centre of Excellence, Cronulla, Australia, 412 pp. ISBN 978 0 7347 1861 7.

http://www.st.nmfs.noaa.gov/ifomc2009/Proceedings_ALL_FINAL_170907.pdf

APO—IFMOC Presentation, Cont.

The APO Today:

- * **Mission Statement:** The Association for Professional Observers (APO) is a non-profit, non-governmental organization whose mission is to strengthen observer programs through advocacy and education. Our goal is to facilitate the exchange of fisheries information while providing an important source of fisheries observer program and fisheries observer data-use information. It is our intention that the results of our activities may encourage the recruitment and retention of professional observers and foster the best quality observer data for the purposes of conservation and the responsible management of marine living resources.

Current (2009) APO Board:

- * Liz Mitchell: President; Dave Wagenheim: Vice President, ObserverNet; Keith Davis: Secretary, *Mail Buoy* Editor; Alicia Billings: Treasurer, Web Master; Ebol Rojas: APO Board, Associate *Mail Buoy* Editor; Mark Wormington: APO Board; Brad Justin: APO Board

APO Reconstruction (Focus Area) Objectives:

- * Accommodate the APO's Mission and visions in a more directed manner
- * Optimize the utility of APO resources
- * Help APO Members become more involved

Focus Areas:

Education and Outreach⁸

- * **Objectives**
 - ◆ Support the dissemination of educational information
 - ◆ Increase and improve the utility of fisheries resources available to the public
 - ◆ Reach out internationally among stakeholders
- * **Primary Projects:**
 - ◆ *Mail Buoy* newsletter; 906 Subscribers
 - ◆ *Eyes on the Seas*, collection of observer stories

Observer Data⁹

- * **Objective:**

- ◆ Provide resources regarding issues and take action upon issues related to: public access to Observer data; collection protocols; training and data quality control standards; service delivery model structuring; and, rules that impact the independence and integrity programs

- * **Projects:**

- ◆ *Public Access to Observer Data*
- ◆ *North Pacific Groundfish Observer Program Overhaul*
- ◆ *Implications and Trends of Electronic Monitoring*

Observer Health, Safety, and Welfare¹⁰

- * **Objective:**

- ◆ Address issues such as: working conditions and emergency procedures; safety training, rules, and standards; drills, inspections, compliance and enforcement; and, protection of observers' livelihood

- * **Projects:**

- ◆ *Catalogue of Observer Casualties, Injuries, and Near Misses*
- ◆ *Globally Outlawing Observer Harassment and Interference*
- ◆ *Implementation of an Observer Bill of Rights*

Observer Labor and Professionalism¹¹

- * **Objectives:**

- ◆ Identify initiatives associated with fostering heightened observer professionalism
- ◆ Address issues that have bearing on the fair and equitable labor rights of Fisheries Observers.

- * **Projects:**

- ◆ *North Pacific Groundfish Observer Union Negotiation Survey, For 2010 Contracts*
- ◆ *Implementation of an Observer Bill of Rights*

Outlook, from Members (Feedback Survey Results):

- * **Observer Professionalism Central:** on-line location

⁸<http://www.apo-observers.org/education>

⁹<http://www.apo-observers.org/data>

¹⁰<http://www.apo-observers.org/health>

¹¹<http://www.apo-observers.org/labor>

APO—IFMOC Presentation, Cont.

that acts as a job site where observers and contractors/providers from around the world can meet. Observers can post a profile with their education level and experience.

- * **Build Greater Overall Stability:** work towards building greater financial and administrative stability within the organization so that the APO can be more valuable for its members by tackling its mission objectives more effectively.

Outlook, from Board¹²:

- * **Business Plan:** establish a business plan (2 year), designed with multiple options
- * **Fund Raising:** membership recruitment, grant writing, source funding options.
- * **Staff:** currently we are 100% volunteer run. We would like to have the funding to hire at least one part-time employee.

Closing:

Fisheries Conservation Need Statement:

“Global fisheries are in crisis: marine fisheries provide 15% of the animal protein consumed by humans, yet 80% of the world's fish stocks are either fully exploited, overexploited or have collapsed.” - Camillo Mora, *Management Effectiveness of the World's Marine Fisheries* (2009)¹³

Professional Observer Need Statement:

The Food and Agriculture Organization (FAO) of the United Nations reports that “There is a direct relationship between the professionalism and morale of observers and the quality of the data they collect,”¹⁴ and the integrity of an observer programme is directly linked to the professional ethics of its observers.

¹²Check out the APO and Become an APO Member Today!!!

<http://www.apo-observers.org/join> General Email: apo@apo-observers.org

¹³Mora C, Myers RA, Coll M, Libralato S, Pitcher TJ, et al. (2009) Management Effectiveness of the World's Marine Fisheries. PLoS Biol 7(6): e1000131.

doi:10.1371/journal.pbio.1000131

¹⁴Davies, S. L.; J. E. Reynolds (ed.). 2002. Guidelines for developing an at-sea fishery observer programme. FAO Fisheries Technical Paper. No. 414. Rome, FAO. 116 pp.

Public Trust and Data Transparency

Elizabeth Mitchell; Fisheries Observer/ APO; North Pacific Groundfish Observer Program

This presentation was scheduled to be presented during a 6th IFOMC Panel Session; however, Elizabeth (Liz) Mitchell was unable to present due to unforeseen circumstances:

The Magnuson-Stevens Reauthorization Act of 2006 has strengthened the privatization of public fisheries resources while simultaneously restricting public access to observer monitoring data from those vessels. This inhibits independent scientific review of fishing impacts on marine ecosystems. Fisheries are often located on unique seamount and canyon ecosystems that may also be important for other fisheries.

In 1994, NMFS created an Administrative Order (NOAA AO 216-100) that protected “data that are identifiable with any person”. NMFS developed their own guideline, commonly known as the “3-Boat Rule” to protect the privacy of individual vessels. This allowed public access to observer data unless

three or fewer vessels were fishing within a 102 nm area. Now, NMFS is in the process of updating these guidelines to reflect the increase in privatization of public resources into the hands of fewer and fewer “entities” (which include corporations).

The new rules would protect the identity of corporations, which have the potential to own entire quotas for a fishery and may have several vessels fishing that quota. Also being considered by NMFS is an increase in the number of these protected “entities” to more than three and to increase the square mileage. Through the privatization of Alaska groundfish fisheries, single companies can fish an entire ecosystem and an entire available quota. These new guidelines will potentially create large data sets that will completely escape public scrutiny.

This will surely hinder independent review of observer data to

Continued on Page 6...

Public Access, Cont.

evaluate harmful fishing practices. Therefore we will be forced to depend entirely upon the decisions made within NOAA. If these changes come to pass, public trust in fisheries observer bycatch data would be vastly diminished. While individual fishing quotas have their place in sustainable fishery management solutions, it should have never gone to this level, where corporations not only dictate what, how, and where observers monitor their fisheries, but also how the data is distributed.

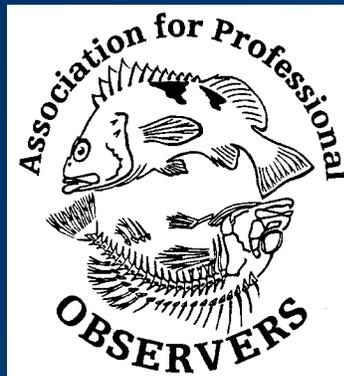
It is only through transparency that the public develops trust in NOAA decisions to end overfishing and marine ecosystem destruction. Both of these are mandates under the Magnuson-

Stevens Act. Unfortunately, while the Act mandates sustainable fisheries management, it simultaneously destroys public trust by preventing independent assessment and evaluation of our progress.

Contact Author:

Elizabeth Mitchell, P.O. Box 933, Eugene, Oregon 97440, United States

541-344-5503 (phone), emitch@efn.org (e-mail)



The Potential Use of Observer Data in Community Based Fisheries Management

Alicia Billings; Lotus Web Design and Consulting/APO; USA

Introduction

The marine environment is complex, with webs of interdependency between and among species that are just beginning to be examined. With every research project and new technology, this statement is confirmed. Along with investigating these complex relationships, traditional methods of defining stocks must take into account the effect that these relationships have on the future of sustaining both the resource and the fisheries.

Community Based Fisheries Management (CBFM) is an alternative approach to the traditional "top down" management practiced in the United States. Where these traditional methods examine populations based on more jurisdictional boundaries than biological restrictions, CBFM seeks to empower local fishers to become stewards of their local fisheries resource by using a more ecosystem-based management (EBM) approach.

The [Port Orford Ocean Resource Team \(POORT\)](http://www.oceanresourceteam.org) (<http://www.oceanresourceteam.org>) is a nonprofit organization based in the small (1200 population), rural community of Port Orford, Oregon. Their mission is to engage local fishers and other members of the community to ensure the long-term sustainability of the nearby marine ecosystem and the social system dependent on it. Several programs, including establishing a Community Stewardship Area, have energized much of the fleet to take care of the fish and habitat that provide their livelihood. As such, the POORT office is a hotbed of useful local knowledge and viewpoints on fisheries management.

Methods

During the last 3 years, the author was employed as a West Coast Groundfish Observer in Port Orford and with POORT as the project director. Through both talking with the fishers and learning the inner workings of how fisheries are managed

Continued on Page 7...

Data Use in CBFM, Cont.

on the West Coast, it became apparent that these fishers sincerely want what is best for the resource to sustain their livelihood. It was also apparent that the ability to manage local stocks is hindered by the traditional management practices because of confidentiality restrictions and lack of confidence in small datasets.

This is a preliminary report based solely on these experiential knowledge interviews to shed light on the need for further examination of the use of observer data in CBFM. The information regarding policies and management is the viewpoint of these fishers, right or wrong, and is used because it is important to examine the perception alongside the reality when discussing CBFM to determine how best to use local knowledge in the management of our oceans.

Results/Discussion

Marine organisms are true citizens of the world. They don't abide by state, federal, or international boundaries because they are bound by their own biology and ability to live and move in favorable habitats. Management lines on the west coast are created on maps with latitudinal lines bisecting habitats and creating a potential for two different regulation structures upon the same fishing grounds¹.

