United States Department of the Interior

FISH AND WILDLIFE SERVICE
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To:
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REF: Kemp's Ridley Sea Turtle Recovery Team Recommendations

The Kemp's Ridley Recovery Team and invited participants met in Brownsville, Texas November 20-21, 2014 to discuss the recent dramatic decline in nesting numbers during 2010, 2013 and 2014 and determine causes if possible, review adequacy of current recovery plan actions being implemented, and make recommendations to strengthen the recovery actions where needed. As Co-Chairs of the Kemp's Ridley Recovery Team, Oscar Ramirez, Mexico National Commission for Protected Areas, and myself are providing you with the attached document that summarizes the recovery team discussions as well as provides recommendations to the primary agencies responsible for recovery of this species.

The recovery team could not determine the cause of the decline for the reasons discussed in the attached document but it was clear to the team that the greatest threats to this species currently lie in the marine environment. While it is essential that we maintain and bring greater funding stability to the highly successful nesting beach program, it is imperative that we improve TED compliance and address unresolved fisheries bycatch in both countries. We must also strengthen our ability to monitor vital population rates through more intensive nesting beach tagging and research programs so that we can determine causes of declines when we observe abrupt changes in nesting. Please contact me if you have questions or wish to discuss these recommendations.

Sincerely,

Earl Possardt

Earl Possardt
Co-Chair, Kemp's Ridley Recovery Team

Attachment

Recommendations of the Kemp's ridley Bi-National Recovery Team Meeting
Gladys Porter Zoo, Brownsville, TX
November 20-21, 2014

Background

The Kemp's Ridley Bi-national Recovery Team (Team), along with invited experts, met in late November 2014 to discuss factors that might explain the dramatic decline in number of nests counted at the main nesting beaches in the State of Tamaulipas, Mexico, and Texas in 2010, 2013, and 2014 (Figure 1). The Team considered two primary factors as possible causes of the observed decline in nest counts: (1) changes in vital rates (remigration interval and clutch frequency) and (2) changes in adult and near-adult mortality/survival rates. Influencing factors on possible causes of the decline were also discussed. The Team also reviewed the high priority action items in the Recovery Plan to determine what actions were adequately being implemented or needing greater attention or if additional actions not identified in the plan were necessary.

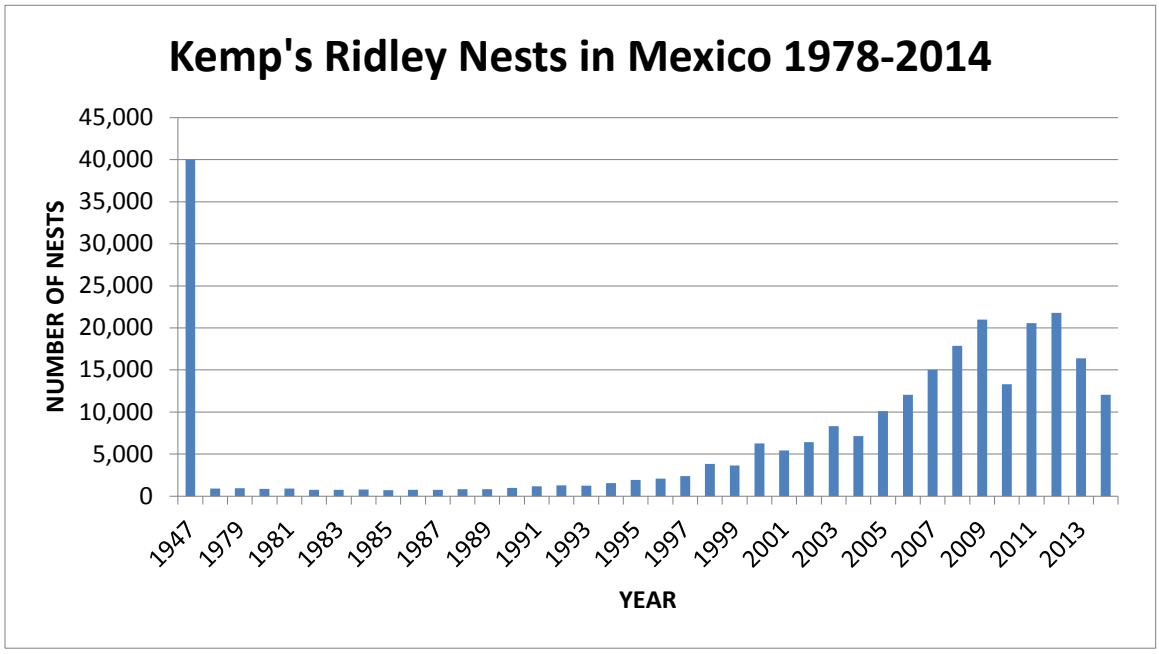

Figure 1. Kemp's ridley nesting documented on the main nesting beaches in State of Tamaulipas (1947 data are an estimate based on the Herrera film of arribada nesting event over 4 hour period).

