

# 8th Annual Meeting of the Grupo Tortuguero Summary of Presentations, Videos and Workshops

## Scientific Presentations

### **Leatherback Turtle (*Dermochelys coriacea*) Nest Monitoring and Evaluation of Hatchlings produced through Controlled Incubation at Agua Blanca Beach, B.C.S.**

#### **Authors:**

Biol. Elizabeth González Payan (1,2), Dr. Volker Koch (2), M.Sc. Adriana Laura Sarti Martínez (3), Dr. Juan Ramón Guzmán Poo (2), Rene Pinal (1).

#### **Author Affiliations:**

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#### **Summary:**

The northernmost nesting colony for the eastern pacific leatherback turtles (*Dermochelys coriacea*) is located in Agua Blanca B.C.S., and has been documented since 1982. Through aerial census done all along the Mexican Pacific coast, it has been considered marginal due the relatively small number of nests found at the site. The main problem on this beach are the low in-sand temperatures (averaging 22°C between November and March), leading to a low rate of successful hatchings *in situ*. Since the year 2000, we have been working on an artificial incubation technique, using polyethylene incubators inside a controlled temperature chamber).

Previous studies have shown that artificial incubation can cause serious problems, producing hatchlings that aren't fully healthy. This study intends to monitor nesting of the leatherback turtle on this beach over 5 seasons (2000-2006) and implement a new incubating technique so as to produce hatchlings *ex situ* (at a greenhouse on the beach). Until now, we have obtained results for 4 seasons where 18 different females have been tagged, and we have observed a range of 10 to 114 nests; already we have begun to see positive results in terms of the incubation producing the right temperature for the turtle eggs.

### **Analysis of Black Turtle (*Chelonia mydas agassizii*) Trophic Structures in Bahía De Los Ángeles, B.C., Utilizing Qualitative Techniques**

#### **Authors:**

María Teresa Ruíz Vallejo (1), Gabriela Montañó-Moctezuma (2)

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#### **Summary:**

This study utilizes qualitative models in order to explore the structures of black turtle (*Chelonia mydas agassizii*) populations, and the possible direct and indirect impact that external disturbances can have on the rest of the ecosystem. The use of qualitative models allows utilizing information such as feeding habits, as well as less quantifiable information such as the relationships between species, and local knowledge bases on particular species (qualitative data).

Predictions generated by the qualitative model were analyzed in order to explore the changes in population density for the variables most important to the study: *the black turtle and fishing activity*. The

present study intends to uncover the possible direct and indirect causes of changes in population density for different species in the bio-community of Bahía de Los Ángeles, B.C.

### **Paradise in our Own Back Yard: Valuing our Natural and Cultural Resources**

**Author:**

Raquel Briseño Dueñas

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**Summary:**

This presentation will discuss the results of a project dedicated to fostering an appreciation of the natural and cultural patrimony within several coastal communities in Northwest Mexico, utilizing interactive methodology appropriate to conservation and science. The main objective of the initiative was to generate a sense of social ownership of the concept of **sustainability** through knowledge of, outreach for, and promotion of 'best practices' towards, the natural patrimony and historical legacy within this particular region of Mexico. In the natural protected area of flora and fauna within the Cacaxtla Plateau in the municipality of San Ignacio, Sinaloa, Mexico, the project's fundamental strategy is to encourage alternative economic developments as a way to promote direct economic gain within the community, as well as effective conservation. In the process, we promote community participation, legislative action, and local empowerment. The project has involved a multidisciplinary and inter-institutional team made up of participants from various social, government and academic sectors (ayuntamiento y comunidad La Chicayota, within the municipality of San Ignacio, Sin., Tourism Board, State Government of Sinaloa, INAH, CONANP, SEMARNAT, Adopt a Public Works Project A. C. and the ICMYL-UNAM). They have all joined forces in order to rescue and conserve "Las Labradas" (an important archeological site that is currently abandoned and wasting away), and they have also worked to start up a pioneer community sea turtle conservation and rescue project, recognizing the sea turtle as a flagship species for the care and upkeep of biodiversity in this natural protected area.