A striking example of this is seen when looking at the Rockfish Conservation Area (RCA), a large-scale closed area extending the length of the entire west coast, with different boundaries for different gear types². Observer data is used to determine the rates of discard for several key species, including the Yelloweye rockfish. Yelloweye is the most restraining species in management plans for the nontrawl fisheries around Port Orford. Because of its rebuilding status, its capture as bycatch is restricted to near nothing.

If the data collected by observers show the bycatch rates of Yelloweye are higher than optimal, managers have the option to flex the RCA through east-west boundaries based on fathom curves. In an attempt to better serve regional differences in the both bycatch rates and habitat, several large blocks delimited by arbitrary latitudinal lines are available to segment the boundary changes.

For the 2009-2010 management cycle, the Pacific Fishery Management Council (PFMC) looked at bycatch rates for the Yelloweye rockfish in the limited entry nontrawl sablefish fleet. From this, it was decided to move the RCA western boundary

out to 120 fathoms in the management block that bisected a key traditional fishing ground north of Port Orford. Experiential knowledge from several limited entry sablefish fishers pointed to the lack of Yelloweye capture in that area. Because of restrictions in obtaining place-based observer records, there was no way for the fleet to gather bycatch rates for their grounds, and the Oregon Department of Fish and Wildlife (ODFW) does not have the directive to go after such small scale information. Without this evidence, however, the fleet could not make its case to the PFMC.

There are two main reasons for this lack of place-based examination and use of observer data: confidentiality restrictions and the lack of large datasets. The Magnuson-Stevens Fishery Conservation and Management Act³ is the leading authority governing fisheries management in the United States. It restricts how the data is binned based on the number of observed trips and observed vessels in a given area to preserve fisher confidentiality and increase the size of the datasets. Because of this, data is binned into large areas, long time periods, or both. Unfortunately, small communities caught in the middle can be unduly restricted.

With half of this vital sablefish ground lost and the loss of the salmon fishery for the second consecutive season, fishers in Port Orford who were unable to move into other fisheries began to struggle. The willingness to trust management authorities has been decreased because of this, and is talked about regularly over morning coffee and down at the dock.

Ensuring confidentiality of fishing vessels is important. The observer program would not be tolerated by fishers if the data collected was open to the public. But the devastating

socioeconomic effects of large-area restrictions that are not appropriate should be avoided to preserve both the social structure of fishing communities and their economic strength. By figuring out how to preserve fisher confidentiality and confidence in the observer program, as well as finding innovative ways to use small datasets, observer data can be a step closer to its full potential as the leading collection method for fishery-based information.

¹ Pacific Fishery Management Council's Council Guide: <http://www.pcouncil.org/guide/Guide-intropage.html>

² NMFS Groundfish Closed Areas Website: <http://www.nwr.noaa.gov/Groundfish-Halibut/Groundfish-Fishery-Management/Groundfish-Closed-Areas/>

³ Magnuson-Stevens Fishery Conservation and Management Act: <http://www.nmfs.noaa.gov/sfa/magact/>

*** The “Observer Biography Series” is a quarterly profile of an observer who has done something normal or new (but noteworthy) in the course of their career. Do you know of an observer whom you would like to see profiled in our next issue? Contact the [APO](#) to nominate him or her to be profiled! For this edition we are profiling an observer program instead of an individual observer.

WWF Central America – the Observer as an Agent for Change Towards Responsible Fishing

Álvaro Segura H.; Bycatch Program Officer; Central America office - WWF

We are gathered in a Central American Pacific port. The reason that brings us together is to train observers on the data collection methodology needed in a regional project to reduce marine turtle bycatch in artisanal longline fisheries.

As the training begins, the participants seem timid. They are ten fishers who have been recruited for their potential to collect information and their interest in carrying out tasks that will help meet project objectives. We must chat and interact with them to make them feel comfortable and this is achieved as the course develops.

These future observers know how to identify the species by their common names and they are knowledgeable about fishing: the best season for fishing mahi-mahi or other target species, the best baits, the time of day to set the long-line, etc. Anecdotally, one of them mentions that he used to make a living taking turtle eggs from beaches. These observers are going to be part of a team that is covering nine countries.

This scene is repeated every time new observers are incorporated into the program; most of the participants are from fishing communities. We are beginning to understand why fishers want to be observers when we see the context of the fisheries they work in. The main job in the ports where they live is fishing and other kinds of work are limited. Most of them are crew members and not vessel owners. They have to join the workforce to bolster their personal and family incomes, and the cycle repeats itself.

The vessels are artisanal, with limited space for coexistence and working; under these conditions the crew must endure the pressures of on-board living along with those of working in a



By Alvaro Seguro; WWF Central America

fishery (poor fishing, low prices, high operational costs).

At the end of the training, once they know how to record the information on the data forms and they know how to identify the turtle species by their physical characteristics, and above all, when they have learned the techniques for proper handling of turtles that are captured accidentally, they feel happy and special. They feel a growing sense of pride, of personal growth, and recognition that the difficult years of earning a living from fishing are now

somehow eclipsed.

This training is the beginning of a new stage in their lives; they will be boarding the artisanal vessels to work as observers. In most of the ports, regardless of their size, artisanal fishers are not familiar with the work done by observers.

One circumstance that had an effect on training fishers from fishing communities to be observers was the generalized assumption that people who take data are “spies” who could harm the fisheries and close them down. Therefore, one of the first tasks of the observers will be to explain their work with their colleagues and earn their trust for their new position.

After several trips, the observer feels comfortable with his new work and he is recognized in the community for his work. The crew members of the vessels he works on know the importance of his task and have learned the techniques for handling the bycaught turtles. And when the observer leaves the vessel to start the cycle over on another boat, the crew is equipped with the tools for pulling the turtles out of the water, opening their mouths and cutting or removing the fishhooks.

Continued on Page 9...

WWF Central America, cont.



By Miguel Imbach; WWF Central America

However, the cost of carrying out a project of this kind is high and acquiring sufficient funds is difficult. For now, we hope that scenes like these will continue in the different countries of Latin America.

In the program for the reduction of marine turtles in the artisanal longline fisheries of the Eastern Pacific, we have learned that achieving transformation means working to convince fishers individually, one by one. The agents of change are the observers who, through their work on board, are showing captains and crews the benefits of the use of best practices. In this program we are convinced the observers should be elevated to a professional level as they are in other international observer programs, through training that is adapted to the reality of these fisheries and the conditions of the vessels, some of which are less than ten meters in length. The challenge is that they become part of the global community of observers with standards for quality that will ensure the professionalization of this activity in artisanal longline fisheries.

The project is an initiative that has been implemented for five years in nine Latin American countries with Pacific coasts. The data collected are used to demonstrate the effectiveness of special circular fishhooks in reducing the bycatch of marine turtles that incidentally interact with fishing devices. Another priority task for the observers is to teach crews the proper techniques for handling turtles on board.

One of the main contributions of the project has been getting the artisanal fishers to understand how the data collection benefits them. They learn that this is an essential task because it contributes to the knowledge about their fishery, information that is badly needed. They also learn to appreciate working in cooperation.

A challenge for the project is to continue this work until most fishers know these techniques and use them routinely.



By Lucas Pacheco; WWF Central America

Fisheries Observer Programme in Sierra Leone and its Implications on Fisheries Management

Alpha A. Bangura; Deputy Director of Fisheries; Ministry of Fisheries and Marine Resources, republic of Sierra Leone

A 6th IFOMC Panel Session Presentation:

Sierra Leone lies on the West Coast of Africa is bordered on the West, North and Northeast by the Republic of Guinea, Southeast by Liberia and Northwest by the Atlantic Ocean. The country is endowed with abundant marine resources in the form of coastline fishing of 500km and over 200 species of fin fish and shell fish of which 80 species of scientific and economic importance are commonly encountered. The fishery sector provides food, employment and income. The Artisanal (small scale) fishery is important for the sustainable development of coastal communities and the overall fisheries contributes 9.4% to the GOP.

The Ministry of Fisheries and Marine Resources is the constitutionally mandated institution for the management and conservation of the fisheries and all living aquatic resources. In enforcing this constitutional mandate, it established and maintains Fisheries Observer program responsible for the collection of fisheries data from industrial vessels and major dockside communities. The Observers and dockside workers collect data on fishing events such as fishing area, fishing time, total catch, species combination etc.

Data collected is analyzed to provide vital information needed for making scientifically informed decisions for the

conservation and management of the fisheries resources. Such management decisions include the effort control measure (access limitation), input control, (mesh size), area limitation (Inshore Exclusion Zone), import/export obligation, biological control, MCS etc. Enforcement of fisheries law is carried out by the Maritime Wing (MW) of the Republic of Sierra Leone Armed Forces which is poorly resourced in terms of patrol boats/vessels, logistics and adequate funding.

Notwithstanding the usefulness and importance of MCS activities, the observer program in Sierra Leone is faced with institutional weaknesses such as poor funding to support effective fisheries observer program, shortage of trained observers, poor working conditions, lack of logistics and centralized infrastructural base (fish harbor) to provide dockside services. It is therefore recommended that the observer program be adequately supported in terms of proper employment and attractive conditions of service for observers, appropriate training, provision of necessary logistics and adequate funding from government, bilateral and multilateral donors/institutions.

Lastly, the Maritime Wing (navy) which ensures enforcement and compliance be adequately provided with appropriate patrol crafts/ boats, accessories and training.

North Pacific Albatrosses added to ACAP

Keith Davis; Fisheries Observer/APO; USA

The Parties to the Agreement on the Conservation of Albatrosses and Petrels (ACAP) have added the three North Pacific species of albatross, Short-tailed Albatross (*Phoebastria albatrus*)¹, Laysan Albatross (*Phoebastria immutabilis*)² and Black-footed Albatross (*Phoebastria nigripes*)³ to Annex I of the Agreement.⁵

ACAP is a legally binding international treaty which requires signatory governments to take action to reduce albatross and petrel bycatch in fisheries, and to protect breeding colonies⁵.

