

**GULF SPECIMEN MARINE LABORATORY'S CONSERVATION PLAN FOR
INDIVIDUAL TAKE PERMIT UNDER ACT UNDER SECTION 10(a)(1)(B) OF THE
ENDANGERED SPECIES ACT**

TYPE OF PERMIT:

A. The following Conservation Plan amends our application dated January 6, 2003 for scientific permit and replaces it with an individual take permit.

2. DATE OF APPLICATION: January 27,2003

3. APPLICANT INFORMATION:

Anne Rudloe, Ph.D.
Gulf Specimen Marine Laboratories, Inc.
P.O. Box 237
Panacea, Florida 32346

PH: (850) 984-5297

E-mail: gspecimen@sprintmail.com

IRS letter of tax exemption has been forwarded.

II. DESCRIPTION OF SEA TURTLE SPECIES:

Species captured in the Apalachee Bay region of the Florida panhandle could include Kemp's ridleys (*Lepidochelys kempi* which range from Mexico to New England, Loggerheads (*Caretta caretta*) that occur widely along the Atlantic seaboard and Gulf of Mexico, and occasionally green turtles (*Chelonia mydas*) which occur throughout the Caribbean and along the southeastern United States.

III. ANTICIPATED TAKE: It is not anticipated that Gulf Specimen Marine Laboratory, Inc. will catch any turtles during its lawful routine trawling operations with small trawls under 500 square feet, and short tow times which are less than thirty minutes in duration. However, as populations are experiencing a gradual increase, an anticipated take of one turtle every three years is possible. Experience has demonstrated that unless impaired, such turtles can easily avoid the small trawls used by Gulf Specimen Marine Laboratory.

The small trawls with two foot long doors has little immediate, and no long range impact on the muddy sandy bottom habitat where sea turtles are found.

IV. MITIGATION: Reducing tow times, or changing trawling areas to minimize potential contact with sea turtles is not possible, given that tow times are already limited to thirty minutes. Locality cannot be changed, since Apalachee Bay is Gulf Specimen's main collecting area, and the animals required for its teaching and research programs occur in the same areas that sub-adult Kemp's ridleys and loggerheads might be encountered. However, the mitigation aspects of the Conservation Plan will be served by removing any turtles ensnared in fishermen's fishing lines and nets, and disentangling them from trap ropes. Further mitigation will take place by incorporating any captured sea turtles into our ongoing sea turtle rehabilitation program.

Gulf Specimen's staff is trained in sea turtle resuscitation techniques, and would use standard NMFS approved methodology. Should any comatose or inactive turtles be caught during our thirty minute tows, they will be placed on their plastron, elevating their hindquarters slightly, and periodically rocking it gently from side to side. If that fails, pumping the flippers will also be tried, and oxygen administered. Recovering turtles would be kept in a shade place aboard the vessel, and transported back to the aquarium facilities where they would be scanned for hooks with a metal detector. In the event that it was its lungs were filled with air, making it unable to submerge, it would be retained in the tanks until it could and then released in the vicinity of capture. Turtles would be released from the back of the boat, when collecting activities are not taking place to avoid possible recapture or encounter with sharks.

V. FUNDING: Gulf Specimen has been operating since 1964, and has adequate funds to sustain and carry out the conservation plan. It derives its revenues from the sale of specimens to schools and research laboratories, donations from membership in its aquarium, and from grants and contracts, and has received support from the Florida Fish and Wildlife Conservation Commission.

VI. DATA SOURCES: Gulf Specimen Marine Lab is a part of Florida's sea turtle stranding network, and works closely with the Florida Fish and Wildlife Conservation Commission and sea turtle specialists such as Dr. Karen Bjorndal of the University of Florida's Archie Carr Sea Turtle Center, Dr. Peter C.H. Pritchard of the Chelonia Institute, Dr. Steve Morreale of Cornell University and others. Furthermore, staff at Gulf Specimen Marine Lab have published numerous books and articles on sea turtles, and have worked close with NMFS personnel in Galveston, Texas both in the past and in the present. It will rely also on the information described in "Sea Turtle Conservation; Restrictions application to Fishing and Scientific Research Activities," described in the December 31, 2001, Vol. 66 Number 250) of the Federal Register's Environmental Documents.