### **Eco-Friendly Sea Food Options to Protect Endangered Species**

**Author:**

Jesse Marsh

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**Summary:**

The objective of Sea Food Watch, Monterey Bay Aquarium is to empower consumers and businesses to keep the world's oceans healthy. Seafood consumers have many options when they buy their food, and Seafood watch produces an easy to use seafood guide that helps consumers identify products that are environmental friendly at their restaurants and grocery stores. Some fisheries are more sustainable than others thanks to differences in the fishing stock, the amount of by-catch associated with a particular species, and the impact on the local habitat from specific fishing techniques and methods. Seafood Watch also rewards fishermen who make an effort to reduce by-catch, especially of endangered species, such as sea turtles. These efforts include different kinds of hooks (such as circular hooks), closing off certain areas to fishing, and using TED's. Seafood guides, such as the ones made by Seafood Watch, are only one tool in the growing global movement for sustainable fishing. Another way to support local conservation of the environment is through official certification and labeling for eco-friendly seafood. By buying seafood that is caught or farmed sustainably, consumers and business leaders gain the power to keep our oceans healthy, and to protect threatened species like marine turtles, while at the same time helping the fishermen that are working to reduce the threats to coastal environments.

## Health and Diseases of Sea Turtles in Baja California

### Authors:

A. Alonso Aguirre (1), Stephen G. Delgado (2), Susan C. Gardner (3), Wallace J. Nichols (4, 6) y Melania C. López-Castro (3, 5)

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### Summary:

For many years, Grupo Tortuguero has collaborated with a variety of research institutions to evaluate the health of marine turtles in Baja California, focusing on how it is that these diseases might affect those who consume sea turtle. Despite international law to the contrary, sea turtle (meat, eggs, oil, blood and other organs) continue to find consumers in many parts of the world; however, the consumption of sea turtle has been proven to have negative effects on human health, due to the presence of bacteria, parasites, pollutants and bio-toxins. Some of the symptoms produced from ingesting sea turtle contaminated with zoonotic pathogens include diarrhea, vomiting and extreme dehydration that may end in hospitalization or death. The level of heavy metals and organochloride compounds found in sea turtle tissue are well above international standards for food safety, and can have other negative effects such as neurotoxicity, kidney disease, liver cancer, and harm to embryos and small young children. It is essential to spread this information throughout communities in Baja California where turtle meat is still consumed in order to improve public health, as well as promote the conservation of these endangered animals by reducing the mortality rates caused by their consumption.

### Habitat use of the Loggerhead Turtle in Baja California Sur, 1998-2005: High use Areas in the Waters Near the Coast Offer an Opportunity for Conservation

### Authors:

Hoyt Peckham (1,2); Walli Andreas (2); Víctor de la Toba (1); Edgar Caballero (1,3); David Maldonado (1); Bertha Montaña (1); Ruth Ochoa Díaz (1); Rodrigo Rangel (1); Natalia Rossi (1); Wallace J. Nichols (1,4)

### Author Affiliations:

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4. California Academy of Sciences

### Summary:

An understanding of the distribution and movements of populations of marine vertebrates is critical to evaluating the sources of anthropogenic mortality rates, and designing more effective conservation programs. Studies of highly migratory endangered species allow us to identify areas of high use (critical areas) where conservation efforts can be more productive. As it happens with most highly migratory species, the conservation of the Pacific Loggerhead Turtle has been limited by a poor understanding of its biology. From 1998 through 2005, satellite transmitters were placed on a total of 29 juvenile loggerhead turtles in Baja California Sur, Mexico (BCS). Based on analyses of the movements of these individuals, we have identified three main habitat use patterns: 21 of the 29 turtles remained in the waters near the coast, never leaving an area with a radius of approximately 38 sq. miles inside the Bahía de Ulloa. 5 turtles remained for long periods of time within 93 miles of the coast of BCS. Three turtles

engaged in migratory movements in the general direction of Japan. By filtering and combining the different movement patterns, we generated several maps that show varying intensity in habitat use, and that therefore indicate several different 'critical zones' for the loggerhead turtle en the 12 to 31 miles outside Bahía Magdalena and Bahía de Ulloa BCS. On a global level, where fisheries and sea turtle critical zones collide (as they do in BCS), one generally finds high by-catch rates. We conclude that conservation efforts for the loggerhead turtle in the Pacific Northwest must focus on reducing by-catch in these high use areas ('critical zones') in Baja California Sur, Mexico. In response to this problem, the fishermen of Puerto Adolfo López Mateos BCS are utilizing the results of this study in order to develop 1) and Auto Protected Zone to reduce by-catch of Loggerhead Turtles and 2) Promote eco-tourism based on sea turtle observation in the area.

