



NOAA FISHERIES
NATIONAL MARINE FISHERIES SERVICE

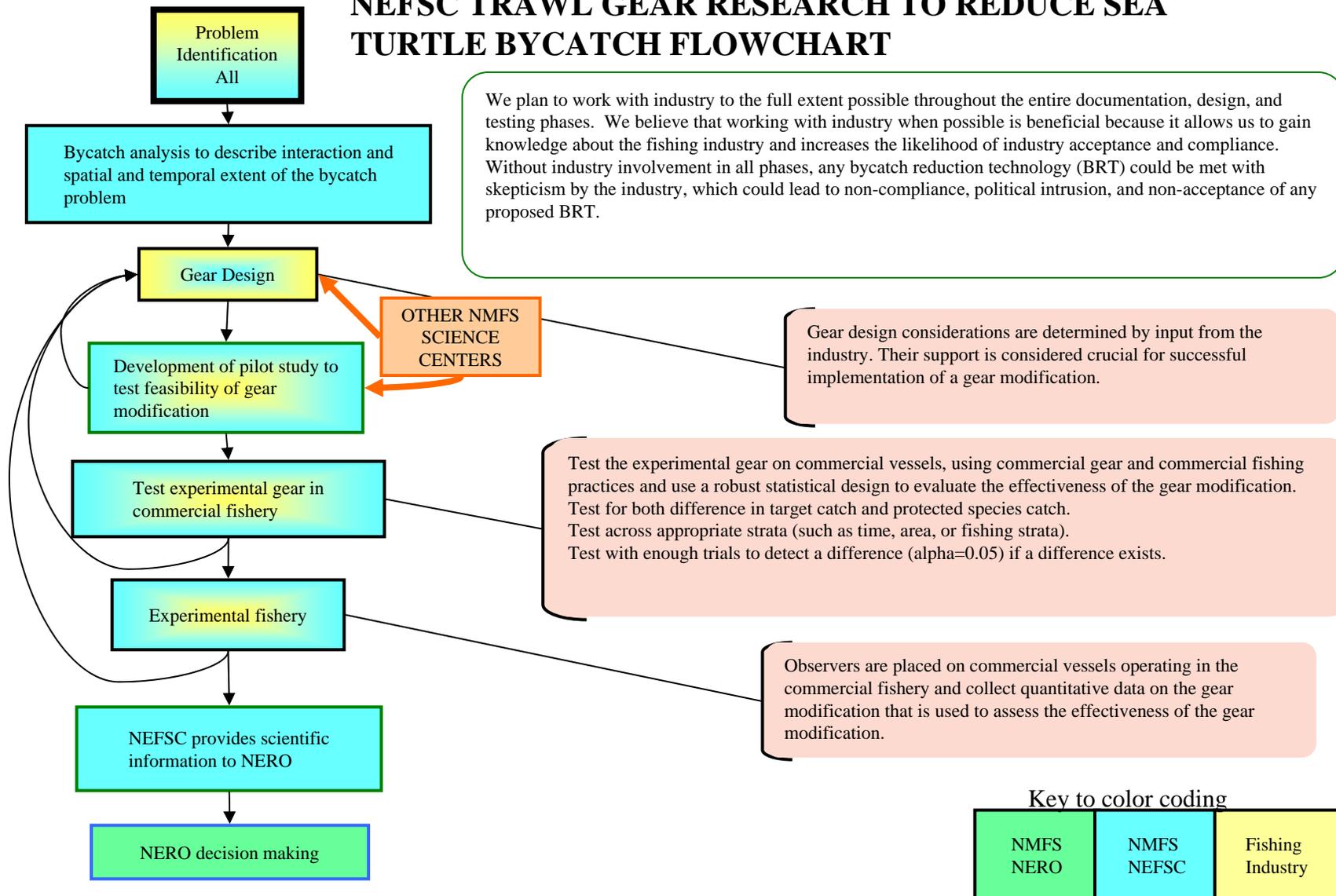


Report on Cetacean and Sea Turtle Trawl Interaction Mitigation Workshop

Held in Atlantic City 12/08-09/05



NEFSC TRAWL GEAR RESEARCH TO REDUCE SEA TURTLE BYCATCH FLOWCHART





Workshop details

- Held in Atlantic City in December 2005 following MAFMC meeting.
- Workshop and pilot study work was contracted to URI under a competitive bid.
- First phase of a three phase project (third phase being the full experimental testing in the commercial fishery using commercial gear).
- Workshop dealt mainly with cetacean bycatch issues. Follow-up workshop on sea turtle trawl bycatch issues will be held in October.