I contacted Kim Rivera, NOAA Fisheries National Seabird Coordinator, to ask her if she knows how this listing will impact

fisheries management and observer program practices in the US and beyond. What she could share with me at this time is that “the inclusion on the ACAP Annex I list means that these 3 North Pacific albatross species can now be considered within the work of ACAP’s various working groups (population status and trends, breeding sites, seabird bycatch, taxonomy); and we already have some US participants on those working groups.”

Look for a more-detailed assessment by Kim Rivera in regards to the implications of this listing in a future Mail Buoy newsletter.

¹Short-tailed Albatross – species information:

<http://www.acap.aq/acap-species/view-document-details/503-inf-07>

²Laysan Albatross – species information: <http://www.acap.aq/meeting-documents/view-document-details/505-inf-06>

³Black-footed Albatross – species information:

<http://www.acap.aq/acap-species/view-document-details/504-inf-08>

⁴Read the listing here: <http://www.acap.aq/acap-species/view-document-details/501-inf-04>

⁵Read more about this announcement on the BirdLife International website: http://www.birdlife.org/news/news/2009/11/acap_species.html

Minimizing the Risk to Observers from Foreign Charter Vessels Operating in New Zealand's EEZ

Alexander J. Woods; New Zealand School of Fisheries, Nelson Marlborough Institute of Technology; Nelson, New Zealand

A 6th IFOMC Panel Session Presentation:

Introduction

If an observer cannot be placed on a particular vessel because conditions on that vessel may constitute a risk to the observer's health and welfare there is a risk that any fishing activities of that vessel that might pose a threat to the Quota Management System (QMS) will go unobserved. If the vessel operator says that only male observers can be carried because of deficient toilet or bathing facilities or lack of space this then compromises the equal opportunities obligations of the employer (Ministry of Fisheries) as well as making observer placement more difficult.

It was clear that the work of the Ministry of Fisheries Observer Programme was being compromised by the range in nationality, age and design of some of the charter vessels operating in New Zealand and in October 2007 the Ministry of Fisheries (MFish) and the Seafood Industry Council (representing stakeholders and quota owners) formed a joint Foreign Charter Vessel (FCV) review group tasked with identifying and addressing the risks associated with the current operation of FCVs in New Zealand's (NZ) Exclusive Economic Zone (EEZ). The perceived risks posed by the operation of some FCVs were two-fold:

1. A risk to observer and fishery officer health and safety
2. A risk that FCV operations would compromise the integrity of the NZ fisheries management regime

MFish held the view that tighter control over the operation of FCVs was required. The review group was tasked with identifying potential solutions to these issues. However the scope of this paper is limited to addressing the risk to observer and fishery officer health and safety only.

Methods

By December 2007, a number of measures had been agreed upon by both parties and these formed the Initial Position Paper on the management of this issue. MFish announced its intention to consult with industry on these issues with a view to implementing a one year period for compliance to occur, starting on 1 June 2008.

These measures included:

- * All vessels >46m (both domestic and foreign flagged) to adhere to an approved standard of accommodation, food and amenities for observers (the Observer Standard)
- * Increased level of coverage onboard FCVs – the level of

coverage to depend on the level of risk associated with that vessel

- * FCV vessel to submit valid vessel safety inspection certificates as part of their registration application, issued by Maritime NZ
- * FCVs that have operated in NZ waters for longer than 12 months to be in a Safe Ship Management (SSM) programme

The Review Group met twice in the first half of 2008 to consider feedback from vessel operators and resolved to improve safety on board FCVs by:

- * Introducing an approved standard for observer food, safety and amenities
- * Implementing a process to ensure FCVs provide a safe working environment for MFish staff and contractors (this will include a pre-trip safety induction and personal safety check for each observer)

The review group met for the last time in May 2008 and in June MFish released its decision to industry.

Results

The joint review group was of the opinion that this collaborative process had been successful and industry could work with the new observer standard and safety regime. The observer standard states that:

- * Observers must be provided with sufficient potable water and wholesome food for the duration of their trip
- * Sleeping accommodation must have unobstructed emergency escapes and have clear floor space of not less than 1.0 sq m
- * Minimum berth dimensions will be 6ft 3 inches by 2 ft 3 inches
- * Accommodation shall also contain both a reading and a working light, lockable clothes locker, table/desk/draw/seat, book rack and clothes hooks
- * Observers must have access to the galley outside meal times and abide by any health and safety requirements in place there
- * The galley shall be equipped with sufficient facilities, equipment and utensils to enable the observer to prepare hot and cold drinks and light meals

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Minimizing the Risk to Observers, Cont.

- * Toilet facilities must be clean, hygienic and lockable and equipped with adjacent wash hand basins with running water and soap dispensers
- * Toilet paper must be supplied and disposed of in a clean and hygienic manner

- * There must be clear headroom of not less than 1.9m at the observer work station

All aspects of this standard were to be fully adopted by 1 July 2009. Failing to comply with the Standard is an offence under the Fisheries Act 1996 and may lead to prosecution.

US National Developments

No Cost Contracts: Improving the Management of Industry Funded Observer Programs

Teresa Turk¹ and Amy Van Atten²; National Marine Fisheries Service, National Observer Program USA¹ and National Marine Fisheries Service, Northeast USA²

A 6th IFOMC Poster Session Presentation:

Current Status and Challenges

Currently, there are several industry funded observer programs (e.g., North Pacific Groundfish Observer Program, Northeast-scallop, Northwest-hake) that pay for observer services. In all programs NMFS pays for administration, data management, in-season management and training. Sharing the program cost with fishers reduces the NMFS federal budget, but incurs significant management and oversight challenges using the current vehicle of permitting or approving observer service providers. Under the current system, companies that are interested in providing observers send the required information to NMFS. If NMFS determines that the company can provide the necessary services and fulfill the federal government requirements identified in regulation, a permit is issued or an approval is provided to the company. Once permitted/approved, if a company is non-compliant, the federal government can fine the company for its failure to follow the requirements. However the process to prosecute and assess a fine is lengthy and awkward. In the past, NMFS has encountered numerous problems with some observer service providers. One such company went out of business and leaving as much as \$300,000 unpaid to observers for their services and leaving many observers at sea. In another example, an observer service provider did not notify NMFS of an observer being harassed and was fined \$10,000. Although the company was eventually fined, the NMFS Office of Law Enforcement spent a considerable amount of time prosecuting the case. Finally, the process of de-permitting a company is not timely and has never been attempted despite shortfalls and problems with many observer service providers.

Three separate reports listed below have identified the current 3rd party observer program structure as an institution that is in need of major improvements and some reports recommend prohibiting the proliferation of this program structure.

- * Independent Review of the North Pacific Groundfish Observer Program-MRAG Americas, 2000
- * Management Control Review of the National Marine Fisheries Service Observer Programs/Service Delivery Models-US DOC/NOAA/NMFS, 2000
- * NMFS Observer Programs Should Improve Data Quality, Performance Monitoring and Outreach Efforts-Office of Inspector General/Report # IPE-15721, March 2004

Solution

The no-cost contracting vehicle would use a practiced and proven method to procure government services and to allow NMFS effective and timely management of its program. The new arrangement would create a no-cost contract between NMFS and the observer service provider. The contract could be fishery specific and managed by regional program. Instead of NMFS providing a permit/approval to the service provider, the agency would have a no-cost contract available for the service provider in which to engage. The service provider would undergo a similar process that is conducted in a competitive bid for a contract. The service provider would provide a proposal responding to the request to provide observer services. NMFS could limit the number of observer service providers allowed, or could allow as many observer service providers that meet the criteria. Once the proposal was reviewed by NMFS and

Continued on Page 13...

Improving Management, Cont.

accepted, then the observer service provider would be allowed to provide observers for coverage in the required fishery. Under such a mechanism, the contract could be suspended or terminated if the contractor was not performing as required. Currently the majority of observer program requirements (e.g., eligibility, training, briefing, debriefing, coverage plan, etc.) for industry funded programs are promulgated in the federal register (FR). The process of making any changes or additions to the program is lengthy and time consuming. To streamline the process, program requirements currently in the FR would be transferred to a contract. This structure would provide more direct control over the performance of service providers, clearly define expectations, minimum standards and reporting requirements. The no cost contract also offers the following advantages:

- * Contracts are a well used vehicle to establish a rela-

tionship between two entities.

- * Contracts are used in most of the federally funded observer programs.
- * A contract can be modified and changed easily without going through the Council or federal regulatory procedures as is the current method.
- * A contracting template has already been drafted and has been approved. The template could be used to jump start this process for existing programs.
- * A contract can be renewed at the interval desired—quarterly, annually, 5 years, etc.
- * The Service Contract Act (SCA) will be evoked. This will promote professional observers fairly and elevate retention rates so programs have well supported observers with lower turn over rates.

OBSERVER PROGRAM NEWS

*****We greatly depend on volunteered news and updates regarding observing in your area of the world. Please, [submit stories and commentaries from any well-established, new, or proposed national, regional or international observer program, from any stakeholder perspective, around the globe.](#)**

US West Coast

Should I Stay or Should I go? Observer Retention in the WCGOP

Ryan Shama, West Coast Groundfish Observer Program, James Benante, Pacific States Marine Fisheries Commission

A 6th IFOMC Panel Session Presentation:

Since so much of the success of any observer program is dependent on the quality of its observers; and, since experience can play a major role in dealing appropriately with the multitude of sampling situations and issues that arise, it should follow that retention of quality, experienced observers leads to better data collection.

In addition to improved data quality, there are many other benefits to increasing observer retention, such as reduced training effort, time saved during the debriefing process, familiarity with the West Coast fleet, and the potential for recruitment of experienced individu-

als for lead observer and staff positions.

In the WCGOP, we employ both seasonal and year round observers along the coasts of Washington, Oregon, and California and these observers are debriefed, face to face, every two months.