Possible Causes of the Decline

(1) Changes in remigration interval and/or clutch frequency: These demographic factors would not necessarily reflect a reduction in the size of the nesting population. Clutch frequency and remigration intervals have a large impact on the relationship between the number of nests and the number of adults in the population. These vital rates are not likely to be constant through time and have been shown in other species to be influenced by environmental change, population density, and possibly age structure. Changes in these factors could be caused by colder oceanic temperatures prior to or early in the nesting season or by changes in prey base affecting reproductive condition. No current data are available to conclusively demonstrate there have been changes in clutch frequency or remigration intervals from the information used to estimate population growth in the 2011 Recovery Plan.

(2) Changes in adult and near-adult mortality/survival rates: Changes in the mortality rate (temporary or permanent) are one hypothesis for the observed decline in the number of nests. Reduced recruitment into the breeding population and/or mortality of mature females due to mortality factors from fisheries bycatch and/or the Deep Water Horizon (DWH) oil spill were also discussed. In the case of DWH most data collected on Kemp's ridley mortality and/or injury are protected until court proceedings are completed and much of the data are not available to the Recovery Team. While there are sources of fisheries bycatch, including the otter and skimmer trawl shrimp fisheries in the northern Gulf of Mexico, that are known or likely to be occurring, the data are insufficient to assess whether or not fisheries bycatch could account for all or part of the observed nesting decline 2010, 2013, and 2014. Given the scarcity or inaccessibility of data, no one particular factor or combination of factors could be determined to account for the observed nesting decline during the 2010, 2013 and 2014 nesting seasons.

In recognition of this reality and out of concern about the abrupt drop in nesting in 2010, 2013 and 2014 after a steady increase in nesting from 1990 through 2009, the Team reviewed the high priority actions identified in the recovery plan, and considered the individual opinions of the invited experts, to determine what actions are adequately being implemented or are needing greater attention, or if additional actions not identified in the plan are necessary.

While many action items need attention, **the most critical actions include**:

(a) continue funding by the major funding institutions at a level of support needed to run the successful turtle camps in the State of Tamaulipas, Mexico, in order to continue the high level of hatchling production and nesting female protection;

(b) increase turtle excluder device (TED) compliance in U.S. and MX shrimp fisheries;

(c) require TEDs in U.S. skimmer trawl fisheries and other trawl fisheries in coastal waters where fishing overlaps with the distribution of Kemp's ridleys;

(d) assess bycatch in gillnets in the Northern Gulf of Mexico and State of Tamaulipas, Mexico, to determine whether modifications to gear or fishing practices are needed.

Further, data on vital rates should be collected starting in the 2015 season, and for the next 5 years, including clutch frequency, remigration intervals, growth and mortality rates, recruitment into the breeding population, age distribution at first nesting, and oceanic temperature influences on fecundity. These data are needed to better assess nesting trends in the future and to better inform recovery actions.

The following Action Items (numbered) are either priority 1 actions (actions that must be taken to prevent extinction) or other relevant recovery actions from the Recovery Plan discussed by the Team for the purposes of understanding the recent decline in nesting:

1111. Maintain and reinforce habitat protection efforts on nesting beaches

Current Implementation Status: All primary nesting beaches in MX and U.S. are protected.

121. Identify important foraging, breeding and inter-nesting habitats

Current Implementation Status: There has been good progress identifying these habitats. The telemetry and stranding data need to be synthesized, and additional satellite tracking of nesting females in Mexico are needed, as is satellite tracking of females from the foraging grounds to the nesting beaches.

122. Identify and designate marine protected areas to facilitate increased protection on important foraging, breeding and inter-nesting habitats

Current Implementation Status: There are currently shrimp fishing zones closed seasonally off the primary Kemp's ridley nesting beaches in Texas and along a restricted area adjacent to the Rancho Nuevo nesting beach.

211. Protect nesting females

Current Implementation Status: Protection on nesting beaches is comprehensive and excellent with near zero mortality of nesting females.