Goals for the workshop:

- Discuss potential solutions to the interaction problems, and the feasibility of conducting research by the parties present.
 - Understand the problem
 - Establish communications
 - Solicit industry input
 - Determine a possible Bycatch Reduction Technology (BRT) that can be tested
 - Determine how we can best test the BRT



Participants

NMFS

David Gouveia
Glenn Salvador
Henry Milliken
Jeff Gearhart
John Mitchell
Marjorie Rossman
Nick Hopkins
Tanya Dobrzynski

URI

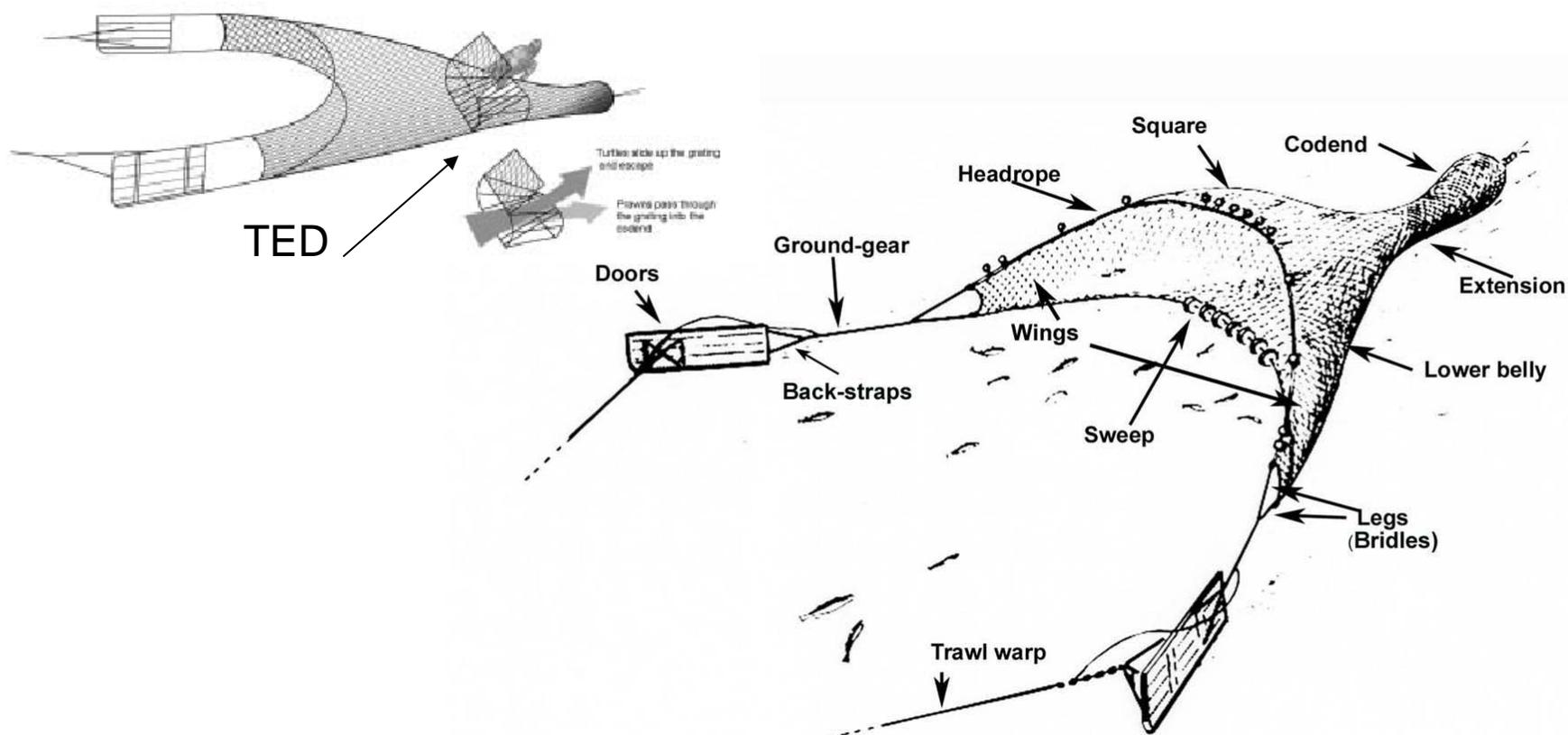
Joe DeAlteris
Daniel Lawson
Danielle A. Reich