In order to examine how retention affects the quality of sampling in the WCGOP, we have taken a look at observer evaluations over a four year period (from 2005-2008). Bi-monthly evaluation notes were used to quantify the number of “Problems” per debriefing period, and these “Problems” were used as a proxy of performance. However, keep in mind that

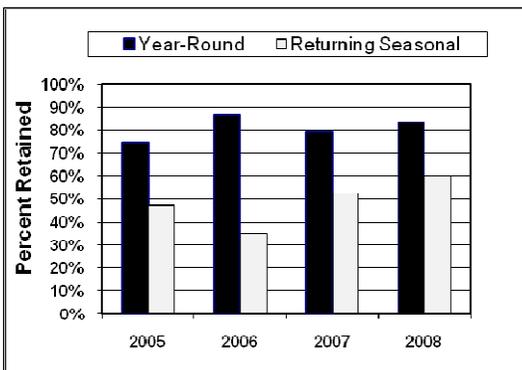


Figure 1: WCGOP Percent Retention by Year

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WCGOP Observer Retention, Cont.

these “Problems” could be anything from issues with sampling methodology, to issues with documentation or calculations. So, this data does not take into account the severity of the individual issues. Furthermore, within this 4 year span, we only used the eight month period when both year-round and seasonal observers were employed, as the workloads and fisheries observed were essentially the same for both groups during this time.

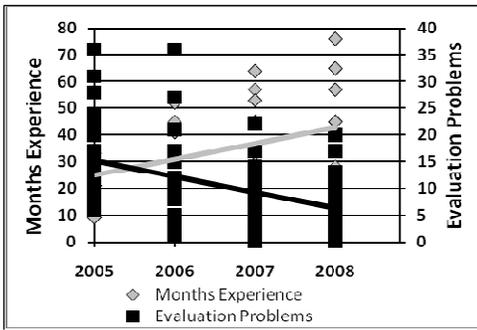


Figure 2: Experience vs. Problems by Group

By tracking the occurrence of “Problems” during these periods, we can measure the quality of data collection in relation to experience (Figs. 2 & 3).

In order to maintain an experienced observer core, the WCGOP has taken several steps to increase retention of both year-round and seasonal observers. These include: a competitive salary, the potential for year-round employment and other advancements, health insurance, optional retirement funds (401k), bonuses for months with high activity, an Annual meeting and Annual Safety Briefing which serve as forums for the discussion of issues important to WCGOP observers, and a dedication to the improvement and effectiveness of trainings.

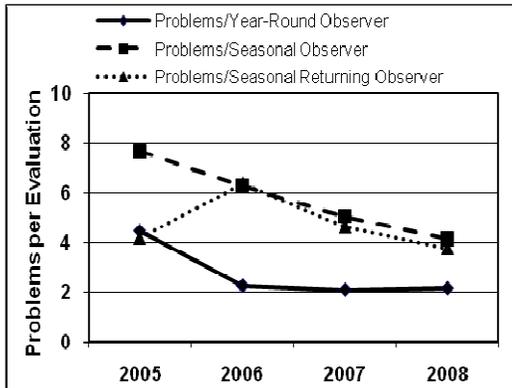


Figure 3: Experience vs. Problems by individual

Integrating observers into the fishing communities was a goal of the WCGOP and led to the creation of year-round positions. In an attempt to create job advancement opportunities and support for observers, the WCGOP also created lead observer positions in each port group. This allows the program to offer observers three tiers of employment (seasonal, year-round, and lead observer positions). Furthermore, the WCGOP has filled nearly all debriefing openings with prior WCGOP observers.

Communication and a sense of ownership are considered essential for retaining observers in the WCGOP. Through staff surveys and open group discussions, WCGOP observers are given the opportunity to provide input; therefore, helping to shape the future of the program.

One of the tools used to gauge our observers’ satisfaction with the program is the annual Observer Survey. This anonymous survey is handed out yearly to all observers and covers a broad range of topics, providing staff with a great deal of useful information that can be used to improve staff/observer relations.

There are a number of both positive and negative responses which are consistently seen when looking at the Observer Survey over the past several years, each of which could be a factor affecting both retention and attrition. Some of the overriding themes over the past few years’ surveys are:

- * **Positives:** Staff and Contractor communication, support, and experience; quality of the training and debriefing process; quality and availability of WCGOP sampling gear; and the program’s focus on safety awareness and training.
- * **Negatives:** Short notice for trips; unequal workload between observers/port groups; inability to travel far from home port due to on-call status (“cell phone leash”); dissatisfaction with the evaluation process; and a poor understanding of how the data collected is being used.

Survey results are discussed at the WCGOP Annual Meeting, one of two yearly meetings which include both staff and year-round observers. These meetings provide opportunities for WCGOP observers to address issues, as a group, directly with program staff. In addition, observers are able to interact with their peers in a professional setting, as opposed to social settings.

A major portion of the Annual Briefing is dedicated to safety awareness and this has been met with an overwhelmingly positive response from our observers. Through lectures, hands-on activities, and drills the WCGOP strives to give every observer the tools and skills necessary to keep them safe, while performing their duties both on land and at sea.

As a result of these efforts, we have seen an increase in overall retention (Fig. 4), as shown earlier, and this has resulted in a steady increase in the level of experience of our year-round observers.

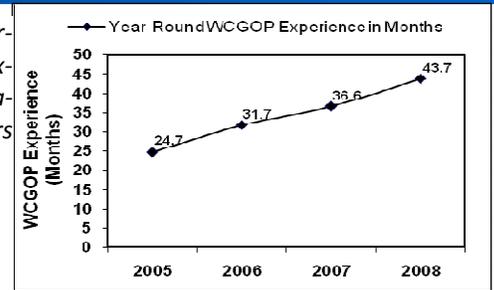
In closing, regardless of the steps taken to increase retention, there are other obvious and perhaps unavoidable factors, such

Continued on Page 15...

WCGOP Observer Retention, Cont.

as injury, burn-out, and performance issues, which will always contribute to attrition. So, while inexperienced observers are, and will always be an important part of the WCGOP, it appears that our experienced, year-round observers perform better and are more easily retained.

Figure 4: Year-Round Observer Experience Accumulation over the Years



US Southwest

Issues with Biological Sampling in the Sandbar Shark Scientific Research Fishery

Brooks Doughtie; Fisheries Observer, Southeast, USA

A 6th IFOMC Poster Session Presentation¹:

Introduction

In 2008, National Marine Fisheries Service (NMFS) implemented a sandbar shark (*Carcharhinus plumbeus*) research fishery in order to collect samples and data essential for future stock assessments. In this 100% coverage, bottom longline fishery, observers collect biological samples and data from various shark species (Hale et al. 2009)¹. Consequently, the sampling requirements mean more at-sea sampling than what is normally required during observed trips.

Importance

During sandbar research fishery trips, observers collect biological samples from sandbar and other shark species by employing cutting knives, zip lock bags, markers, and tags to dissect, store and label:

- * Vertebrae for age assessment
- * Reproductive Tract for determination of sexual maturity, reproductive cycle, and fecundity
- * Stomach for dietary analysis
- * Fin Clip for genetic identification of species

The fishing crews have to work closely with the observer while fishing in the research fishery. The observer has the right to stop the fishing operation in order to properly observe the haul back. The observer can work the samples up in different ways, and it is mainly determined by the fishing crew on each boat:

- * Deck pile the sharks
- * Sample the sharks as they are boated and dressed

The fishing boats are on average around 40 feet in length and have

a small sampling area. The distance from sampling to the hauling area is usually around 4-10 feet. The observer knows approximately how far apart each hook is on the line during the haul back. Therefore, the observer is able to sample the shark while at the same time keeping an eye out on the hauling.

There are different biological sampling requirements throughout the year and the samples are used to update the life history studies of sandbar sharks (Hale et al. 2009).

With all sampled sharks, an actual length measurement is required. The most important aspect of this fishery, is that observer injuries have not dramatically risen with the increased sampling requirements. Several factors include:

- * Cooperation between fishing crew and observer on deck.
- * Estimated length measurements on sharks that are too dangerous to sample.
- * Boats are allowed 45 sandbar sharks and 33 large coastal sharks per trip, limiting the number of interactions between observer and shark.

Conclusion

Observing in a research fishery can result in observers taking more at sea samples without compromising observation of the haul back. If done with crew cooperation, the sampling can be successful without endangering the observer any more than there has to be, while fully observing the haul back. It should be noted, that due to the additional sampling requirements, the chance of observer injury increases no matter how safe an observer is. The fishing crews in this sandbar research fishery are very helpful because they want NMFS to have all the samples and scientific data possible, as this will help in the accuracy of the stock assessment.³

¹See this poster at: http://www.apo-observers.org/docs/Doughtie_IFMOC_Poster.pdf

²Hale, L.F., S.J.B. Gulak, and J.K. Carlson. 2009. Characterization of the shark bottom longline fishery, 2008. NOAA Technical Memorandum NMFS-SEFSC-586, 23 p.

³Acknowledgments: All photos (included on the poster) courtesy of Southeast Fisheries Observer Programs (SEFOP), NOAA Fisheries Panama City, FL Laboratory. I would like to thank the National Observer Program for funding for this presentation. I would like to thank all SEFOP personnel for their assistance in the preparation of this presentation.

Description and Logistics of the U.S. Gulf of Mexico Reef Fish Observer Program

Jeffrey R. Pulver, Fisheries Observer, Southeast USA, and Elizabeth Scott-Denton, NOAA Fisheries, Southeast USA

A 6th IFOMC Panel Session Presentation:

Introduction

A mandatory observer program for the reef fish fishery was initiated for federal waters of the Gulf of Mexico in August of 2006, as dictated by Amendment 22 of the Gulf of Mexico Fishery Management Council's Reef Fish Fishery Management Plan. There are approximately 887 permitted vessels in the fishery¹. Most of these vessels have never carried an observer in the past and were unfamiliar with observer programs. The Magnuson-Stevens Fishery Conservation and Management Act provides the authority to mandatorily place observers aboard the vessels and requires that the vessel provide 48-hour notification prior to departing. Difficulties were encountered in the initial stage of the program due to vessel size, trip length, and gear type. The vessels selected departed from ports ranging from Brownsville, TX to Key West, FL a driving distance for observers of approximately 1,695 miles². The vessels ranged from 24 to 65 feet in length with trips varying from 1 to 20 days in duration. There are currently four different gear types utilized in the reef fishery; longline, bandit reel, handline and spearfishing. Each gear type required a different sampling protocol for the observer and varied by what species the vessel was targeting. All of these obstacles have been overcome through creative ideas by staff and successful cooperation with the fishery to implement the reef fish observer program.

