KEMP'S RIDLEY RECOVERY TEAM MEETING MINUTES
Brownsville, Texas, USA
November 8-10, 2005

Present:
Alberto Abreu-Grobois – National University of México
Dr. Patrick Burchfield – Gladys Porter Zoo
Colin Campbell – U.S. National Park Service, Padre Island National Seashore
Therese Conant – U.S. National Marine Fisheries Service
Sheryan Epperly – U.S. National Marine Fisheries Service (via phone)
Lilia Estrada de Gonzalez – SEMARNAT – DGUS
Antonio Fuentes Montoluo – PROFEPA
Rafael Herrera – Universidad de Tamaulipas
Les Hodgson – Texas Shrimp Association
Carmen Jimenez – México National Fisheries Institute (INP/SAGARPA)
Steve Labuda – USFWS
Patricia Luevano – Secretaria de Desarrollo Urbano y Ecología, State of Tamaulipas
Sandy MacPherson – U.S. Fish and Wildlife Service
Vincent Mongrel – Director Tamatan Zoo
David Owens – Grice Marine Laboratory, College of Charleston
Jaime Peña - Gladys Porter Zoo
Earl Possardt – U.S. Fish and Wildlife Service
Oscar Ramirez – Vida Silvestre, SEMARNAT
Mike Ray – Texas Parks and Wildlife
Georgita Ruiz – CONANP, SEMARNAT
Donna J. Shaver – U.S. National Park Service, Padre Island National Seashore
Tom Shearer – U.S. Fish and Wildlife Service
Dr. Thane Wibbels – University of Alabama at Birmingham

Translator:
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Rapporteur:
Jen Bachus – U.S. National Marine Fisheries Service

Introduction
Mr. Possardt opened the meeting, which had been postponed from October to November due to a hurricane. The Recovery Team (team) discussed the tasks and agenda for this meeting:

1) Finish the Threats Analysis table.
2) Finish a draft of the recovery criteria and review the Step-Down Outline the team completed at the previous meeting.
3) Identify the priority for each step-down action and develop a narrative justification for those actions.
4) Discuss plans for the next U.S. stakeholder meeting.

Threats Analysis Tables

The team reviewed the threats to Kemp's ridleys discussed at the last team meeting and considered three issues:
(1) Does the team want greater resolution of threats?
  The team decided to work with orders of magnitude of 10 (e.g., 1-10, 11-100, 101-1,000, etc.).
(2) How will the team depict sublethal takes in the threats table?
  The numerical values in the table represent lethal takes, with level of mortality captured by color-coding. The team decided to represent sublethal effects by placing a notation of "I" in the cell. The table is not designed to show this. The threats table does not show cumulative effect or interaction between different threats. The team decided that indirect or sublethal effects are descriptive, not quantifiable; therefore, the team will not assign orders of magnitude to "I" entries.
(3) Will the team consider present day threats only, or will threats also include those in the past and/or expected in the future?
  Team members noted that (a) the plan will not be revised for another 10 years, (b) Kemp's is an endemic species, and (c) the threats analysis aims to prioritize threats. Therefore, the team agreed that considering future threats in the table in addition to current threats is appropriate. One team member noted that whether future threats are considered will depend on each particular threat. The team will add text in the comment for each cell on the table to explain the order of magnitude and state whether the threat is in the past/present/future. These comments will not be displayed in the Recovery Plan, but the team will post the Threats Analysis tables online so individuals will have access to the comments via the internet. The web address for the tables will be provided in the Recovery Plan.

Method for Calculating Threat Values
After the team assigned an order of magnitude (OM) to each threat at a particular life stage, the team calculated the logarithmic mean (0, 3, 30, 300, etc.) of this range and entered this value into each cell. This value was then multiplied by that life stage's Reproductive Value (RV), and the resulting values summed for all life stages in one threat column. This allows the team to examine each threat across all life stages.

The team expressed eggs as RV=1.0, with other life stage RVs expressed in egg-equivalents. For the purposes of the threats analysis, neritic juveniles were grouped as 1 life stage and not split between small and large juvenile stages, as there is difficulty with this distinction. The team considered that Kemp's ridleys can start reproducing at an earlier age (e.g., 5-7 years), but the studies demonstrating this phenomenon were conducted on captive turtles fed a distinct diet; also, the fecundity of these turtles was very low. One team member suggested measuring shell size to distinguish between the two juvenile age classes. The model used by Dr. Heppell uses the geometric mean and melds the two juvenile age classes. A table that separates out two juvenile stages would imply that the team knows the age of juveniles in the neritic zone which is not the case.