A. TITLE:**GULF SPECIMEN MARINE LABORATORY'S APPLICATION FOR PERMIT FOR SCIENTIFIC PURPOSES UNDER THE ENDANGERED SPECIES ACT OF 1973****B. SPECIES:**

Gulf Specimen Marine Laboratory is applying for a Section 10 permit under the endangered species act to continuing using a trawl without a Turtle Excluder Device for its routine biological supply activity. Our non profit, tax exemption organization that holds a 501(c)3 tax exemption under IRS was established in 1964 and we have received permits from the state on a continuing basis since 1970. In the past the State of Florida has granted Turtle Excluder Device Exemptions on their Special Activities Licenses, but Dr. Roy Crabtree who headed the FWC's Division of Marine Fisheries Service was advised that the State no longer has this authority. Hence we were advised to apply directly to NMFS. Although we have received a NMFS Ted Exemption in the past (see attached), the NOAA Office of Legal Council has recently reinterpreted the law and advised us to apply for a Section 10 permit to use trawls without TEDs. (see attached) Trawling trips have been put on hold until a permit is received, which has caused both financial hardship to our organization and major problems and inconvenience for our scientific, educational and aquarium clients.

Experience has shown that legal trawls with Turtle Excluded Devices often expel the desired sting rays, electric rays, horseshoe crabs and other benthic invertebrates and fish that are required for the laboratory's ongoing operations. Our trawling trips do not target the taking of sea turtles or any other endangered species. However, Kemp's Ridley, *Lepidochelys kempi*, the loggerhead, *Caretta caretta* and the Green sea turtle, *Chelonia mydas* are the most common turtles likely to be taken in a trawl. In over thirty years of operation only three endangered Kemp's ridleys have been taken in the laboratory's eleven hundred square foot net. Tow times are limited to less than thirty minutes so all three were healthy and were tagged and released.

In 1996 the Florida net ban was implemented and nets exceeding 500 square feet were outlawed in state waters. Gulf Specimen Marine Laboratory's trawls, which now comply with the law, and are licensed by the Florida Fish and Wildlife's Division of Marine Fisheries, have never caught a turtle. We hope to resume using trawling without a TED when the permit is issued, and will apply for renewal before expiration. Since our operations have remained unchanged over the years, we are asking for the longest possible permit possible, five years.

C. DATE OF PERMIT APPLICATION:

January 6,2003

D. APPLICANT IDENTITY:

Gulf Specimen Marine Laboratories, Inc.
P.O. Box 237
Panacea, FL. 32346

PH: (850) 984-5297
FAX: (850)984-5233
E-mail: gspecimen@sprintmail.com

E. INFORMATION ON PERSONNEL, COOPERATORS AND SPONSORS.**1. Principal Investigator:**

Anne Rudloe, Ph.D. President, Gulf Specimen Marine Laboratory
Education: Ph.D., Florida State University, 1978
M.S., Florida State University, 1972
B.S., Mary Washington College, 1969

Fields of Competence: Marine ecology, animal behavior, aquaculture, undergraduate and adult level marine science education, natural history writing, and non-profit management

Experience: Dr. Rudloe has been associated with GSML since 1970 in all capacities and has developed the in house research and education programs there. She is an adjunct professor at Florida State University where she has taught coastal ecosystems, marine biology, oceanography and global environmental issues to both undergraduate and returning adult students since 1982. She has worked as a consultant on public resource issues for the Florida Department of Environmental Protection and the Atlantic States Fisheries Management Council.

Anne Rudloe has also written a number of scientific papers on the sea turtles, (see bibliography) and has taken pictures that appeared in National Graphic, Smithsonian and Sports Illustrated. See bio. She has published a book, and written articles for national natural history magazines along with research articles in peer reviewed professional journals. Dr. Rudloe has managed GSML full time since 1996 and has been responsible for the development of the education program and related facilities renovations since then. *See attached vita.*

Jack Rudloe, Director, Gulf Specimen Marine Laboratories, Inc. Education:

Independent study, Harvard Museum of Comparative Zoology, Yale Peabody Museum, Smithsonian Institution

Fields of Competence: Marine science, natural history writing and interpretation, aquarium design and operation, marine animal life support systems, public relations and publicity

Experience: Mr. Rudloe is the founder of Gulf Specimen Marine Laboratory. He is the author of 6 well-known books on Florida natural history and marine life, two of which were on sea turtles, *Time of the Turtle* and *Search for the Great Turtle Mother*. With his wife, have co-authored sea turtle articles in *National Geographic*, *Smithsonian* and *Sports Illustrated*, as well numerous newspaper article.