INDUSTRY

Geir Munson
Glenn Goodwin
Greg DiDomenico
Jerry Oneil
Jim Ruhle
John Knight
Kevin Hayden (SwanNet)
Lars Axelsson
Mary Beth Tooley
Mike Genovese
Nick Jenkins
Phil Ruhle
Richard Seagraves



Labeled trawl net





Sea turtles and the TRT process

- NMFS NE Regional Office, described regulatory structure of NMFS and the requirements of the MMPA with regard to marine mammal bycatch. The NERO indicated any promising mitigation solutions developed by this group could be considered in the TRT process.



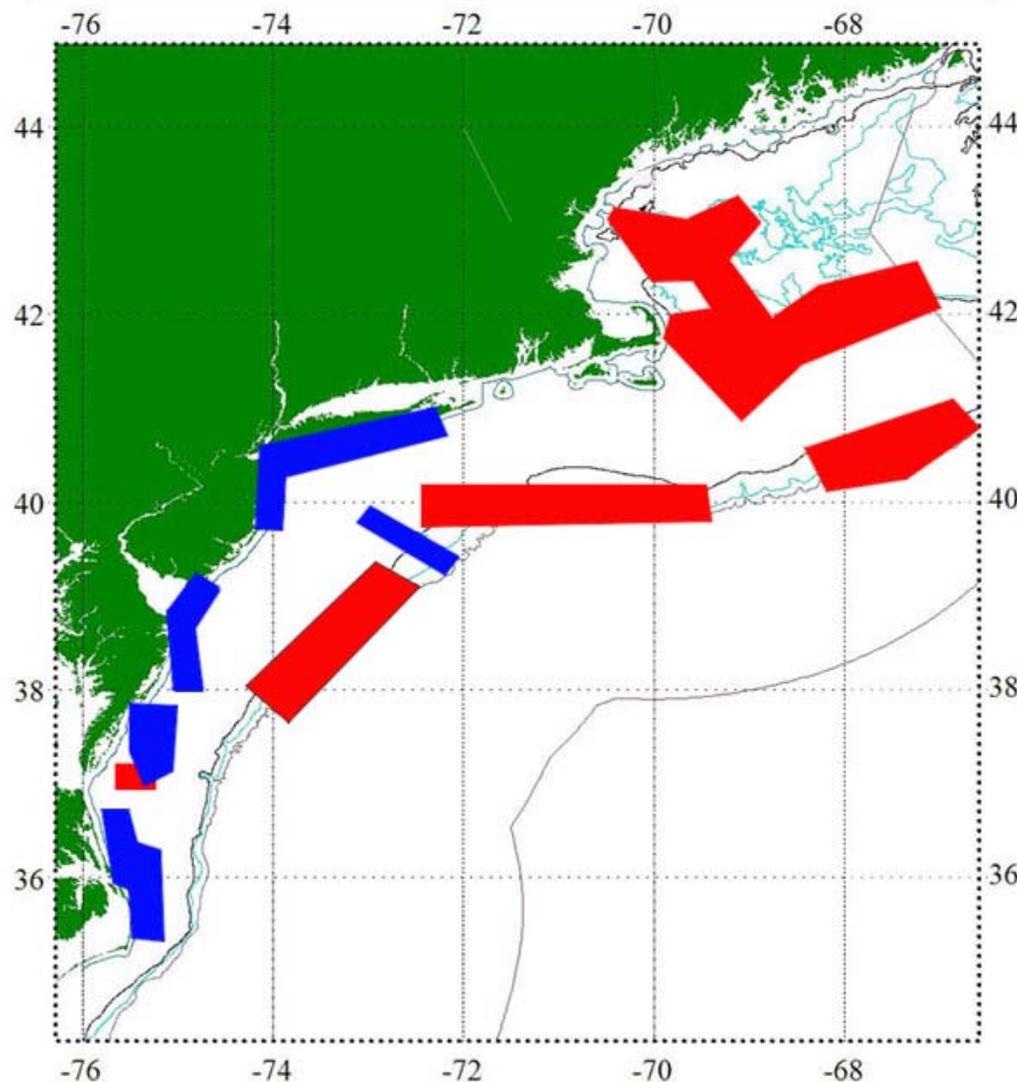
Sea turtle and cetacean bycatch

- NEFSC/ PSB provided a presentation on observer program data of reported bycatch of cetaceans and sea turtles in the New England and Mid-Atlantic regions.
- Presentation showed spatial separation between cetacean and sea turtle bycatch problems.



Observed Cetacean and Sea turtle takes 1993-2004

-  = Sea Turtle
-  = Cetacean





Discussion on TED's

- Participants indicated that the traditional TEDs might be suitable for most inshore fisheries, with respect to sea turtle bycatch, except for the croaker fishery off the NC/Virginia coast because of dense schooling and clogging up of the trawls.
- While TEDs may also be appropriate for some smaller vessels, the industry stated that it would not be practical in the large boat – large net fisheries due to problems with handling the large TEDs.
- Workshop planned for October to address TEDs in the trawl fishery.



Summarization of recent research

- Simon Northridge and SMRU explored different exclusion strategies in the sea bass fishery, and are still assessing where to put escape openings to maximize catch rates and minimize bycatch rates. Their conclusion was that mammals are caught anytime during the tow.