The team also discussed that the RVs available here are due to a model construct. Dr. Heppell is checking these RVs with a recent published study that provides revised parameters. It is unknown if this will provide new values for the model, but Dr. Heppell will incorporate more information into the model to verify these RVs as the best available. The team will proceed with the current RVs, since the order of magnitude will not change. The RVs can be modified at a later date using Selena's revised model and prior to completing the Recovery Plan.

Color Coding and Data Range
The team decided that the table will have color-coded cells and a key explaining coding and orders of magnitude. An additional row will be added stating the number of cells lacking data (cells in gray scale) as an indicator of confidence. One team member recommended using a gray/stipple scheme in addition to color so that when the plan is printed the cell patterns will be distinguishable even without color. Mr. Shearer will send color/pattern examples to Ms Conant.

The team agreed on the following codes for use in the threats table:
(+) mortality is believed to occur at this life stage, however no data are available to quantify
(+d) mortality has been documented to occur at this life stage; however, there are insufficient data to quantify the magnitude.
(I) sublethal effects occur at this life stage that may result in lower fitness.
(Blank) no evidence of a threat based on best available information.
(Actual #) quantitative estimate based on available data

The team also discussed that adult males do not have the same reproductive value as females, and there is information lacking on the sex ratio in adults. The team will use this method for the time being, and will check with Dr. Heppell to include new data/values into table.

Orders of Magnitude and Comments for Threats Analysis Table
The team went through each threat category to assign an order of magnitude (OM) by life stage and review the comment text. Life stages are as follows: Nesting female, Eggs, Hatchling swim frenzy, Hatchling neritic, Juvenile oceanic, Adult oceanic, Juvenile neritic, and Adult neritic.[1]

Shrimp Industry Data

The team held a follow-up discussion on the data available for the shrimp industry. The discussion focused on two issues – the level of compliance with TEDs by the U.S. shrimp industry, and the data available on shrimp fleet effort. The team also reviewed relevant fisheries issues in México.

Level of compliance with TEDs by U.S. shrimp industry.
The Recovery Team will acquire information from the USCG on actual compliance levels for shrimp boats. Without compliance figures it would be very hard to define impact to Kemp's ridleys. Earlier in the meeting the team discussed that compliance with TEDs could be as low as 40-60% on the U.S. East Coast and 80-85% in the GOM. One team member disagreed and had checked with boats and the U.S. Coast Guard (USCG); no one has come up with any compliance

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[1]Any life stage not discussed under a category is not applicable for that threat.

problems. Strandings are on par with last year, so it is reasonable to think that TED compliance is consistent with last year as well.

One member of the team commented that the 2001 data of 4,208 takes of sea turtles in the shrimp industry assumed 100% compliance with TEDs. There have been occasions where researchers detected turtles (mainly loggerheads, perhaps a leatherback) getting into large opening nets, so there is still not 100% exclusion in these nets. Also, TEDs can get twisted or clogged from debris and prevent turtles from getting out. There is no way for NMFS to assert there is 100% compliance – and there have been cases where TEDs were sewn closed. But data are not available on the exact numbers for non-compliance.

The team has information from USCG on the number of violations issued, but these data are meaningless without information on the number of boardings. These data are anecdotal from personal communication, and the team objects to using this information. The team is not aware of any annual reports on compliance. Therese will try to get compliance data from the USCG. In January, the México team will send out information on compliance; however, the team cannot extrapolate what is happening in México to U.S. waters, if the U.S. data remains incomplete.

Data available on shrimp industry effort.
The year 2000 was the last decent year for the shrimp fleet. The latest figures on shrimp fleet effort are based on the year 2001. In recent years, the economic situation has changed drastically for the shrimp industry, and recent hurricanes have caused significant changes from the numbers for 2001. Therefore, the team needs an updated shrimp effort report that is more current than 2001. This data is available from Galveston for the GOM, but not for the Atlantic. The team previously mentioned that shrimp effort is declining and sea turtle numbers are increasing, so Ms Epperly will locate data on both those factors through 2004. The team will complete this data collection prior to the stakeholders meeting in January/February.

A similar situation exists for the shrimp fleet in México, with the Mexican government buying back vessels. With the advent of shrimp aquaculture, the price of shrimp is declining and the future of wild-caught fisheries is in serious jeopardy. One team member asked if in the next 10 years the declining trend of wild caught shrimp in the GOM will continue. At present, the average price for shrimp does not offset increasing fuel costs. The shrimp industry will either need a new fuel or power source for shrimp boats, or every year will likely take a heavy, increased toll on the shrimp fleet. One team member asked if given the environmental impact of shrimp farms, will there be an increasing trend for choosing environmentally-friendly shrimp on the part of the U.S. public. The team discussed that there is already a premium on wild caught shrimp over farm-raised shrimp, because of the nature of aquaculture.