Methods

The program randomly selected vessels quarterly based on season, gear, fishing effort and region³. Permit holders were contacted by certified letter and, if necessary, by phone if no response was received regarding the certified letter. Once onboard, the sampling protocol was to obtain latitude, longitude, depth, environmental parameters and detailed gear information for each set during the entire trip. The observers identified every fish caught to species level if possible. Length and weight for each fish was obtained prioritizing undersized and non-target species first as to not effect mortality of released fish. The condition of fish when boarded were recorded based on appearance, whether alive or dead, and if

there was a stomach/air bladder and/or eyes protruding. Finally, a fate was obtained for each fish caught and the mortality of discarded species was determined based on a sink or swim methodology once the fish was released. All protected species interactions were documented as well.

Results/Discussion

Based on archived data from August 2006 through May 2008, in the longline fishery, the vessels covered by the program ranged from 36 to 65 feet with an average length of 46.4 feet³. In the vertical line fishery (both bandit reel and handline combined) the vessels ranged from 24 to 65 feet with an average length of 38.4 feet³. The diversity of vessel size makes living conditions on board the vessels highly variable, as many are not able to accommodate an observer without some compromise to the crew. Usually this requires the observers to bring their own sleeping accommodations, such as a mattress or sleeping bag. From August 2006 through May 2008, there were 31 longline trips on 28 unique vessels for a total of 649 sets and 353 sea days³. In this same time period, there were 110 trips in the vertical line fishery on 72 unique vessels for a total of 2,708 sets and 445 sea days³. Longline trips, in this same period, ranged from 4 to 20 days with an average of 11.4 days and in the vertical line fishery from 1 to 17 days with an average of 4.0 days³. Since space can be very limited on these vessels, it is necessary for the observer to bring the minimal amount of sampling gear required as dictated by the length of the trip. On longline trips it is possible to obtain data for the entire trip (i.e., every fish recorded for each set) unless hampered by illness or weather conditions. However, for the vertical line fishery this is not always possible due to what species the vessel is targeting (generally either snapper or grouper). The grouper fishery is usually able to be 100% sampled by observers as most reels utilize 1-2 hooks. However, in the snapper fishery vessels routinely use reels that utilize 20-40 hooks with up to 7 reels fished at once³. On these vessels it is necessary for the observer to subsample the reels while recording the entire fishing effort of the vessel so the total catch can be extrapolated for the set. In summary, a successful observer program has been initiated in a complex and difficult fishery.

¹NOAA Southeast Regional Office. 2008.

²Google maps. 2009.

³Scott-Denton, E., P. Cryer, J. Gocke, M. Harrelson, J. Pulver, C. Smith, R. Smith, and J. Williams. 2009. Observer coverage of the reef fish fishery in the U.S. Gulf of Mexico. (in preparation).

US North Pacific/Alaska

Use of Electronic Monitoring Technology: An Observer's Perspective

Melany Haggard; Fisheries Observer, North Pacific and Pacific Islands, USA

A 6th IFOMC Poster Session Presentation¹:

Introduction

Electronic Monitoring (EM) as a means of collecting from commercial fisheries is an approach that is currently being evaluated for possible use in Alaska. In the summer of 2008, I spent 64 days on a vessel equipped with a video monitoring system. The cameras began to record fishing activities when the hydraulic pressure elevated during gear retrieval and stopped recording 1 minute after hydraulic pressure was released. I conducted a hook-by-hook census for each haul. This data will be compared to the video footage recorded by the monitoring system. Completing the census was a challenging task. The final comparisons will be completed and reported by NMFS and the IPHC. During the time I spent working alongside the EM equipment, I developed an understanding of both the limitations and potential benefits of using this type of technology to observe commercial fisheries.

Benefits of EM

- * Documentation of fishing location
- * Begin and end positions for gear set and hauled
- * GPS tracks for vessel while hauling gear
- * Visual record of hooks per haul and fish landed
- * Number, relative size and species of most fish can be determined from camera footage
- * Geographical positions of any gear problems such as line parting or gear tangles are documented
- * After initial installation of the EM system developed by Archipelago Marine Research the computer and cameras function with little technical support
- * An average of 10 minutes per day was required to verify the cameras were recording properly

Limitations of EM

- * Cameras triggered when vessel was not hauling gear
- * Cameras need to be cleaned regularly to prevent water spray build-up
- * Cameras can vibrate out of focus
- * Maintenance of cameras in rough weather posed safety hazards
- * Discard percentages may be inaccurate if fish are landed and later discarded
- * Bird and marine mammal sightings or interactions that do not occur within camera range (2-4 feet from entry point of line to boat) are not documented
- * No independent on-site technical support available without an observer present
- * Potential tampering by vessels
- * No sampling of catch possible
- * Identification of cryptic species may not be possible

Conclusion

EM technology presents many positive options for fisheries management but the limitations, such as potential for malfunctions and inaccurate documentation of catch, must be taken into consideration. From my experience with this vessel, EM would not replace all functions currently undertaken by observers but may prove valuable as an alternate catch monitoring tool, or as a supplement to enhance observer functions.

¹See this poster at:

http://www.apo-observers.org/docs/Haggard_IFMOC_Poster.pdf



US Northeast

Assisting Observers in Bridging the Gap

Jennifer Lengares; Fisheries Observer, Northeast, USA

A 6th IFOMC Panel Session Presentation:

Introduction

Observers are often fielding questions from the general public regarding seafood purchases. As an objective scientific source of information, the observer can seem an unbiased opinion compared to other resources. Not enough resources are available for observers to turn to when confronted with a question regarding seafood choices. Observers in the Northeast region of the United States undergo extensive training before taking their positions. None of that training focuses on, or addresses handling a confrontation with the public. Additionally, the resources available, such as the three websites examined in this paper, do not offer enough information to address all of the questions raised by the general public¹. Additional resources and training need to be made available to resolve this issue, and offer observers a better resource.

Methods

A survey of the general public was conducted regarding the type of seafood people purchased and why. Survey participants were selected randomly with the only requirement being that the respondent purchased seafood “regularly” defined as having purchased seafood for consumption within the last two months, and having intention to purchase seafood in the future. Surveys were then compiled and the percentage of positive responses was calculated. Once determined, the data gathered was compared to the available information on three websites, Fish Watch (<http://www.nmfs.gov/fishwatch/>), Environmental Defense Fund Seafood Selector (<http://www.edf.org/home.cfm>), and Monterey Bay Aquarium’s Seafood Watch <http://www.montereybayaquarium.org>. Websites were chosen by performing an internet search for a site that would assist consumers in making educated decisions regarding seafood purchases. This helped determine if the needs of the people being surveyed were being properly addressed by the websites. Additionally, a survey was conducted with observers operating out of the Northeast Observer Program, U.S.A and employed by A.I.S., Inc. to determine if they felt there was a need for more accessible sources of information, and if they had experienced people turning to them as Fisheries Observers to assist in their seafood choices.

Results/Discussion

Results from the public surveys showed that; 91.16% of people listed taste as a reason for choosing a particular type of seafood,

64.02% listed price, 40.19% listed possible presence of mercury or other pollutants, 25.70% listed sustainability of the fishery, 22.90% listed a recommendation from someone else, and 6.07% listed unspecified other. Of the surveys returned 19.16% of the people responded that they had heard of the National Marine Fisheries Service Fisheries Observer Program, and 17.29% had heard of at least one of the three websites examined. When given the following description of the program, 78.04% of survey respondents indicated that they thought the program would provide them with information to assist them in their seafood choices.

*“The objectives of the Fisheries Observer Program are to collect operational fishing data, biological data, and economic data from the various fisheries. Additionally observers monitor interactions with protected and endangered species to ensure continued survival of these animals.”*²

Of observers surveyed, 90.91% would like to see more resources made available, and 72.73% responded that they had heard of at least one of the three websites examined. 59.10% of observers surveyed have been asked questions regarding seafood choices since becoming an observer. Of surveyed observers 54.55% responded that they felt being an observer gave them an added insight in to fishing industry, where 45.45% felt that they only see a small portion of the industry and the information that they collect was not extensive enough to use as a definitive source.

Results/Discussion

Based on the feed back from the surveys, the general public sees the observer program as a possible source of information for their seafood choices. Many of the topics addressed by the public surveys were available on the websites, but only a small percentage of the public had heard of the websites. Observers felt that on one hand, they had an insight to the fishing industry, but that it was a small part and did not necessarily reflect the status of the fishery as a whole. Considering that observers knew of the websites, but still felt that they would like to see more resources made available indicated that websites do not offer enough of a solution. During surveying, the general public often commented that they would not likely go to a website to look for information, and that it would be more useful if readily available.

Possible solutions to this problem include better training, and more resources readily available to observers. As part of the training course for the Northeast Observer Program, observers

Continued on Page 19...

Bridging the Gap, Cont.

are trained in conflict resolution as it relates to captains and crew. There is no training however in dealing with the general public. Incorporating resources for observers during the training period may alleviate some of the issues that they confront once they enter their positions. The observer program has to maintain a

level of neutrality to preserve objectivity making it difficult to recommend resources that may not be government approved. A newsletter to observers may provide a solution. If observers are given information supported by the program, they can feel confident passing this information along to others.

¹Personal Observation. Jennifer Lengares. <http://www.nmfs.gov/fishwatch/>, <http://www.edf.org/home.cf>, <http://www.montereybayaquarium.org>
<http://nefsc.noaa.gov/fsb/>

²<http://nefsc.noaa.gov/fsb/>

US Northwest

The Art and Science of Juggling the Increasingly Complex Observer Work Load

Vanessa J. Tuttle and Cassandra Donovan; NOAA Fisheries, Northwest USA

A 6th IFOMC Panel Session Presentation:

Introduction

Recent developments in the at-sea Pacific hake fishery have led to catch restrictions on several bycatch species which have changed the nature of the fishery and necessitated changes in the At-Sea Hake Observer Program (A-SHOP). In addition, increased interest about the types and quantity of data being collected by the observers has driven changes as well.