- One group investigated the potential of a tunnel shaped barrier in the mackerel fishery.
- An alternative strategy was “smart pingers” that will only go active when they sense the presence of marine mammals. Unfortunately, the gear will probably not be available for practical study for some time.



Suggestions:

- Participants suggested the first step in the project should use video cameras to investigate the behavior of fish and cetaceans in the trawl nets. Cameras should be placed looking both forward and aft in the net. Escape openings should be monitored for potential catch loss, as well as effectiveness for cetacean and sea turtle escape.



Other options that were identified for reducing cetacean bycatch in trawl fisheries:

- Soft V-grid developed by Swan Net, four of these available for use. There has been very preliminary work done. Size and position of escape opening needs to be explored, as well as the orientation of the soft grid. Not deemed appropriate for sea turtle bycatch.



Other options that were identified for reducing cetacean bycatch in trawl fisheries (cont.)

- Combination of “noise” or visual deterrent like streamers, color changes, and low frequency pingers and escape openings designed to alert the cetaceans without blocking the net.
- Smart deterrents such as pingers that may sense cetacean’s presence and become active. This is new technology that presently is not readily available.



Other options that were identified for reducing cetacean bycatch in trawl fisheries (cont.)

- Simple opening with no excluder: single or multiple, considered to be the simplest solution.
- Flexible grids that may be deployed from net drums easier, like a Bull Flexy Grid. David Tate of Nordsea has done work with PVC bar grids.