### **Loggerhead Turtle Mortality in Baja California Sur, Mexico**

#### **Authors:**

David Maldonado (1); Hoyt Peckham (1,2); Victor de la Toba (1); Wallace J. Nichols (1,3)

#### **Author Affiliations:**

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2. University of California at Santa Cruz
3. California Academy of Sciences

#### **Summary:**

Even though small scale coastal fisheries are common in all oceans of the world, their limited reach, low effort, low socioeconomic profile, and limited management requirements have prevented scientists from fully comprehending their impact on both target, and by-catch species. This research project evaluated the demographic impact of by catch of Loggerhead Turtles (*Caretta caretta*) in coastal fisheries off the Pacific coast of Baja California Sur. We combined information from coastal monitoring to register dead and beached turtles between 2003-2005, and monitoring of local long-line fisheries en 2005 to estimate annual sea turtle by catch in the Bahía de Ulloa in Baja California Sur. Sea turtles were only captured at depths greater than 108 feet, where total fishing was also poorer than at surface level. We estimated a minimum annual by catch rate for these local fisheries, and found that they can have a large impact on the overall population levels of loggerhead turtles in the north pacific, a species which is already in critical danger of becoming extinct. This rate rivals some of the other main sources of mortality that have been documented to date, and by itself can put population recovery for the loggerheads at risk. Thanks to the common use of nets and long lines in developing countries, we have concluded that it's important to encourage greater knowledge of preventive measures to incidental capture in small scale fisheries, and indeed it should become a priority for international marine conservation work. In response to this data, fishermen in Puerto Adolfo López Mateos are working with us to establish an Auto Protected Zone around high use areas for marine turtles, while at the same time promoting eco-tourism based on sea turtle observation as an alternative income source for fishermen.

### **Evaluating the Distribution and Quantity of Loggerhead Turtles (*Caretta caretta*) along the Pacific coast of the Baja California Peninsula**

#### **Authors:**

Jeffrey A. Seminoff, S. Hoyt Peckham, Rodrigo Rangel, Adriana Laura Sarti Martínez, Tomoharu Eguchi, Rodrigo Donadi, Karin Forney, Wallace J. Nichols, and Peter H. Dutton

#### **Summary:**

We performed aerial surveys in the waters off the Pacific coast of the Baja California peninsula between September 8<sup>th</sup> and October 1<sup>st</sup> of 2005. Our goal was to calculate the abundance and seasonal movements of the Loggerhead turtle (*Caretta caretta*). Previous efforts to formulate accurate population models for this species of turtles in the Pacific have been thwarted by a lack of information from the region. Although it has long been known as a habitat critical to the survival of the Loggerheads, a

systematic survey of the coastal waters of Baja California had never been done. During the project we traveled over 2'485 miles, reaching as far as 143 miles off the coast, and covering a total area of 17'374 sq. miles. We observed over 400 turtles, most of them Loggerheads (77%). We also spotted Olive Ridleys (12%), black turtles (7%) and leatherbacks (<1%). About 4% of the turtles sighted we were unable to identify. We are now carrying out a statistical analysis of the results, in order to determine the total population of loggerhead turtles in our area of study.

## **Videos and Documentaries**

### **Sea Turtles and the Indigenous Comcáac: Songs of Survival A documentary by Laura Monti and Meter Blystone, Erica Molina and the Grupo Tortuguero Comcáac**

This documentary tells the story of a long friendship between the sea turtle and the Indigenous Comcáac nation who inhabit the desert coast of the Gulf of California in the Mexican state of Sonora. The Comcáac, known also as the Seri people, have lived along the coast and the islands of the central California gulf region for over a thousand years and have always maintained strong ties to the sea turtles. In this film, Comcáac elders explain their beliefs and practices in protecting the sea turtles of their lands. Younger members of the community form the Grupo Tortuguero Comcáac, and have dedicated themselves to the research and conservation of sea turtles in their territories. This group of young men and women learn from their elders, and work together with other researchers in the Gulf of California to study and promote the protection of sea turtle populations in the Infiernillo Canal.

### **Puerto Adolfo Lopez Mateos Festival 2004-2005 Johath Laudino Santillán, proCaguama/Grupo Tortuguero**

This video embodies the efforts of the community of Puerto Adolfo López Mateos towards the protection of the loggerhead turtle and the environment.