He has consulted with staff at most major marine aquaria in the U.S. He collaborated with a director of the New York Aquarium to create the first live exhibit of the world's largest isopod, the deep-sea giant sea roach. He was also instrumental in the New York Aquarium's exhibit of the giant Surinam toadfish, also a first. Working with the commercial fishing industry, to bring relief to out of work net fishermen, he traveled to Malaysia and The People's Republic of China as a representative of the U.S. International Trade Commission to develop fisheries cooperative agreements relative to a jellyfish fishery. He participated in teaching the first field marine biology class offered at the University of Central America, Managua, Nicaragua. See *attached vita*.

2. Field Personnel: Jack Rudloe, Sky Rudloe, Cypress Rudloe, Doug Gleeson, Victor Spencer, Debbie Clifford and other staff, contractors and volunteers of Gulf Specimen Marine Lab.

3. Funding sources: fees for services and biological supply of specimens from researchers and educators (see attached letters)

4. List of subcontractors: None currently identified

5. Disposition of dead turtles, tissues, etc: In the unlikely event that a turtle is caught and drowned in the shrimp trawl during a less than 30 minute tow, it will be provided to the Florida Fish and Wildlife Commission's sea turtle stranding network.

6. Transport and Long-term holding plan:

In the event that a turtle is caught in GSML's trawls, it will immediately be transported to Gulf Specimen's Aquarium facility, checked with a metal detector or x-rayed for hooks, and if found to be healthy, will be tagged and released after morphometrics are taken. In the event that a hook is found internally, or turtle is in need of medical attention, it will be brought to Dr. Laura Elliot of the Forest Animal Hospital (PH: 850) 926-7153 in Crawfordville or the Northwood Animal Hospital in Tallahassee.

Florida (PH: 850- 385-8181, Dr. Kevin Brumfield) for evaluation and hook removal. If more extensive surgery is required, it will be transported to Sea World in Orlando by the Florida Fish and Wildlife Conservation Commission. This project is permitted the Florida Fish and Wildlife Conservation Commission's Office of Protected Species, Permit No. 036.

F. PROJECT DESCRIPTION, PURPOSE, AND SIGNIFICANCE.

1. Justification of objectives:

Gulf Specimen Marine Laboratory's mission statement is to provide scientific, education and public aquariums with living marine organisms to aide in the understanding of the ecology, physiology and biochemistry the biota of non-federally protected marine flora of the Florida panhandle. A copy of Gulf Specimen's catalog is enclosed. Gulf Specimen provides marine life to over 1300 schools, research laboratories, biomedical institutions and public aquariums and utilizes the revenue to support its environmental education and sea turtle protection programs. Our aquarium serves more than 16,000 people each year, including 10,000 visitors on school field trips.

The lab also has one of the oldest, continuous sea turtle research and rehabilitation programs in the nation, which was established in conjunction with Dr. Archie Carr of the University of Florida in 1964. Wild populations will benefit by the issuance of this permit because it will allow GSML's operation to continue with field and collecting operations which enables it's staff to observe and record sightings of Kemp's ridleys and other sea turtles seen in the Apalachee Bay region.

2. How program responds to a recommendation of requirement of a Federal Agency.

GSML has received exemptions for turtle excluder devices in the past from the State of Florida and the National Marine Fisheries Service in the past, and is now being required to file for a Section 10 permit under the 1973 Endangered Species Act. Language in the Federal Register states:

"~223.206 Exceptions to prohibitions relating to sea turtles.

(a) Permits-- (1) Scientific research, education, zoological exhibition, or species enhancement permits. The Assistant Administrator may issue permits authorizing activities which would otherwise be prohibited under ~223.205(a) for scientific or educational purposes, for zoological exhibition, or to enhance the propagation or survival of threatened species of sea turtles, in accordance with and subject to the conditions of part 222, subpart C- General Permit Procedures."