Other options that were identified for reducing cetacean bycatch in trawl fisheries (cont.)

- Kevin Hayden, from Swan Net in Ireland, made a presentation about his experience with a soft “V” excluder that had been used with some success in the UK and in the Pacific. He also offered to make available trawl modeling software that could be used to theoretically evaluate any alteration or configuration of a trawl net.



Other options that were identified for reducing cetacean bycatch in trawl fisheries (cont.)

- Operational procedures such as methods of hauling back, setting, and turning the boat during towing operations. Also using the acoustics of the boat such as the sonar transducer to alert cetaceans.



Other options that were identified for reducing cetacean bycatch in trawl fisheries (cont.)

- Hard grids comparable to TED technology used in shrimp fisheries are viewed as a last resort for fisheries that tow large nets (most of this fisheries discussed at the meeting), and the consequently large size of any hard grid that would be used. It would make the operation of the net extremely difficult and likely dangerous for the crew.



Conclusions

- A tentative plan was developed to evaluate the Swan V-Net on two vessels using cameras.
- Several fishermen indicated an interest in participating.
- Swan Net agreed to undertake computer simulations of the excluders and nets as soon as possible.
- Discussions focused both on documenting animal behavior in the trawl mouth and the codend, and also investigating the performance of either a soft-V or openings in the net ahead of the codend.
- Concern about issues of video and confidentiality.



Conclusions: Mackerel fishery

- Because of the variation in the gear types being considered, different fisheries are going to pursue different avenues while trying to converge on solutions to the problem.
- SEFSC may also be involved in helping to evaluate gear performance and providing technical assistance with low light cameras.



Conclusions: Herring fishery

- Due to more immediate concerns in the herring fishery (haddock bycatch) and the similar nature of the gear to the mackerel fishery, they will not be participating at this point.



Conclusions: Groundfish fishery

- The focus will be on camera work to establish when, where, and how animals are interacting with the trawls. Dolphin interactions appear to be concentrated on NW Georges Bank and Wilkinson's February through April. Rick Marks will help with boat contacts.



Conclusions: Offshore Loligo fishery

- RI gear manufacturer has agreed to facilitate cooperation with this fishery. They will explore soft panels, mesh openings and other ideas with cameras and perhaps paired comparisons of target catch rates.



Conclusions: Inshore Loligo fishery

- Appears to be more of a sea turtle problem than a cetacean problem. Small boats, probably could look at TEDs for solution.



Conclusions: Ilex fishery

- Summertime deep water fishery that mainly interacts with Pilot Whales in July and August. They will explore some changes in operational procedures and investigate the behavior of whales.
- Suggested that research needs to be conducted into diving depth capabilities of these animals.



Where are we now?

- Four video systems purchased and tested.
- Three attempts to use the cameras aboard fishing vessels in the winter spring mackerel fishery, two trips out of Cape May NJ aborted after 1 day due to bad weather, one 7 day trip on the FV Persistence out of RI. Unfortunately the fish were deeper than 50 fathoms, and the cameras would not collect useable data on fish behavior at this depth.
- Worked in the mid-Atlantic scallop trawl fishery during the summer of 2006 on mitigating sea turtle bycatch with TEDs. Completed 28 days of paired comparisons on one vessel between a TED equipped trawl and a standard trawl, also collected good underwater video data of scallops entering the trawl and passing through the TED at depth to 35 fathoms.