The video showcases the various activities that took place during proCAGUAMA's visit (parades, marathons, posters, drawings, school presentations and the placement of satellite transmitters), as well as our final activity, a festival dedicated to the loggerhead.

The video is in recognition of all the people who helped, all the effort, dedication and commitment to show an entire community that SEA TURTLES ARE WORTH MORE LIVING, THAN DEAD.

### **Garapachos forever A documentary by Patricia Ann Baum, Color y Blanco y Negro: 10 minutes of digital video**

The video titled "Garapachos forever" represents a regional effort towards conserving the leatherback turtle. It focuses particularly on the efforts of local groups in Baja California Sur, such as ASUPMATOMA, Amigos para la Conservación de Cabo Pulmo [Friends for the Conservation of Cabo Pulmo] and the Sea Turtle Camp 'Don Manuel Orantes.'

### **Media Campaign against the Consumption of Sea Turtles for 2005 Wildcoast, in Collaboration with the Fondo de Conservación del Golfo de California [Gula of California Conservation Fund], Fondo Educación Ambiental [Environmental Education Fund], Pronatura Noroeste, Selva Negra and Grupo de los Cien**

This video presents a summary of all the spots for, mentions of, and controversy surrounding the media campaign "Mi Hombre No Necesita Huevos de Tortuga" [My Man Doesn't Need Turtle Eggs], with the sensual international supermodel Dorismar, the participation of the Mexican rock group Maná, and involvement in the tour with norteño music megastars 'Los Tigres del Norte.' This campaign reached approximately 300 million people all over the globe in 2005. The video is 10 minutes long.

## Community Projects

The following communities will present their monitoring and awareness campaign results for the year 2005.

- Acuario de Veracruz
- Agua Verde
- Bahía de los Ángeles
- Bilwi (Puerto Cabezas), Peral Lagoon, Kakahbila, Costa Rica
- Cabo Pulmo
- Colola, Michoacán
- Desemboque y Bahía Kino, Sonora
- El Pardito
- Guasave, Sinaloa
- Guerrero Negro
- Laguna San Ignacio
- López Mateos
- Loreto
- Los Cabos
- Mulegé
- Nu Fit, Islas Kecil, Indonesia
- Paso de Noria y Águila, Michoacán
- Pescadero
- Playa San Valentín, Guerrero
- Puerto Magdalena
- Puerto San Carlos
- Punta Abreojos
- San Cristóbal y Agua Blanca
- San Diego, California
- Todos Santos

## Available Community Presentation Summaries

### Advances of the Grupo Tortuguero Monitoring Program 2001-2005

#### Authors:

Antonio Mariscal Loza (1), Rodrigo Rangel (2), Julio Solís (3), Ranulfo Mayoral (4), Miguel Valenzuela (5), Héctor Toledo (6)

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4. In charge of Monitoring in Laguna de San Ignacio
5. In charge of Monitoring in Punta Abreojos
6. In charge of Monitoring in Laguna Ojo de Liebre

#### Summary:

The black sea turtle (*Chelonia mydas agassizii*) is classified as an endangered species, and despite the ban on fishing or consuming this animal, by-catch, poaching and nest poaching persists. Because the

waters of Baja California are considered one of the most important foraging and development grounds for black turtles in the Mexican Pacific, since 2001 the Grupo Tortuguero has been carrying out monitoring projects that allow researchers to know the state of sea turtle populations, helping them to implement more effective conservation strategies. The results that are being presented have been updated to July of 2005 in Bahía Magdalena and Laguna Ojo de Liebre, and until December of 2004 in Laguna San Ignacio. At Laguna Ojo de Liebre, we captured 120 turtles with an average length of 59.1 cm with an average growth of 2.5 cm p/year, with 18 re-captures; most of the turtles we tagged were captured at Punta Abreojos, totaling 505 turtles with an average length of 57.5 cm, and an average growth of 2.5 cm p/year, with 75 re-captures; at Laguna San Ignacio we caught 174 turtles, with an average length of 57.6 cm (the smallest turtles in the study), with an average growth rate of 1.2 cm p/year and 43 re-captures. All tolled, we tagged 931 turtles, and re-captured 152. More than 90% of the turtles were juveniles or sub-adults under 75 cm. There are significant differences between the growth rates of Bahía Magdalena and Punta Abreojos, as well as between the average size of turtles in San Ignacio and the rest of the sites, as well as a significant increase in the relative abundance of turtles in Punta Abreojos. Until now, there is no evidence of any connections between the monitoring sites, as the turtles tagged at one site tend to stay loyal to that location.