Gulf Specimen operates under a permit from the Florida Fish and Wildlife Conservation Commission (Enclosed) and under Permit # 036 from the FWC's Office of Protected Species. This year we have received a grant from that office for an educational display on Kemp's ridley sea turtles. Dr. Robin Trindell of that office is familiar with our overall program. Her address is:

Robin N. Trindell, Ph.D
Biological Administrator
Florida Fish & Wildlife Conservation Commission
Bureau of Protected Species Management
620 South Meridian Street
Tallahassee, FL 32399-4330
E-mail: TRINDER@gfc.state.fl.us

3. Statement of broader significance of program:

The broad significance of the laboratory's activities is described in the enclosed letters from researchers and educators attesting to the value of the organisms collected in their various programs. Numerous research programs have published scientific studies using specimens supplied by Gulf Specimen Marine Laboratory. Jack and Anne Rudloe have also published numerous scientific and popular articles on the books on marine life, many of them either directly on, or having chapters dealing with sea turtle conservation.

Over the past 35 years Gulf Specimen Marine Laboratory has conducted a sea turtle conservation effort in Wakulla County through direct personal contact as well as television programs, public appearances, writing books, magazine and newspaper articles (see vita) with some success. Rudloe's book, *Time of the Turtle* was given out to over 200 shrimp boats free with a grant from the Chelonia Institute in past years. Visitors to Gulf Specimen learn about the loss of important near-shore foraging habitats but the need to protect beaches and keep turtles in the dark. Recreational fishermen are informed about what to do when a sea turtle is caught on a hook and line, and the need to abolish stainless steel hooks and monofilament line is emphasized.

4. Relationship of the proposed activities to other ongoing projects, with potential to cooperate and coordinate:

GSML's ongoing sea turtle research and rehabilitation program that was initiated by Dr. Archie Carr in 1964, making it one of the longest running programs in the country. It holds a sea turtle permit from the Florida Fish and Wildlife Conservation Commission (See Enclosed) and has held permits from NMFS in the past.

5. Justification for using listed species in the study or activities.

Not applicable. No sea turtle take is anticipated. The use of trawls without TEDs

is essential for GSML's operation. Without a TED exemption, it would not be possible to meet the research and educational needs of our university clients or to collect sufficient food for the turtles being rehabilitated. It would be detrimental to the work of scientists and educators throughout the nation.

G. PROJECT METHODOLOGY: Provide a detailed description of the program, in which the listed species to be used, including.

1. The proposed duration of the program, including start and end dates.

Gulf Specimen Marine Lab is an ongoing program, that functions year round, and has been doing so since the mid 1960's. Collections are made on a demand basis by the researchers and educators, or to replenish stocks of the laboratory's environmental education center's touch and display tanks. Until recently, GSML has held permits from the State of Florida, and from NMFS, authorizing the use of these nets without TEDS. Gulf Specimen uses small trawls without Turtle Excluder Devices to collect marine fish, invertebrates and algae. Small quantities of marine life using less than 30 minute tow times and held in containers with running or aerated sea water. The animals are brought back to the laboratory alive, as quickly as possible. This operation has remained unchanged since Gulf Specimen began operations in 1965, hence a permit granting the longest possible duration that NMFS can grant is requested.

2. Discussion of the procedures and techniques used during the project.

a. Methods of capture and release.

No turtles are anticipated being captured using GSML trawling gear without TEDS. However, in the unlikely event that one is captured, it will be tagged with a monel steel flipper tag, morphometrics taken and then released. Over the years our vessels have retrieved hooked, crab trap line ensnared and wounded sea turtles ranging from small subadult ridleys to adult leatherbacks from commercial shrimp trawlers, recreational fishermen and the Florida Marine Patrol and brought them to our facility for rehabilitation.

b. A description of any tags, including the attachment method, location and expected duration of tag attachment.