The result is an increasingly complex work load, which now requires the observers to be more involved in making minute-by-minute decisions about their sampling, and to prioritize and manage their time. The increase in data collection has created new challenges for the observers and has required the A-SHOP to make changes in the sampling protocols, provide new sampling tools, and to modify aspects of the observer training.

Methods

Historically, observers have collected vessel and haul information, species composition samples, marine mammal and endangered species samples and sighting data, and biological data from the target species. Recent additions to the data collection include a significant increase in species composition sample sizes, biological data on an additional seven bycatch species, coded wire tag data and samples from salmonids, genetic samples on two different species, and occasional special projects for additional data.

In the past, the observers were generally able to complete all of their assigned duties for almost every haul. However, with increased sampling demands, this is no longer the case. Observers are a very hard working group of people, and most of them find it difficult to not attempt every task that is assigned, on every haul. Prioritizing data collections and emphasizing that not all tasks are

going to be manageable on all hauls has proven to be a challenging idea for some observers.

Results/Discussion

1. The A-SHOP has tried to ease the sampling burden in six distinct ways.
2. Ensure all data collection is appropriate and useful. Yearly evaluations with the data users help confirm that the data collection is relevant and meets their needs.
3. Carefully consider new data collection requests for feasibility.
4. Teach observers to prioritize their sampling effort and collect at least the minimum data necessary from every haul. As time allows collect additional data on important bycatch species.

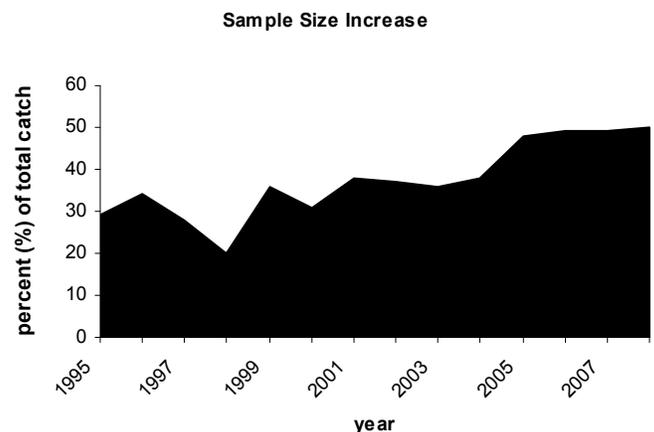


Figure 1. Average species composition sample size by year.

Continued on Page 20...

Juggling Workload, Cont.

5. Modify sampling protocols in-season to ensure target biological data goals are met and not exceeded.
6. Highlight time management by using real-life sampling scenarios during training.
7. Develop tools and techniques to streamline observer sampling.

The A-SHOP is continually evolving and changing to help the observers adapt to the increased sampling demand. The primary goal is to help ensure that the highest quality data is collected, along with a reasonable maximum amount of data, without causing observer fatigue.

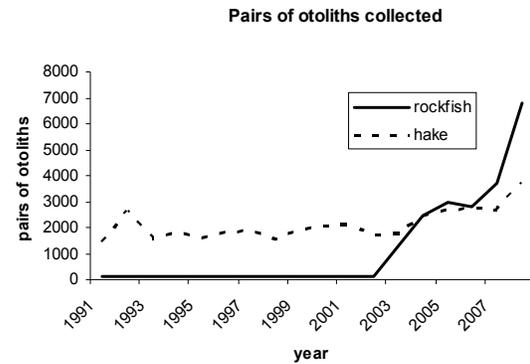


Figure 2. Biological data collection for hake and rockfish by-catch by year.

US National Observer Program

National Observer Program Annual Report

The 2008 National Observer Program Annual Report on the outreach page of the National Observer Program website: <http://www.st.nmfs.noaa.gov/st4/nop/outreach.html>

The Annual Report contains information on national and regional

program funding and fisheries observed, as well as observer program highlights. Our goal is to capture the contribution of fisheries observers to NMFS conservation and management activities. Questions or comments on the report can be sent to

Samantha.Brooke@noaa.gov.

NOAA Fisheries National Observer Program Staff Update

The National Marine Fisheries Service (NMFS) Office of Science and Technology recently hired Chris Rilling as the new National Observer Program (NOP) Manager.

After receiving his degree in marine biology from Humboldt State University, CA in 1986, Chris worked full-time as a commercial fisherman in Prince William Sound, Alaska for several years serving as both a crewmember and captain aboard vessels in the herring and salmon purse-seine fisheries and the halibut longline fishery. In 1989, Chris captained one of the first commercial fishing vessels to respond to the Exxon Valdez oil spill. He was responsible for deploying booms to protect Prince Williams Sound's salmon hatcheries and assisted in the cleanup. Following the collapse of the herring fishery in 1993, Chris returned to graduate school and received his MS degree in fisheries science from the University of MD, Chesapeake Biological Laboratory, where he worked as a faculty research assistant before joining NOAA in 1999. Since then, Chris has worked on both coastal zone management issues with the National Ocean



Photo of new NOP team leader Chris Rilling with an Atka mackerel aboard FV Sea Storm in the Aleutian Islands during a bottom trawl survey in 2002.

Service, and more recently as a fisheries management specialist with the NMFS Office of Sustainable Fisheries, Highly Migratory Species (HMS) Management Division helping to implement regulations for Atlantic HMS (tunas, sharks, swordfish, and billfish). Chris helped manage the Atlantic shark bottom longline observer program for the HMS Management Division for several years, and is familiar with the challenges faced by observers as well as the importance of at-sea data collection for both scientific and management purposes.

Chris looks forward to working with the APO, the observer community, and NMFS regional observer programs to continue successful implementation of observer programs nation-wide. Chris acknowledges the significant contributions of his fellow NOP staff members Samantha Brooke, Dennis Hansford, Teresa Turk, and SeaGrant fellow Catherine Purcell, whose diligent work kept the NOP functioning smoothly during the year-long search to fill the vacancy. Contact: Chris.Rilling@noaa.gov.

***This section highlights pieces regarding initiatives meant to foster the health, safety, and general welfare of Fisheries Observers. If you would like to share with us an important aspect of observer professionalism, please [contact us](#).

Protecting Hearing for Fisheries Observers¹

Steve Todd; Fisheries Observer; West Coast, USA

A 6th IFOMC Poster Session Presentation²:

Abstract

Fisheries observer safety training is very thorough in preparing observers for worst case scenario situations; but what about the more benign hazards, like threats to hearing. The hazards that threaten these senses and the possible solutions to insure protection against such perils are rarely covered in observer training or safety related information.

As part of this study, a sound level /decibel meter will be used on eight representative vessels covered by observers in the West Coast Groundfish Observer Program (WCGOP) to monitor typical vessel operational noise from such sources as the engine, the hydraulics, and on-board equipment.

The study's objectives are to present noise levels recorded from the vessels in this study, to illustrate to observers the hidden hazards of our occupation, and inform them of the precautions they can take to better protect their hearing while allowing them to continue to collect high quality data.

Introduction

Biologists who have made a career out of working as fisheries observers are subject to many dangers at sea. Most of these dangers are very clear while others pose a hidden risk. Loss of hearing is one of these risks. A career working with and around industrial commercial fishing machinery has the potential to adversely affect the hearing of fisheries observers.

Hearing and sight are integral to the work duties associated with fisheries observers and are often taken for granted. My goal with this project is to inform the observer community of the covert dangers encountered with our job that have the potential to damage our hearing. I also intend to advise the observer community on how to better protect ourselves while capturing high quality data working at sea and maintaining a high quality of life on land.

Materials and Methods

A Quest NoisePro DLX dosimeter (Fig.1) was used to measure sound in decibels (dB) from the West Coast Groundfish fleet. The dosimeter is a small device equipped with a microphone that was attached near ear level on the observers' foul weather gear. (Fig 2) The study period ran from March 2009 through June, 2009; vessels selected for observer coverage during the corresponding period were utilized for

this project. In total, noise recordings from eight vessels were collected. The vessels selected ranged from 21' to 66' total length, with construction materials including fiberglass, steel, and wood. The vessels ran on diesel power, although one vessel with a gas outboard engine was included in the study.

Noise from the engine, generators, and hydraulics were measured and recorded from work and living areas utilized by observers during normal work conditions. Noise recording durations on selected vessels ranged from a few minutes to multiple hours. The individual sets were later extrapolated to eight hour intervals to determine noise dose readings; the average noise readings, and maximum reading (in dB) encountered per trip were recorded in Table 1.

Results

According to the U.S. Dept. of Labor Occupational Safety and Health Administration (OSHA), the maximum permissible noise level (100% noise dose) for general industry, as defined by its Code of Federal Regulations (CFR), is eight hours at 90 dB. Persons subject to prolonged noise levels of 85 dB or greater however, are considered to be at risk for hearing loss, and it is recommended that they wear ear protection. Ear plugs can reduce noise exposure by up to 25 dB, and ear muffs up to 30 dB. Emissions less than 75 dB are not considered to be a threat to hearing.

WCGOP vessels and corresponding gear types from this study produced very distinctive results (Table 1). The area of greatest concern on trawl vessels proved to be sampling area on the back deck when the hydraulics were engaged during haul back and gear set. Engine noise in the house and bunk areas produced the highest db readings on longline vessels.

Discussion

Average dB readings during the course of this study provide evidence that the observer community that works in the WCGOP, and the commercial fishing fleet, are at risk for hearing loss (See Table 1). A more thorough study of this kind would provide a better understanding of the risks to hearing observers may experience. Table 2 shows permissible noise levels as defined by OSHA (29 CFR 1910.95); prolonged exposure to noise levels in excess to the levels listed in the Table 2 will result in gradual and progressive hearing loss. The first symptom of noise induced hearing loss (NIHL) is typically

Continued on Page 22...

Protecting Hearing for Fisheries Observers, Cont.