### **Advising against Sea Turtle By-catch: Researching reactions to olfactory and visual stimuli.**

#### **Authors:**

Fernando Valencia (1,2), Laura López<sup>1,2</sup>, Santos Sillas<sup>1,2</sup>, Ana Cervantes<sup>1,2</sup>

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2. Hoover High School

#### **Summary:**

As part of a wide-reaching and innovative research and educational project, a group of junior high school students, scientists, community members and educators studied the reactions of sea turtles to different colored lures in Bahía de Los Ángeles, Baja California, México. Global sea turtle populations have diminished thanks to by-catch on long-lines. In order to find a solution to this problem that might benefit sea turtles, without negatively affecting the local fishing economy, there is a great interest in turtle feeding habits, and what it is that draws them to fishing lines in particular. By examining reactions to visual and olfactory stimuli, and attraction to different colored lights. Four species of turtle were observed during the study: Hawksbill (*Eretmochelys imbricata*), Loggerhead (*Caretta caretta*), Black (*Chelonia mydas agassizii*) and Olive Ridley (*Lepidochelys oliveacea*). Reactions to lures were experimented utilizing three kinds of lures, including a plastic squid, a lure with actual squid, and an empty lure. We also experimented with different colored lights (red, green, blue and white). Results indicated that smell is much more important towards motivating a turtle to bite on a lure, but that visual stimuli are also quite significant. Our results also suggest that sea turtles are much more attracted by blue and green lights, with some reaction to white lights. Given our results, scented lures should be avoided to reduce by-catch of sea turtles. This study is an example of how science, education and research can create powerful results in favor of sea turtle conservation, and community development.

### **Sea Turtle Monitoring in Agua Verde and El Pardito: "San Cosme - Punta Mechudo Corridor", Gula of California**

#### **Authors:**

Aarón Esliman Salgado (1); Amy Hudson Weaver (1); Federico Savín Talamantes (2); Fabian Savín S. (2); Luis Savín S. (2); Felipe Cuevas (3); Pablo Cuevas (3); Miriam Cuevas (3); Rodrigo Rangel (4)

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2. Community of Agua Verde

3. Community of El Pardito
4. Grupo Tortuguero

**Summary:**

In September of 2005, sea turtle monitoring projects were initiated at two new sites in the Gulf of California, under the coordination of Sociedad de Historia Natural Niparajá, A.C. [Natural History Society Niparajá]. The first, carried out by 3 volunteers from Santa Marta, was just south of Agua Verde at Punta Gavilanes; the second, carried out by 3 volunteers from El Pardito Island, was on San José Island. The methodology employed at the site was standard for the monitoring groups of the Grupo Tortuguero. Community members lay a 100 meter long turtle net during a period of 24 hours each month, and check back on the net every 1 and ½ hours to avoid any sea turtles from drowning. From September of 2005 to January of 2006, 5 monitoring sessions took place at each site; 9 black turtles (*Chelonia mydas agassizii*) were captured at El Pardito, and only 1 Hawksbill (*Eretmochelys imbricata*) was captured at Agua Verde. Biometric measurements were taken for all captured turtles, as well as being tagged with metal clips. Blood, skin and shell samples were taken from all 9 turtles at El Pardito, by Melania López of CIBNOR, along with Dr. Susan Gardner. After being measured and sampled, all turtles are set free. In addition to in-water monitoring, we are also looking for signs of rookeries on the beaches near the study sites; as of now, we have not found any evidence of nesting on these beaches.

**Protecting and Conserving the Hawksbill Turtle (*Eretmochelys imbricata*) on the Islands of the Veracruz Reef System National (PNSAV)**

**Authors:**

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**Summary:**

The Veracruz Reef System National Park (PNSAV) and its surrounding area has since pre-hispanic days been home of various cultural groups dedicated to exploiting its natural resources.

199 saw the very first efforts towards protecting Verde and Sacrificios Islands near Veracruz Port, and 2003 saw this project extended to Enmedio and Salmedina islands near Antón Lizardo. During our 7 years of work, we've registered 104 hawksbill (*Eretmochelys imbricata*) nests, and we have protected 11'597 eggs, and released 7'689 hatchlings.