Monel steel flipper tags provided by the University of Florida's Sea Turtle Center are clipped to the front fore-flippers of sea turtles caught on hook and line and by other methods after they are transported to GSML's aquarium facilities. However, it should be noted that no turtles have been caught and tagged using GSML's current trawls that are under 500 square feet and fished without TEDs.

c. drugs used.

Not applicable, no drugs or chemical are used on the turtles. Generally rehab turtles requiring medications are transported by the FWC to more advanced rehab facilities.

d. Temporary holding time prior to release of individuals.

Depending on whether a turtle is injured, or has ingested a hook, it can remain in the facilities anywhere from one day to six months, in consultation with the Florida Fish and Wildlife Commission's Office of Protected Species. Turtles that have had hooks surgically removed, are kept until they demonstrate that they can capture and eat live crabs before being released.

e. Number and types of samples taken from each individual.

No samples are taken, not applicable.

H. DESCRIPTION AND ESTIMATES OF TAKE:

1. A list of each species to be taken.

Not applicable, no turtle take is anticipated with a small trawl pulled for ten minutes. Based on 30 years of operations in the Florida panhandle, and the ten minute tow times, zero take of endangered sea turtles is anticipated. Although several hundred Kemp's ridleys have been received from commercial and recreational fishermen for rehabilitation, only three turtles were ever taken by GSML staff, and that was during a NMFS survey in 1985 aboard a chartered shrimp trawler. No turtles have been taken using current smaller nets. However, sea turtles species within the collecting area are:

Kemp's ridley, *Lepidochelys kemp*

Loggerhead, *Caretta caretta*

Green sea turtle, *Chelonia mydas*

Leatherback, *Dermochelys coriacea*

2. Sampling Schedule:

Collecting trips are made year round, generally Monday through Friday, and may last four to six hours in duration. Trips usually start around 10 AM to 5 PM. Since collecting trips respond to the demands of our client base, which varies with need and the school year, it is not possible to provide an exact sampling schedule.

Most of the activity is in Apalachce Bay, St. George Sound, and St. Joe Bay within state waters off Wakulla, Franklin and Gulf Counties in depths seldom exceeding 15 meters. A chart showing collecting areas is enclosed.

3. Description of recent status and trends of each species to be taken relative to the location.

The population of the endangered Kemp's Ridley for the collection area is described in two enclosed scientific papers:

1991. Rudloe, A. J. Rudloe, L. Ogren Aspects of the biology of the Kemp's Ridley sea turtle, Lepidochelys kempii in inshore coastal waters. Northeast Gulf Science 12(1): 49-53.

1995 Rudloe, A. J. Rudloe, L. Ogren, Characterization of an inshore population of the Kemp's ridley sea turtle in the northeastern Gulf of Mexico. In: Proc. 12th Annual Workshop on Sea Turtle Biology and Conservation. February 25-28, 1992, Jekyll Island, Georgia.

The number of subadult Kemp's ridley sea turtles caught on hook and line from fishing piers have increased dramatically in the past two years in Wakulla County, Florida where much of our collecting takes place. However, the number of Kemp's ridleys caught in shrimp trawls has been greatly reduced. Because of conservation efforts to protect their breeding beach in Rancho Nuevo Mexico, and the implementation of TEDS, Kemp's have been slowly increasing. From June, 1984 to August 1988 we received fourteen Kemp's Ridleys from commercial fishermen that were tagged and released. In the past three years, from 1997 to 2000, nineteen subadult Kems were caught off the pier with an average of 4.75 turtles per year. However, none of these turtles were caught in Gulf Specimen Marine Laboratory's trawls that were fished without Turtle Excluder Devices under permit from the State of Florida and the National Marine Fisheries Service.

4. Table of estimated annual take:

No sea turtles are anticipated being caught in GSML's trawling operations, this question regarding the number of individuals, sex, size to be taken is not applicable.

5. Estimates of potential annual mortalities by take category.

Using the small trawl and less than 30 minute tow time, zero mortality is anticipated.

6. Details of how take estimate was derived.

In nearly forty years of operations, GSML has never drowned, or caused the death of a single turtle, including a study for \$55,000 contract from NMFS in 1990-1991 entitled Population dynamics of the Kemp's Ridley Sea Turtle, Lepidochelys kempii in the Apalachee Bay Region which used systematic gill net and otter trawl sampling for Kemp's Ridleys.