212. Maintain hatchling production at levels to achieve recovery goals

Current Implementation Status: Hatchling production is excellent and surpasses one of the downlisting (endangered to threatened) demographic criteria (300,000 hatchlings to the water from the three main nesting beaches in Tamaulipas, Mexico). This level of hatchling production needs to be maintained.

2131. Continue monitoring and collecting basic biological information on primary nesting beaches in MX and the U.S.

Current Implementation Status: This recovery task is ongoing. A more expansive tagging program is needed to determine remigration intervals, clutch frequency, and adult female survival, increased data collection on nesting female size (carapace length) is needed to determine recruitment. Enhanced data collection should start in the 2015 nesting season. Dr. Thane Wibbels is currently working on a concise research protocol, budget, and logistics for ultrasound and testosterone studies to evaluate clutch frequency during the 2015 nesting season. The Ministry of Urban Development and Environment (SEDUMA) would like the La Pesca and Tepehuajes beaches to be included in the tagging studies and requests support to carry out these activities.

221. Establish monitoring sites in foraging areas

Current Implementation Status: NMFS/USFWS need to organize, in coordination with CONANP, a workshop of experts to determine the best approach to in-water population monitoring and to identify, if appropriate, index monitoring sites for implementation by appropriate federal and state agencies and/or academia. While the primary purpose of these monitoring sites is to collect vital rate data and monitor population trends it is equally important that data on foraging ground quality/prey availability also be collected. Existing surveys in the Gulf of Mexico (e.g., Sabine Pass, Calcasieu Pass) and Atlantic (e.g., SEAMAP, SCDNR turtle trawl survey) should be examined to determine whether those surveys, as currently conducted, are providing site-specific robust population trend and/or vital rate data. A non-governmental organization, TOMAME (Tortugas Marinas de Mexico), has also proposed to locate and monitor sea turtle foraging areas within and in coordination with the State of Tamaulipas.

222. Determine migratory pathways among foraging grounds and between foraging grounds and nesting beaches

Current Implementation Status: This recovery task is ongoing. Since 1997, approximately 145 satellite tags have been deployed on post-nesting females in the U.S. and Mexico. The tracking duration of many of those turtles was brief and only one individual was tracked from the nesting beach to the foraging ground and back to the nesting beach the following season. Although the primary migratory pathways have been determined from these tracks, less than half can be used to identify primary foraging habitats and movements among foraging habitats. Tracking durations of females from nesting beaches in Mexico have been brief, and more satellite tags should be deployed on females nesting in Mexico to better determine post-nesting migratory routes and foraging areas. During 2014, a total of 30 satellite tags were deployed simultaneously, ten at each location, at Padre Island National Seashore, Rancho Nuevo, and Tecolutla and it is planned to repeat this during 2015. Satellite tags should also be deployed on adult females on their foraging grounds to determine migratory pathways and timing of the migration to the nesting beaches. Deploying satellite tags on wild-caught large juveniles will also provide important data. Collaboration with U.S. federal agencies (e.g., U.S.

Corps of Engineers) that are translocating turtles should be explored as a source of wild turtles for these studies. SEDUMA requests training and participation in these studies.

2231. Implement monitoring programs in recreational and commercial fisheries in U.S. and MX

Current Implementation Status: Observer coverage needs to be increased on skimmer trawls and is needed on the Northern Gulf of Mexico fish trawls.

2232. Implement monitoring in the shark fishery in Mexico

Current Implementation Status: More information is needed from Mexico's fisheries agency (CONAPESCA) on the operation of this fishery, observer program/data, and sea turtle bycatch.

22341. Maintain regulations in fisheries currently required to use TEDs

Current Implementation Status: This recovery task is ongoing.

22342. Require TEDs in all trawl fisheries of concern

Current Implementation Status: This recovery task is ongoing. Regulations to require TEDs are needed in skimmer trawls, fish and bottom trawl fisheries operating in the Gulf of Mexico and Atlantic that are known to adversely impact Kemp's ridleys.

22343. Reduce mortality in gillnet fisheries

Current Implementation Status: The shark fishery in Mexico (see 2232), and the gillnet fisheries in Alabama and North Carolina need sufficient observer monitoring to analyze the level of Kemp's ridley bycatch and mortality.

