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May 14, 2008

Dr. Roy Crabtree
NOAA Fisheries, Southeast Region
263 13 th Ave. South
St. Petersburg, FL 33701

Dear Dr. Crabtree,

I am writing in response to the (5/1809) PUBLIC HEARING DRAFT AMENDMENT 31 TO THE REEF FISH FISHERY MANAGEMENT PLAN. The document addresses bycatch of sea turtles in the bottom longline component of the Gulf of Mexico Reef Fish Fishery.

The Options Paper lists in its Appendix B a letter dated 12/28/08 from Mote Marine Laboratory that discussed spatial ecology and foraging depths occupied by loggerhead sea turtles in an ongoing satellite telemetry study. I correspond today with additional analysis for that dataset to assist the agency as it regards sea turtle bycatch in the bottom longline fishery in the eastern Gulf of Mexico.

We understand in communication with Dr. Carrie Simmons of the Gulf of Mexico Fisheries Management Council that an amendment option will be considered for permanent regulation of this fishery including options of (1) reduction of fleet size to vessels qualified on annual landings, (2) spatial exemptions of closure of water less than 30 fathoms during June, July and August instead of the previous discussion of year round in waters less than 50 fathoms, and (3) perhaps other gear or bait restrictions. The second point is one addressed by this letter of concern.

A new analysis was undertaken to provide comparable datasets with the loggerheads tracked by satellite telemetry by scientists at Mote Marine Laboratory and Florida Fish and Wildlife Conservation Commission that was also discussed in the Options Paper. A similarity of format was achieved by courtesy of FWC-Fish and Wildlife Research Institute staff remapping the Mote data with the same GIS options as displayed for FWC data. Only the MML dataset is discussed here but it is my understanding that the FWC data were provided as separate correspondence from Mr. Gil McRae/FWRI.

A reanalysis of the Mote dataset (see attached Figure), broken out monthly and by depth categories, clearly indicates that loggerhead turtles are present on the West Florida Shelf in the same depths (20-50 fathoms) as the reef fish bottom longline fishery in all months of the year. Therefore, it is doubtful whether a depth or temporal amendment being considered would alleviate or minimize any bycatch take of loggerheads in a substantive way although that may exist as one of the options on the table.

Thank you for an opportunity to bring these empirical datasets again to the discussion of impacts. The limitations of an observer based program are understood and I trust that MML empirical datasets can advise management on the consequences of these options under consideration.

The implications of the MML and FWC studies are straightforward. Some options available to the bottom longline fishery are NMFS tested and proven, such as the change of bait, hook type, and gear soak time. In reviewing options of the less than 30 fathoms and/ or June-July-August for spatial and temporal fishing effort that overlaps substantially at loggerhead foraging areas, I can find no pragmatic support for that as a viable option when assessing the MML dataset. Fisheries interests do not necessarily conflict with protected resource interests, but the option discussed above probably will if chosen.

The Mote data pertain to nesting female loggerheads, the most valuable segment of the population from a demographic perspective. The same turtles that are vulnerable to this fishery are experiencing population decline (Witherington et al. 2009, Ecological Applications 19:30-54) and a context for significant concern. Loggerhead turtles are spatially and temporally ubiquitous through the eastern Gulf of Mexico from both Gulf and Atlantic Florida nesting populations. Where sea turtle interactions are correlated with fishing effort, then a reduction in longline fishing effort must occur to decrease the sea turtle takes.

If there are questions about the methods of these studies, please do not hesitate to contact me, tel. 941-388-4441 ext. 470 or tucker@mote.org