During the past two years, we've seen a decline in the number of females and nests, without being able to determine as of yet the causes. Sacrificios Island has been cut off from all tourist activities for 24 years, essentially nullifying both human poaching and depredation as factors in this decline. It is much more likely that the culprits are pollution from the city and port of Veracruz, as trash drifts toward the islands; fishing near and in the reef system could also be causing this decline. Therefore, we recommend that the protection program for the turtles continue, along with a re-evaluation of the impact of nearby human activity on the sea turtles.

**Sea Turtle Monitoring, Documenting the Importance of Foraging in the Habitat of Canal del Infiernillo**

**Authors:**

R. Barnett (1); P. Cruz (1); J.L. López (1); G. Hoeffler (1); E. Molina (1); L. Monti (1, 2); S. Redford (1)

**Author Affiliations:**

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**Summary:**

The Seri group monitors four eel grass foraging grounds at the northern and southern ends of Canal del Infiernillo, and Campo Sargento and Campo Las Víboras respectively. Aside from providing a habitat to five species of sea turtle, these foraging areas are home to over 120 species of fish, and two kinds of crab. The Seri monitored for periods of 2 full days during the months of September 2004, and May, June and July of 2005. They captured 10 black turtles (*Chelonia mydas agassizii*). Nine of those turtles were captured in Campo Víboras, falling into the 60-80cm category. They also found 6 smaller turtles (between 40 and 60 cm). The smallest turtle, measuring 31 cm, was captured near Campo Dos Amigos. Not one turtle larger than 80 cm was captured this year. These results are comparable to the ones obtained for the previous where, and show that a preponderance of juvenile turtles migrate to the eel grass fields in Canal del Infiernillo. Larger turtles (greater than 80 cm) have not been captured since 2003. In 2001, turtles of this size represented almost half of all captures. For the first time in many years, rookeries for three kinds of sea turtle (black, leatherback and hawksbill) were sited on the mainland coast, and on the southern tip of Tiburon island. We did surveys and measurements of shells found at both sites. Twenty two shells were collected outside Punta Chueca, and none were found near Desemboque. This is a significant decrease from previous years when 70 shells had been found in a single year. These shells all measured between 48 and 79 cm.

**Leatherback Turtle Monitoring on the Kei Islands, Maluku, Indonesia****Author Affiliations:**

SiRAN and the Nu Fit indigenous group

**Summary:**

The Leatherback Turtle has great cultural significance with a group of local communities (known as the Nu Fit), comprised of nine coastal communities in the Kei Islands in Maluku, Indonesia. The people of the Nu Fit assume that, because of their cultural traditions, the leatherback turtle has always resided in their waters and will never become extinct. More than 100 adult male and female turtles are hunted in their feeding grounds every season (November through February). The leatherback was once a powerful symbol, and the leatherback were seen as the ancestors of the Nu Fit, and were locally called *Ub*; they were also seen as a symbol of ownership of the sea, locally called *Tad*; and the loss of this species would allow for the expansion of their governments powers over these local waters. However, it's clear that the leatherback turtle has been a sacred component of the Nu Fit's diet for many generations. This living legal patrimony that allows the Nu Fit to have exclusive hunting rights over the Leatherback for their own consumption (not for sale or trade) is widely recognized by officials in Kei in general, and is one of the main reasons that hunting can continue.

SiRaN's work in these communities consists of the following:

- Documenting hunting activities through monitoring
- Provide information on the state of the Leatherback Turtle in the Pacific, and implications for the Nu Fit
- Carry out social events (festivals, sporting events) during the hunting season
- Satellite monitoring and turtle capture as a means of creating awareness (live captures of turtles are particularly useful, being that capturing a live turtle is seen as a great challenge)
- Promote non-consumption, or restricted use, of the leatherback turtle, so that it may survive for many generations to come

**Pilot Project: Managing and Participating in the Protection of Sea turtles at the Coastal Indigenous Community "Paso De Noria" with the Help of the 'Group for the Support and Protection of Species and their Environment (GAPEA), in the Municipality of Aquila, Michoacán****Authors:**