I. TRANSPORTATION AND HOLDING.

1. Transportation of a Listed Species.

The turtles encountered in the Apalachee Bay are small, usually under thirty pounds and can be easily carried without the use of lifting equipment or machinery. They are brought directly from fishing piers to Gulf Specimen Marine Lab's state permitted holding facility until they can be tagged and released. When turtles have been retrieved from fishing vessels or recreational fishermen, they are contained in a shaded area in our boat and sprayed with sea water until they arrive at the dock. Cushioning material is used to prevent repetitive shock and battering the turtles, in the event of rough seas. If the turtle is small enough, it is placed in plastic buckets with running sea water.

Transfer times from point of capture have ranged from thirty minutes to six hours. In the unlikely event that a turtle is captured in Gulf Specimen Marine Laboratory's trawls, it will be brought immediately back to the dock and transported to our holding tanks, where it will be checked with a metal detector to see if it has hooks. If none are present, the turtle will be tagged, weighed, measured and released as close to the point of capture as possible. Gulf Specimen Marine Lab staff, who have collectively 75 years of handling sea turtles will handle the transport. Prior to their release, turtles will be held at Gulf Specimen Marine Laboratory's aquarium facilities which have a semi-closed sea water system that constantly filters the sea water in the multiple tanks and aquaria which are housed in permanent and portable buildings, and open air roofed structures. The tanks are constructed out of glass, fiberglass, concrete and wood, and range in size from 20 to 5,000 gallons all connected through a recirculation system. Each has a gravel, sand or rock filter bed. After passing through the various tanks, the water passes out through overflow drains and returns to the main water sump distribution system through gravity fed pipes, thus completing the cycle. Desired water temperatures are maintained by two means. In summer the excess heat is removed from the sea water by an Alfa Lavelle plate heat exchanger which is naturally cooled by the circulation of 74 degree F. ground water supplied by two surface wells. In the winter the flowing sea water also passes through a stainless steel propane water heater.

Turtles are normally fed a variety of teleost fish. However, squid, sponges, mollusks, jellyfish and live crabs caught in our trawls are provided whenever possible. To insure overall sanitation of the facility, the tanks are policed for dead organisms, and any potential bacterial blooms are kept in check by the use of ozone and ultra violet sterilization. The facility has a back up generator that can be used to keep water circulating and four oxygen tanks that can be employed in the event of a power failure emergency.

J. CAPTIVE BREEDING PROGRAM:

We affirm that we would be willing to participate in a captive breeding program for sea turtles, should it be requested.

K. PREVIOUS OR CONCURRENT ACTIVITIES INVOLVING LISTED SPECIES.**1. Identify all previous permits where you were the permit holder or primary investigator working with federally listed species. Please identify which species.**

1990 -1991 Tag and release program on the endangered Kemp's Ridley sea turtle, Lepidochelys kempii. National Marine Fisheries Service, Marfin Grant totalling \$55,000.

2. Describe the number and causes of mortalities:

During the study, which involved chartering a commercial shrimp trawler, a single loggerhead was drowned in the trawl. The net was approximately 40 feet long, which is twice the size of the trawls that Gulf Specimen Marine Lab currently uses. The animal was suffering from malnutrition and was seriously underweight. Extensive efforts, involving pumping the flippers and administering oxygen were made to revive it, but failed. Trawl time was restricted to thirty minute tows, which normally do not cause mortality.

3. Describe measures that have been taken to diminish or eliminate such mortalities.

None. It's unlikely that corrective measures could have been taken to prevent already sick and weakened turtles from dying in trawling operations. Furthermore, using small trawls under 500 square feet for short durations average ten minutes, the chances of causing mortality to sea turtles is negligible.

L. CERTIFICATION:

I hereby certify that the foregoing information is complete, true and correct to the best of my knowledge and belief. I understand this information is submitted for the purpose of obtaining a permit under the Endangered Species Act of 1973 (ESA) and regulations promulgated thereunder, and that any false statement may subject me to the criminal penalties of 18 U.S.C. 1001, or to penalties under the ESA".

Signature  Date 1/6/03
Anne Rudloe, Ph.D.