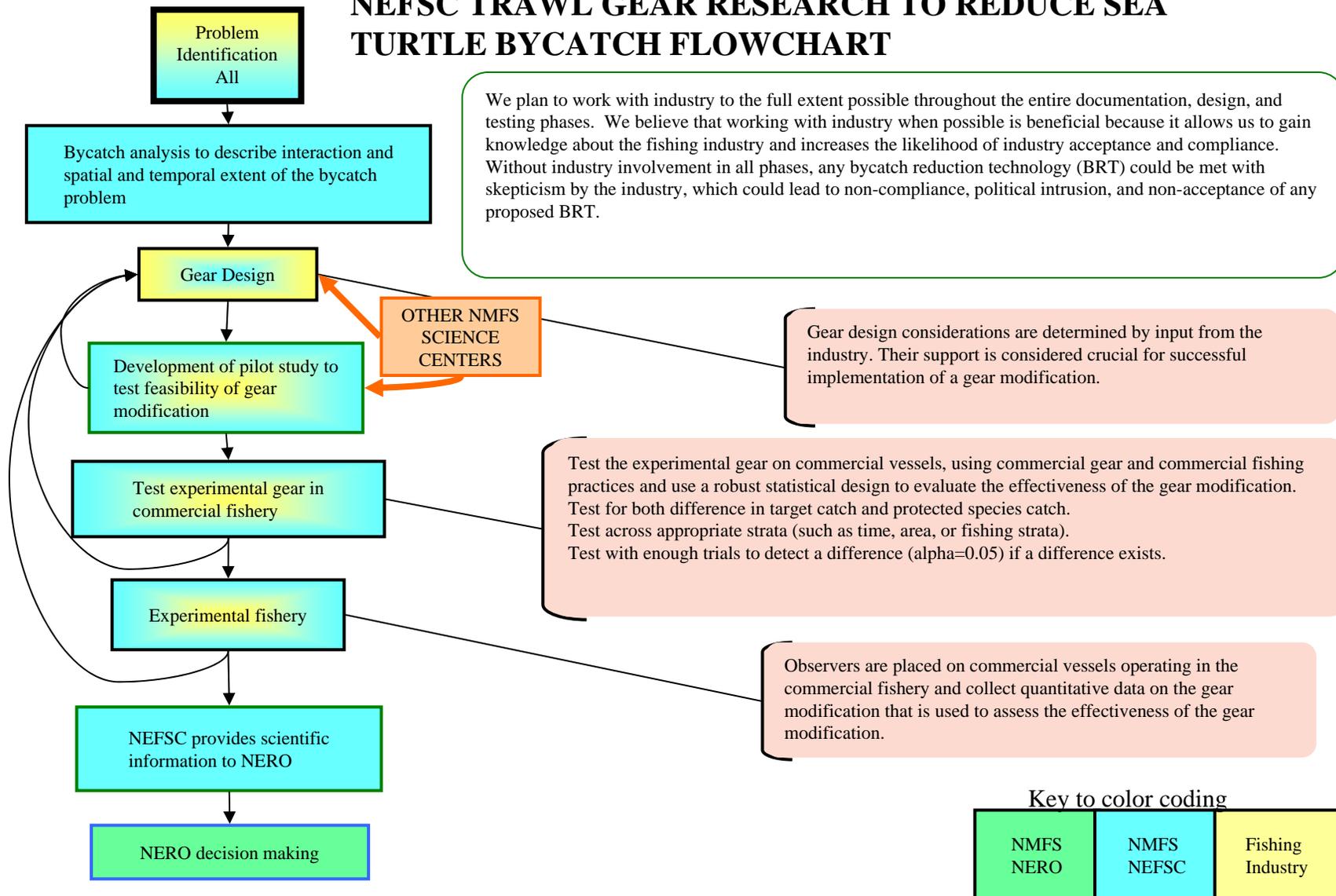


Where are we now (continued)?

- Reducing bycatch funds received to augment existing URI contract to fund evaluation phase of work and October sea turtle workshop.
- Efforts to coordinate experiments with commercial fishermen for the winter, spring and summer of 2007 for the trawl fisheries to evaluate alternative methods to reduce sea turtle and cetacean bycatch in trawl fisheries
- Trawl Bycatch analysis recently released.



NEFSC TRAWL GEAR RESEARCH TO REDUCE SEA TURTLE BYCATCH FLOWCHART





NOAA FISHERIES
NATIONAL MARINE FISHERIES SERVICE



End