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## Youth Programs

### **The Loggerhead Turtle (*Caretta caretta*) Pride of Puerto Adolfo López Mateos**

**Authors:**

Carmen Romero (1); Judith Romero (1); Juana Duarte Ramírez (1); Maricela Valladolid (1); Marina Verduzco (1); Bertha Cinco (1); Hortensia Navarro (1); Lourdes de la Rosa (1); Aurora de la Rosa (1); Jesús Felizardo Cortes Osuna (2); Octavio H. Cortes Ozuna (2); Luis Alfonso Márquez Valenzuela (2); Jorge Abelardo Rincón Moreno (2); José Ubaldo Montoya de la Rosa (2); Luis Enrique Cosío Peralta (2); Heriberto López Rodríguez (2); Placido Valladolid de la Toba (2); Alexis Cobarrubias Aguilar (2); Xiomara de la Toba Valladolid (2); Griselda Gpe. Aragon Zamora (2); Perla Marina Ahumada Verduzco (2); Reina Italia Valle de los Santos (2); Solimar de la Toba Valladolid (2); Lizbeydy Covarrubias Saguilan (2); Paola Navyd López Fonseca (2); Cristal López Sánchez (2); Hoyt S. Peckham (3); Johath Laudino Santillán (4); Ruth Ochoa (5); Egle Flores (5); Natalia Rossi (5); Edgar Caballero Aspe (5).

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5. proCAGUAMA

**Summary:**

Loggerhead Turtles are born in Japan, and make one of the longest migrations in the animal kingdom, finding their way across the Pacific Ocean and making the 6'835 mile journey all the way the coast of Baja California to feed. They spend 30 years feeding and growing in the Eastern Pacific before heading back to Japan, ready to reproduce. Each year, hundreds of loggerheads die through by-catch in fishing nets in Baja California Sur. We helped organize groups of young people, committees for women, and other groups to create awareness about sea turtles and caring for the environment. They carried out activities such as the turtle festival, where members of the community organize to carry out conservation activities and cleanup campaigns. They also go on visits to several communities close to López Mateos (La Poza Grande, Santo Domingo and Santa Rosa) holding workshops for children, doing turtle related arts and crafts utilizing re-used materials. Young people are trained in issues related to their local ecosystems so that they learn to appreciate and protect them. We have also received support from municipal authorities, and participated in the first ever release of loggerheads by official authorities. The result has been excellent volunteer participation on behalf of the community and the state government of Baja California Sur, and the turtle festival is now under consideration for an official state holiday.

### **We need a People: Students as Catalysts in Sea Turtle Conservation**

**Author:**

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**Summary:**

For a sea turtle conservation project to be successful, it must take into account the effects of human activities on sea turtles and their habitat through the integration of the local population in the search for conservation strategies. Involving students in the monitoring and research of sea turtles can become a catalyst for increasing community participation in sea turtle conservation by educating those who are closest to the sea turtles, and giving people viable means through which to contribute to environmental protection.

An effective community response requires the collaboration of educational institutions, NGO's, property owners, government agencies and community members. Ecology Project International (EPI) has integrated local students into conservation and research projects at high density nesting beaches in Costa Rica and the Galapagos islands, improving data collection and helping to protect the beaches.

Each nesting season, hundreds of junior high school and university students participate as research assistants for established sea turtle monitoring projects for the Green Turtle (*Chelonia mydas*) and Leatherback Turtle (*Dermochelys coriacea*). Local students collect biometric data, increase the frequency and duration of patrols, contribute to habitat restoration on nesting beaches, and provide energy and inspiration to resident researchers. In Baja California Sur, EPI students have helped local scientists with marine conservation projects. The success of these projects depends on adequate preparation of students, professors and biologists, before and after their visit, as well as the support of relevant research institutions, property owners and government agencies.

### **Native Oceans Council 2006**

**Authors:**

Wallace J. Nichols (1, 2); Timothy Dykman (1, 2); the student leaders of Ocean Revolution

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1. Ocean Revolution
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**Summary:**

Titled, 'Native Oceans Council, 2006,' the Ocean Revolution Meeting sought to enlist and strengthen young leaders to push for global cooperation and shared knowledge of our relationship to the ocean. The meeting brings together young people, elders and mentors from around the world, including representatives from the three ancient sea turtle hunting cultures of Indonesia, Nicaragua and Mexico, none of whom had previously had the opportunity to share their histories and efforts to preserve their culture amidst growing competition for limited marine resources. We emphasize the human relationships that bring leaders from diverse cultures together, with the shared goal of developing respectful cultural ocean practices.