A non-governmental organization in the State of Tamaulipas, Mexico, Victoria for Victoria, has developed an environmental education program to reduce the impact of artisanal fisheries in Tamaulipas on the Kemp's ridley sea turtle. The program is specifically geared towards fisheries cooperatives, organized fishermen and those holding a fishing permit. The program's main objective is that the fishermen, through education and awareness campaigns, gain the necessary knowledge to respect the current laws and regulations regarding the fisheries and their interaction with sea turtles and to reduce sea turtle bycatch. The program also includes educational workshops in the schools adjacent to the coast in 4 municipalities.

22344. Reduce mortality in hook and line fisheries

Current Implementation Status: Recreational hook and line fisheries are known to injure Kemp's ridleys. Since 2010, over 750 Kemp's ridleys were reported incidentally captured by recreational fishermen at public piers in Mississippi alone. The vast majority

were juveniles, most were alive and entered rehabilitation. Additional monitoring, avoidance, and mitigation measures are needed to reduce this source of injury.

224. Ensure enforcement of all fishery regulations

Current Implementation Status: This recovery task is ongoing. We need to ensure adequate enforcement resources (funding, staffing, training, gear) are made available. Need continued training of enforcement personnel to ensure consistency in how officers evaluate compliance with existing fishery regulations, both in Mexico and in the US.

23. Maintain the Sea Turtle Stranding and Salvage Network(s) in the US and MX

Current Implementation Status: This recovery task is ongoing. In addition to maintaining the network, humeri and gut content samples should be collected when possible for analysis of vital rates and to provide information on the relationship between diet and growth. Humeri from stranded turtles should be used to determine approximate age, growth and growth variability for turtles of different sizes in different years. Additionally, isotope and elemental signature analysis of growth rings within the humeri can indicate changes in habitat and diet over the lifetime of an individual turtle, and may be able to identify year of maturation and remigration interval; coupled with gut and humeri analyses can determine diet and the relationship between growth rates and diet, and diet shifts.

32. Implement community socioeconomic development program

Current Implementation Status: Projects are currently in progress in four communities adjacent to the main nesting beaches (Rancho Nuevo, Barra del Tordo, La Pesca, Tepehuajes); local community members are hired to work with the Kemp's ridley conservation program. SEDUMA is requesting assistance from CONANP to continue the PROCODES Community Support Program at La Pesca and Tepehuajes in 2015 as well as assistance to implement a more permanent environmental education program in these communities.

333. Identify and ensure sustainable sources of funding

Current Implementation Status: CONANP is pursuing establishment of an endowment for 14 endangered species including the Kemp's ridley. With assistance from Global Environment Facility, United Nations Development Program and other donors, CONANP will develop this five year project to ensure the effective and sustainable functioning of Protected Areas system (PAs) with regard to the conservation of 14 priority endangered species. Total funding for the project will complement previous investments in the Protected Areas System. As a result, 21 selected PAs will move beyond basic operational effectiveness and sustainability to a state in which they are able to respond effectively to the specific management and conservation requirements of these species. A revolving fund (FONCER) will also be established, aimed to ensure the continuity of such activities in the future. Actions for Kemp's ridley will include hiring

field technicians and mechanics for equipment repairs, acquisition of all-terrain vehicles (ATVs) and additional minor equipment, and funding for supporting day-to-day operations. Such actions are intended to strengthen the following monitoring and conservation activities carried out in Rancho Nuevo:

1. The percentage of protected nests (in situ and in the corral) to total nests recorded is presently 80% and the goal is to increase to 98% by 2019.

2. It is the project goal also to improve hatching success of corral nests from 55% to 80 % 2019.

3. Incubation temperatures will be monitored throughout the nesting season for corral and in situ nests for the life of the project.

USFWS funding has fluctuated and has been unpredictable in recent years leading to difficulties in planning and implementing the U.S. portion of the MX-U.S. Bi-National program. USFWS is looking to its Marine Turtle Conservation Act program to make up some of the deficit and improve predictability of funding. NOAA continues to support the stranding network in Tamaulipas and in situ incubation and other priority research in Mexico.

431. Ensure adequate law enforcement in marine environment

Current Implementation Status: This recovery task is ongoing. Mexico and U.S. both have room for improvement and this requires continued attention and focus. For example, compliance with the U.S. tow-time restrictions for skimmer trawls was reported to be less than 20% in 2013. Although compliance has improved, only about one-half of the fishery was reported to comply with the tow-time restriction in 2014.

432. Ensure adequate law enforcement in terrestrial environment

Current Implementation Status: Extensive patrolling of the main nesting beaches occurs, and poaching is a rare event. However, Mexico and U.S. need to maintain this level of effort, which requires continued attention and focus.

Participants

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