Fisheries and other threats in México
In México, after reviewing hawksbill stranding data and nesting beaches, it was found that about 90% of stranded hawksbills are landing on one beach. The hypothesis is that these strandings are the result of neritic, longline shark fishing in the middle of the GOM. Hawksbills may be incidental captures in the shark fishery and, when discarded, the currents deposit these turtles at one location. It is unknown if this is also happening with or could be a factor for Kemp's ridleys.

There seems to be a direct correlation between boats fishing for sharks off Rancho Nuevo and Kemp's strandings. In 2005, drift gillnet shark fisheries were operating off Rancho Nuevo during nesting season, and many turtles stranded. PROFEPA warned those vessels to move elsewhere and this worked. One team member commented that in the 1980s, there were trawlers operating off Rancho Nuevo. At present, there is no trawling during the nesting season at Rancho Nuevo. Even though there have been closures, the shrimp boats haven't fished more time because of high fuel costs; and boats from the northern GOM do not fish in the southern GOM off Campeche because transit costs are too high. Oftentimes, shrimp boats do not go out to fish because it will not be profitable.

México is trying to move ships further offshore instead of in the neritic zone where there would be more capture, but the strategy is different based on region. In the southern GOM, Kemp's will prefer to stay neritic, more inshore. Also, in Campeche there are few wild shrimp and therefore diminished shrimping effort. In the northern GOM, with cold temperatures in winter Kemp's ridleys move more offshore. Also, in Tamaulipas fisheries do not include bottom trawls.

In all fisheries in México, the government is speaking with fishermen encouraging them to use circular hooks. In Pacific waters circular hooks are not used, but in the GOM circular hooks are used and take fewer turtles.

México is just starting experiments on light distraction. Also, there was one case of a hawksbill mortality associated with petroleum exploration, which found an impact on the turtle's auditory system. However, the necropsy data is inadmissible.

México's Considerations for Recovery Criteria

Ms Estrada presented the criteria for listing species in México according to Norma 059 and the Method of evaluation (MER) for risk of extinction. Norma is reviewed every three years. El MER was used for all sea turtle species listed by México, and uses four independent criteria to determine status. The MER categories for risk of extinction are A, B, C, and D and are numerically coded:

        A = range of the species distribution in México
        B = status of habitat conservation with respect to the natural development of the species
        C = intrinsic biological vulnerability of the species with respect to its life cycle
        D = the impact of human activity on the species.

Risks to the species that are not anthropogenic (e.g., hurricane, epidemic) can be addressed within one of these categories, likely A or C. Each of the four criteria are considered independently, and then summed for a cumulative assessment of the species. When using MER and defining trends, for categories B, C, D it is necessary that the information be of the highest possible quality for the evaluation to be as accurate as possible.

Norma was last reviewed in 2001, which is the last time the Kemp's assessment was reviewed. Review for the new list is currently underway. CONABIO issues an open request for projects to review the classification of species under Norma; there are still many species waiting to be

reviewed. In the review process, meetings are open to anyone (especially universities) for discussions on reclassifying, adding, or delisting species. Although open to everyone, the process requires a scientific group to analyze species and propose changes or additions to the list. The proposal then goes to the Mexican government and then back to the review group. The process is complex.

The team decided that this presentation should factor into its discussion of recovery criteria, so that recovery plan criteria will be integrated with México's requirements.

The team reviewed its progress to date on recovery criteria and discussed delisting criteria, while keeping in mind the criteria for México. Delisting should also consider those threats in the future in México.

The team reviewed definitions and requirements under the U.S. Endangered Species Act (ESA).
- Endangered – throughout all or significant portion of its range; 5 factor analysis for listing.
- Threatened – likely to become Endangered throughout all or a significant portion of its range.
- Under the ESA, recovery criteria must be specific, measurable, achievable, realistic, grounded in good science, and time-referenced.

One team member inquired if for threatened species management there no legal authorization for extractive use. The team discussed that the U.S. federal government can issue a special rule to allow for extractive use.

Other
The team considered including something on the ecological role of marine turtles as part of the recovery criteria. One criterion could require that we have an understanding of the ecological role of Kemp's in an ecosystem, or at least we are pursuing studies of this. The team agreed that this will be placed into the Step-Down Outline.

Recovery Criteria

The team reviewed recovery criteria and discussed U.S. ESA delisting and downlisting criteria while keeping in mind the criteria for Mexico. Draft delisting and downlisting criteria were developed and will be discussed further at the planned U.S. stakeholder meeting planned for February.