Tinnitus: a ringing, hissing or booming sensation in the ears. If the duration of exposure to damaging noise is short, tinnitus can subside in a matter of hours or days. Prolonged exposure of noise at damaging levels does not give the ear a chance to recover, and may result in gradual hearing loss. Chart 1 provides reference values for common noises. Up to this point, many of the concerns regarding hearing loss were anecdotal and based on assumptions of personal experience. This study

aimed to document the noise produced on commercial vessels of the WCGOP. The results of this study, support the need to include hearing protection as assigned observer gear. Fig.3 shows two examples of over the counter ear plugs; Common sponge type (\$2), and custom molded ear plugs from Westone (\$80)³.

¹Bibliography: 1. <http://agency.osha.eu.int> "The impact of noise at work" 2005. The European Agency for Safety and Health at Work. 2. <http://www.nidcd.nih.gov/health/hearing/noise.asp> National Institute on Deafness and Other Communication Disorders. "Noise induced Hearing Loss". 3. <http://www.osha.gov> 29 FCR 1910.95, & 33 FCR 86.05 4. Miyakita, T. and A Ueda 1997. Estimates of Workers with Noise-Induced Hearing Loss and Population at Risk. Journal of Sound and Vibration., Vol. 205, 4: 441-449 5. Picard, M., Serge Andre Girard, Richard Marc Simard, Tony Leroux Larocque, and Fernand Turcotte 2008. Association of work related accidents with noise exposure in the workplace and noise-induced hearing loss based on the experience of some 240,000 person-years of observation. Accident Analysis and Prevention., Vol. 40, Issue 5, pp 1644-1652. 6. Wilkins, P.A. and W.I Acton 1982. Noise and Accidents - A Review Annals of Occupational Hygiene., Vol. 25, No.3, pp.249-260.

²See this poster at: http://www.apo-observers.org/docs/Todd_IFMOC_Poster.pdf

³Acknowledgements: Special thanks to my Dad JT for his initial consultation in this study, and for his support in all my endeavors. RIP. Additional thanks to the WCGOP observers that contributed with my research, and WCGOP staff for their support, consultations, reviews, and suggestions.

Factors Affecting Observer Safety in the Gulf of Mexico

Matthew K. Walia, Fisheries Observer, Southeast USA and Lawrence R. Beerkircher NOAA Fisheries, Southeast USA

A 6th IFOMC Panel Session Presentation:

Introduction

Commercial fishing is an inherently dangerous profession, as repeatedly documented by the United States' Department of Labor¹. While many recognize the dangers of working in northern temperate waters, such as the North Atlantic or the Bering Sea, there may be a complacency regarding safety in the Gulf of Mexico (GOM). Numerous factors typical of commercial fishing operations in the GOM can contribute to this complacency such as warmer waters², lack of survival suit requirements³ and the predominantly smaller size of vessels that have no head facilities on board. In order to complete their duties and come home safely, fisheries observers must be prepared and knowledgeable about fishing fatalities. The objective of this study is to understand factors regarding fishing vessel loss, fatalities and how these are related to the GOM in regards to two other areas of fisheries importance, the North Atlantic and Bering Sea.

Methods

Historical data of occupational fatalities, from the Bureau of Labor Statistics, was reviewed in order to highlight the dangers of the three most dangerous occupations from 2002-2007. The

number of fatal work injuries/employment* 100,000 was calculated to get a fatality rate. Fishing vessel losses and fatalities were also reviewed from United States Coast Guard⁴ districts in the GOM versus the North Atlantic and Bering Sea from 1992-2007.

Results/Discussion

Over the course of 16 years, 1,903 American flagged fishing vessels were lost. 57% of the lost vessels occurred in the three areas of interest- the Bering Sea, GOM and North Atlantic. Over half of the total fishing vessel losses was reported to have occurred while in a non-fishing mode i.e. transiting, out/inbound and drifting. Observers must be aware of any dangers at all times, not just while fishing operations are being conducted. During this time period, the GOM ranked second highest in numbers of lost fishing vessels and fatalities. Of the 934 documented fatalities in all districts, 58% occurred in the three areas of concern. Water exposure was the highest cause of death overall, while 217 deaths were due to man-overboard incidents throughout all districts. The GOM has had the highest percentage of falls overboard throughout the stated time period, accounting for 35% of total falls overboard. The GOM is the only district to report falls overboard every year, which should cause concern for personal safety. Common situations

Continued on Page 23...

Gulf of Mexico Safety, Cont.

in which an observer may find themselves, such as being alone on deck, losing balance, and working in inclement weather, are associated with falls overboard and safety in general⁵. High rates of man-overboard incidents, fishing vessel loss and the possibility of hypothermia in the GOM should raise concern. While the majority of water exposure fatalities were due to the vessel sinking, flooding or capsizing, an observer can control such events as man-overboard incidents by staying alert and prepared. In contrast to the Bering Sea or North Atlantic, an observer working in the GOM is usually on an exposed back deck more often to clean themselves and use the restroom “facilities”. Staying away from gunwales when

possible and keeping one hand for the boat along with proper use of standard issued safety equipment, such as wearing a personal flotation device (PFD) when alone on the deck⁶ are essential in helping an observer complete their duties properly and safely. Observers can also create personal “man-overboard kits” including personal locator beacons, signal mirrors, and other visual/audio distress signals, which can be easily attached to a PFD. The need to be diligent and alert at all times is necessary for an observer during their deployment. One has to be aware of the potential for disaster and remember that this is a dangerous profession regardless of where they are working.

¹U.S. Department of Labor, Bureau of Labor Statistics 2002-2007. National census of fatal occupational injuries. www.bls.gov/iif/.

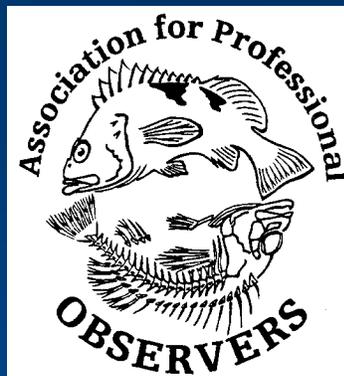
²National Oceanographic Data Center [NODC]. 2005. World Ocean Atlas.

³U.S. Federal Register. 1992. Commercial fishing industry vessel regulations. 57:149, 34188-34190.

⁴Dickey, H. David. 2008. Analysis of fishing vessel casualties: a review of lost fishing vessels and crew fatalities, 1992-2007. United States Coast Guard. Office of Investigations and Analysis, 51p.

⁵Lucas, D.L. and, J.M. Lincoln. 2007. Fatal falls overboard on commercial fishing vessels in Alaska. American Journal of Industrial Medicine 50(12): 962-968.

⁶Beerkircher, L., K. Keene, S.Cushner, and J. Barker. 2009. Pelagic observer program field manual. NOAA. NMFS-SEFSC.





WELLNESS AT SEA

The dangers of sleep deprivation, dehydration and poor nutrition while at sea and techniques to recover from these conditions

Sandra M. Vieira

Alaskan Observers Inc. / NOAA Fisheries West Coast Groundfish Observer Program / Northwest Fisheries Science Center / Seattle, WA., U.S.A.

An observer's job is inherently dangerous and is amplified when basic wellness is not maintained. Research has found that sleep deprivation, dehydration and poor nutrition each have dangerous side effects to an individual. Some of the side effects include slower reaction time, confusion, impaired problem solving abilities, and muscle cramps to name a few. These side effects can be underlying causes to accidents at sea. This is a serious safety concern for the observers themselves, as well as those working around them. It is important to inform observers of these side effects and how they affect the body's requirement for peak performance, how easily it is to degrade those levels of function and teach observers techniques on how to maintain or regain wellness. This poster describes the effects of sleep deprivation, dehydration and poor nutrition and shows how to avoid or correct these conditions. The intent of this teaching aid is to help avert this type of poor health while out at sea and minimize danger to an already risky profession. The key goals to an observer's fishing trip are: 1) to return to port safely 2) data collected is of high quality and 3) the data will aid in the management efforts of the fishery.



F.Y.I.

- Sleep deprivation has been found to interfere with the metabolism of glucose (a critical source of energy for all cellular activity) by slowing it down 30 to 40 percent. This could impair endurance, physical recovery time, and the regulation of body temperature. The storage of glucose in the muscles and liver (glycogen) is particularly important for any endurance activity.
- Elevated levels of the stress hormone cortisol, a catabolic (breakdown) hormone, were also discovered in sleep deprived individuals and have been linked to the development of memory impairments, impaired tissue repair and growth, and a depressed immune system.
- 75 percent of Americans are chronically dehydrated.
- In 37 percent of Americans the thirst mechanism is so weak it is often mistaken for hunger.
- Lack of hydration is the number one trigger of daytime fatigue.
- Working outdoors in the cold further dulls the thirst mechanism.
- A mere 2 percent drop in body water can make it difficult to think clearly.
- Mild dehydration will slow the body's metabolism by as much as 3 percent.
- You can lose one gallon of water in sweat in just a few hours.
- Any food with calories will give you energy; however, foods high in fat stimulate production of serotonin and can make you feel sluggish and tired.
- A healthy diet can keep your body strong and active.
- A healthy diet can help protect you from heart disease, bone loss, Type 2 diabetes, high blood pressure and some cancers such as colorectal cancer.

SLEEP DEPRIVATION

EFFECTS

- Depression
- Irritability
- Slurred speech
- Slower reaction times
- Hypertension
- Heart disease
- Tremors
- Poor performance

RESTED

SOLUTIONS

- Rest well before a trip
- Take naps when possible
- Wear earplugs when sleeping
- Awake > 15 minutes before a haul back
- Splash cold water on the face
- Brush your teeth
- Chew flavored gum
- Listen to high-spirited music while working

DEHYDRATION

EFFECTS

- Fatigue
- Muscle weakness
- Dizziness or lightheaded
- Increases likelihood of frostbite in cold conditions
- Headache
- Low blood pressure
- Rapid heartbeat

HYDRATED

SOLUTIONS

- Avoid caffeinated drinks
- Consume at least 8 cups of clear liquids per day
 - Water
 - Sport drinks
 - Clear broth
 - Carbonated water
 - Jell-O
 - Popsicles

POOR NUTRITION

EFFECTS

- Irritability
- Depression
- Slow-performance
- Moody
- Uncooperative
- Poor concentration
- Fatigue

EAT WELL

SOLUTIONS

- Eat several small meals throughout the day
- Avoid simple carbohydrates (e.g. sugar, candy, soda)
- Eat lean protein, complex carbohydrates & healthy fat
 - Fish, lean beef & eggs
 - Low fat dairy products
 - Beans & nuts
 - Oatmeal
 - Dark green & orange veggies
 - Blueberries, strawberries, citrus fruits & avocados

RESOURCES

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***This section of the Mail Buoy focuses on the professional livelihood of observers, from employment parameters and standards to professional development opportunities. If you would like to share with us an important aspect of observer professionalism, please [contact us](#).