Sincerely,



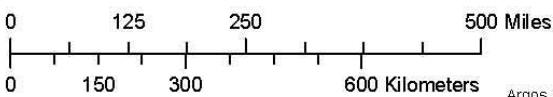
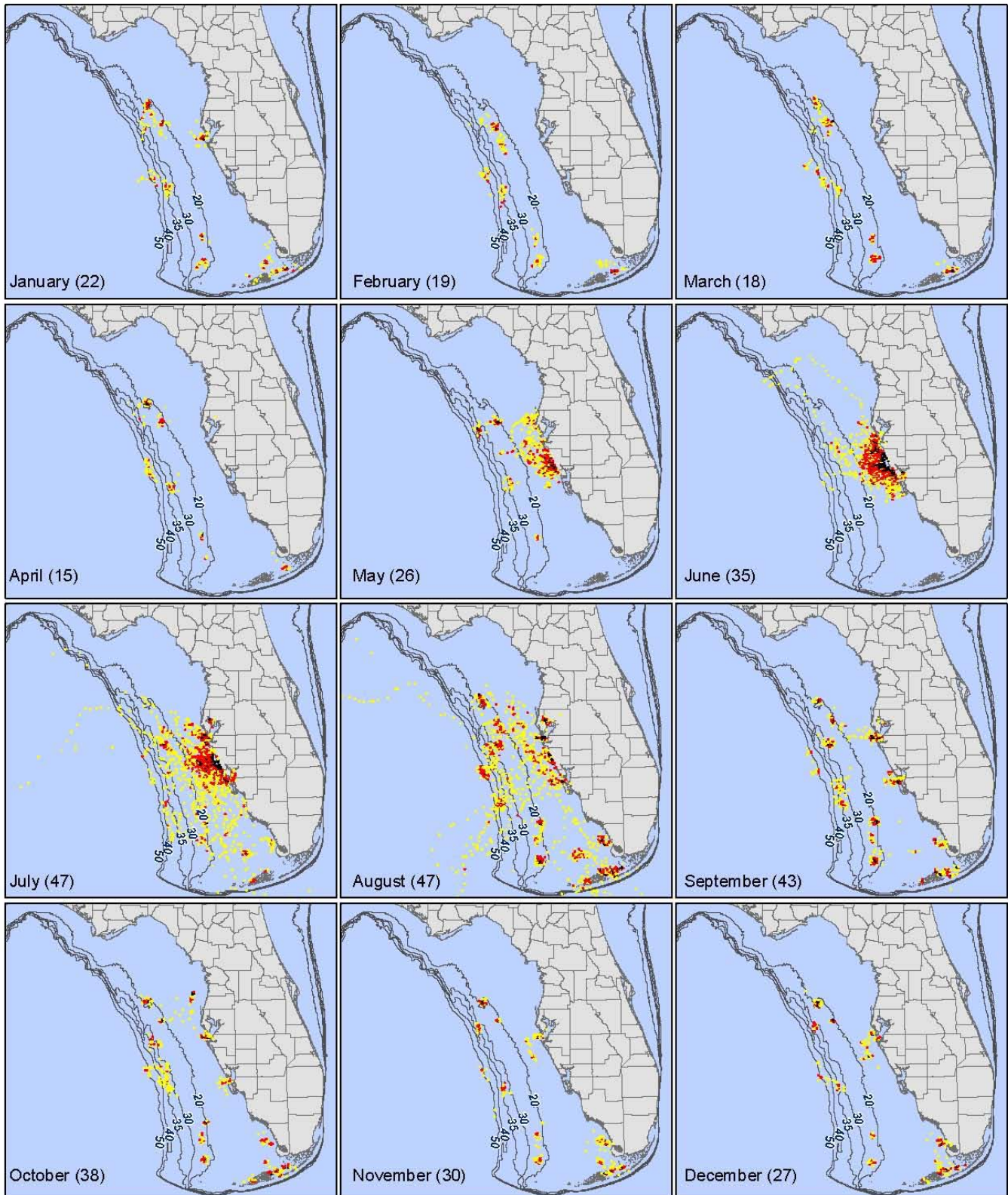
Tony Tucker, Ph.D.
Staff Scientist, Sea Turtle Conservation and Research Program
Mote Marine Laboratory

cc: Dr. Kumar Mahadevan, MML
Dr. John Reynolds, MML

Appendix material:

Turtle locations are mapped by months and depth categories for ARGOS-tracked loggerhead turtles by Mote Marine Laboratory, Sea Turtle Conservation and Research Program. The attached figure (mapped courtesy of FWC-FWRI) shows total counts of data points per 5 km hexagonal bins for 46 adult female loggerhead turtles from 2005-mid 2009. Bins with one transmitter location are turtles in transit (migration) and not resident. The number of active transmitters by month varied because of the deployment schedule and also loss of contact with individual turtles upon battery failure. All turtles illustrated were deployed at Casey Key or Manasota Key in SW Florida, as a congregation of nearshore cluster of points for May-June-July, and later dispersed to resident foraging grounds. Local residency occurs at a foraging ground of 2-5 years until the next migration.

These data confirm that adult female loggerheads were present in the West Florida Shelf in all months of the year and for depths operating by the reef fish bottom longline fishery. As benthic foragers, loggerheads are susceptible to capture on baits in a bottom longline fishery



**Loggerhead Sea Turtle (*Caretta caretta*)
Locations Based on Satellite Telemetry**

(Source: Girard et al. Marine Biology, in press)

Argos locations from 47 turtles are summarized within 5 KM (diameter) hexagonal bins.
Monthly maps include number of active transmitters in parentheses.
Bathymetric contours (fathoms) are displayed on all maps.



Maps prepared by FWRI, May 2009.