Observer Support Mechanisms

Mike Orcutt and Jen Paton; Archipelago Marine Research Ltd., British Columbia, Canada

A 6th IFOMC Panel Session Presentation:

Introduction

Some key challenges faced by our At Sea Observers include; difficult lifestyle, difficult crew interactions, work and personal life stress, and the perceived lack of professional and/or personal growth. Archipelago Marine Research Ltd. has developed a variety of programs and services to help our staff overcome these challenges.

Methods

Effective communication and conflict resolution is part of our three-week training course. It is designed to help boost the Observers' confidence levels when they encounter difficult crew interactions. Other topics help the Observer identify their own stress triggers and ways to manage stress. Scenarios' based training provides an opportunity to prepare the Observers for some of the real-life situations they may encounter.

Health and wellness programs are offered by Archipelago to provide support to full-time equivalent staff and their families. Beyond standard benefits packages there are a number of wellness benefits that Observers are encouraged to utilize. Many of these benefits can be accessed while they are in port between assignments when it is often needed most. The package reimburses a number of what we call "good for the head" benefits, including massage treatments, acupuncture, and various alternative therapies. One of the more popular aspects is the annual reimbursement for healthy living activities such as gym memberships, fitness classes or personal interest courses.

Archipelago has had a Critical Incident Peer Support (CIS) program in place since 1998. The initial goal of the program was to provide timely support to employees who are involved in critical incidents at work. As the program evolved it was realized that work related incidents are only a part of our employees overall well being, and often support is provided for personal issues rather than work related issues. An external service provider is contracted to provide training to the volunteer peer support team, consisting of program staff, supervisors, and fellow observers. The peer support team is used to assist employees and their families with obtaining the professional counselling and support that they need. There are a number of different options that observers can use to access the professional counselling services including a 24-hour emergency phone line, in-person counselling and email counselling.

Archipelago recognizes the need to be flexible in how we

schedule Observer staff deployment. The standard is a 24 day rotation in one of three main ports, followed by 7 days off at home. During the 24 day deployment Observers average three, 5-7 day assignments. Another option for observer staff is to relocate to one of the main deployment ports. Port residents have greater access to work, and are able to be at home in between assignments. Archipelago also employs several casual or part time staff. These individuals are called upon for special projects, and during peaks in activity. Archipelago's staff are employees rather than contractors, so Observers are free to change the model they work under as their needs change. Giving Observers the option of which model they work under provides them time they need for their personal lives. From a program management perspective, having Observers in all of these categories can be very beneficial for meeting fluctuations in activity caused by weather and market conditions.

Keeping staff motivated and rested ensures quality data collection and high-levels of service to our clients. Allowing leaves of absence for attending school or other types of training has been effective at restoring staff. Archipelago also provides long-term time-off for either travel or family commitments, where the employee may return to work at the same rate of pay and seniority.

Archipelago also conducts dockside monitoring and electronic monitoring work. Providing training for at sea Observers to work within Archipelago's other programs promotes work diversity, and allows at sea observers to supplement their work at sea. The cross training helps with temporary staffing solutions when these other programs require staff.

Recognizing Observers for their service, hard work, and contributions is a key component to maintaining a long-term commitment from staff. We have one, five and ten year milestone recognition programs, the coveted 1000 sea day award, as well as a personal gift rewards program for exceptional performance.

Results/Discussion

Understanding the issues faced by observer staff is the first step to being able to provide effective support. Once the issues are identified, it is necessary to either create or find the appropriate support tools and resources required to help staff with their challenges.

Providing an effective and complete support system is key to ensuring a healthy and productive work environment.

***This section focuses on the end-use (scientific product) of observer data and related fisheries science. If you would like to share an important use of observer data or provide a lead to scientific publications which utilize observer-collected data or exhibit related fisheries science, please contact us.

Tracking Species Range Expansion as an Indicator of Climate Change Using Observer Data

Allen Cramer and Cameron Hagstrom; NOAA Fisheries; WCGOP, USA

A 6th IFOMC Poster Session Presentation¹:

Abstract

One possible consequence of climate change is an alteration in species distribution ranges. However, identifying such alterations can be difficult. Since 2001, the West Coast Groundfish Observer Program (WCGOP) has deployed fisheries observers year-round, along the contiguous West Coast of the United States. This has provided a large data set which can be used to track shifts in species distributions and help identify the effects of oceanographic phenomena including climate change. To aid in identifying distribution pattern shifts, the WCGOP has recently added latitudinal and depth range parameters to its database. This enables the program to quickly identify any species found outside of its usual range and to monitor such occurrences to determine if they are anomalous or indicate a trend. Additionally, WCGOP is investigating several instruments for collecting oceanographic data (including temperature and depth) that can be deployed with observers. It is hoped that this information can be used to correlate distribution changes to oceanographic conditions.

Introduction

Global climate change is expected to have an impact on marine biodiversity and species distribution (Murranski, 1993)². In the North Atlantic, researchers have demonstrated a redistribution of some species to more northerly latitudes and deeper waters (Perry et al, 2005)³. In the NE Pacific, research has indicated a shift in some pelagic species (Phillips et al, 2007)⁴, but little research has focused on distribution changes of demersal species. Observers from WCGOP have been deployed along the entire contiguous West Coast of the United States since 2001, collecting catch and discard data from groundfish fisheries. This valuable data set provides a unique opportunity to investigate potential changes in species distribution. The WCGOP has recently incorporated depth and latitudinal range data to their database in an effort to identify any shifts or range expansions.

Methodology

Observers collect depth and fishing location data for each haul or gear set. Historical range and depth data for all species encountered to date were added to the database. This allows the program to query for any species that fall outside the historical parameters. The resulting data set included records for both the set and retrieval depth/location when both fell outside the normal range. The most conservative value (i.e. – the latitude or depth value closest to the historical limit) was used. Data for which only the set or the retrieval fell out of range were eliminated as there is no way to be sure the captured specimen was

from outside of its historical range/depth. Also, highly suspect identifications were omitted. Finally, depth data for pelagic species were disregarded as these were likely captured in the water column during set or retrieval.

Results

Changes in depth were more prevalent than changes in latitude. Far fewer pelagic species appeared in the data. This is to be expected as we do not typically observe mid-water fisheries in our program. Of the geographic expansions, 7 had been verified but no vouchers were retained. Latitudinal expansions ranged from a few miles to 400 for one rare species that, although the specimen was not collected, described such detail that the identification is likely correct. All pelagic fish had expansion of more than one degree latitude. Only 61% of the demersal species had expansions of more than one degree latitude.

Discussion

The results indicate some species were observed out of their historical range. However, one cannot assume such changes are climate related at this time. Some of the records may have occurred because the historical data used is imprecise, giving only a general geographic area. It is also possible that some of the species had been in the areas observed, but overlooked. >The need to collect voucher specimens was evident.

This pilot project did not try to link the appearance of species out of their range with oceanographic data which would be necessary to determine if a correlation exists. The WCGOP has been studying the feasibility of deploying data loggers on vessels to capture temperature and depth information that will be haul specific. In the absence of physical data, yearly differences were examined for any trends. There was little of note, except that 2006 had about half the yearly average of records. During 2006, strong up-welling resulted in cooler water temperatures and less northward migration of pelagic species, and likely demersal species also.

In conclusion, several corollary benefits were noted with this project. First, it provided evidence that a few closely related species are being misidentified, allowing the program to focus more on these species during identification training. It will also allow WCGOP data quality control personnel to quickly identify and future misidentifications. Second, it identified the need to collect voucher specimens and provided a list of species on which to focus our attention. Finally, it has demonstrated the need to look for increases in species outside of their historical range over a long time period. It would also be useful to look for changes to where species density is greatest.⁵

¹See this poster at: http://www.apo-observers.org/docs/Cramer_IFMOC_Poster.pdf

²Murawski S.A. (1993) Climate change and marine fish distributions: forecasting from historical analogy. *Transactions of the American Fisheries Society* 122:647-658

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⁵Acknowledgements: We would like to thank observers, first and foremost. Without their hard work, none of this would be possible. We'd also like to thank Rick Brodeur for providing published research material on the subject. Finally, we'd like to thank Jason Eibner, Jenni-

IMPORTANT CONTACTS AND WEBSITES

APO:

APO Website

www.apo-observers.org

APO General E-mail

apo@apo-observers.org

Liz Mitchell (APO President)

emitch@efn.org

(541) 344-5503

Dave Wagenheim (APO V.P./ ObserverNet)

davewagenheim@hotmail.com

Ebol Rojas (APO Vice President)

ebolred@yahoo.com.ar

Keith Davis (APO Secretary/ MB Editor)

lblegend@yahoo.com

(928) 369-8764

Alicia Billings (APO Board/ Web Master)

aliciabillings@gmail.com

Mark Wormington (APO Board)

siberio@hotmail.com

Links:

APO Website

www.apo-observers.org

ObserverNet (on-line observer forum)

www.observernet.org

National Observer Program

www.st.nmfs.gov/st4/nop

Intl. Fish. Observer and Monitoring Conference

www.ifomc.com

AMSEA (Marine Safety Instruction)

www.amsea.org

*** **Submissions** for the forthcoming **Winter/Spring Mail Buoy** are due by **January 31, 2010**. The APO is currently recruiting for observer representatives from national and international observer programs. **Please, contact us if you are interested with helping with the APO!**

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