### **Youth of the Californias Meeting for the Conservation of Sea turtles**

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## Summary:

Environmental Education programs toward conservation and management of sea turtle populations have demonstrated a disconnect which, in the short term, leads to a lack of interest in sea turtle protection. This is due to the fact that only a few groups dedicate themselves to educational activities with a truly environmentalist focus, and are many times guided instead by “hot button issues” or an oversimplified “love of nature.” A lack of true understanding and interest for sea turtle conservation on behalf of coastal communities is due to a lack of coordinated and efficient environmental education programs, managed by the community, as opposed to being guided by select groups.

For the most part, the success of an environmental education program is measured in its ability to diminish or mitigate negative impacts on nature. It does this by helping bring about populations that participate in solving environmental problems, understand the causes, magnitude and consequences of these problems, and understand what actions that each individual can make to attenuate or remedy the damage being done to places like sea turtle nesting sites. Unfortunately, most of the conservation and resource management programs fail to accomplish these objectives, partly due to a lack of inclusion of various sectors of society, limiting themselves exclusively to the scientific community.

The first Youth of Southern Sinaloa Meeting for the Conservation of Sea Turtles took place in 1987, and has been celebrated every year since without interruption. Since its inception, around 100 6<sup>th</sup> grade children from rural fishing communities in the coastal towns of southern Sinaloa have participated every year in the event. This meeting develops over a weeklong ‘turtle camp’ program, with the participation of researchers, sponsors, workshop leaders, the invaluable support of DIF, CECyT, and a whole team of organizers and up to 30 volunteers. 19 consecutive successful years show the signs of what we’ve achieved, and the precedents we’ve set, and many of the original participants have now returned as volunteers, as well as signing their own children up in the program that they once attended.

Volunteers who support the many different activities during the camp come from nearly every state in Mexico, and bring their participation and the knowledge and experiences to the conference. Here in Baja California, we have had the opportunity to duplicate their excellent work, holding for the first time in 2005, the 1<sup>st</sup> Youth Meeting of the Californias for the Conservation of Marine Turtles. Young people and children from coastal fishing communities in Baja California participated in the event, drawing from the lessons learned after more than a decade of experience at the Mazatlan Aquarium Meetings. Our conference has the following main objectives, achieved through classes and workshops for children: 1) Participants will be able to understand the urgency of participating in the sea turtle and environmental conservation campaigns in their region; and 2) Children will develop new habits and behavior that will encourage respecting their environment, and contributing to natural resource conservation, through the skills they have developed. We hope to create a new generation of children who will work to protect sea turtles, as well as the environment in general.

During the first meeting in Baja California, 31 young people between 4 and 15 participated, coming out from 12 different communities in the state of Baja California Sur (Los Barriles, Cabo Pulmo, Punta Abreojos, Nopoló, Puerto Adolfo López Mateos, Guerrero Negro, Laguna San Ignacio, Pescadero, San José del Cabo, Bahía Magdalena y Puerto San Carlos). Moreover, children even came down all the way from Canada, thus adding another component to the sea turtle conservation work being done by the Grupo Tortuguero. We should also mention that for the first time, the prestigious “Carolina Anderson Award” was granted to a community whose youth sea turtle conservation work stood out amongst all the participants. This year, the award went to the young boys and girls of Puerto Adolfo López Mateos.

During the 8<sup>th</sup> Annual Meeting of the Grupo Tortuguero, after having equipped young participants with the necessary tools, we will be able to see the results from each community. We will also engage in a second of year of work at the 2<sup>nd</sup> annual Youth Meeting.

Children are our future, but we can’t wait until tomorrow to encourage action. Not only must future generations help protect the environment when they become responsible adults, our children today can

begin integrating themselves into the movement, and can help the rest of their community (young and old) to integrate themselves, sowing the seeds that will one day bear the fruits of a strengthened and consistent sea turtle conservation and preservation movement.

## **Workshops**

### **Geographic Information Systems: An Introductory Workshop for Sea Turtle Conservation**

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#### **Summary:**

What is GIS? How can we use this mapping technology as a tool for sea turtle conservation? The goal of this workshop is to explain the potential for GIS, and to demonstrate how community monitoring data and telemetry can be used, not only to generate maps of this biological information, but also to analyze spacial qualitative data that can guide marine resource-related decisions. Furthermore, we will provide examples of how GIS has been applied to marine research. After the presentation, participants will have the opportunity to direct their specific questions to us about other possibilities for the information that GIS can provide.

### **Environmental Justice and Citizens' Participation**

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#### **Summary:**

During this workshop, we will explore the legal avenues that affected communities have at their disposal to protect endangered natural resources. Moreover, we will explain the different opportunities for public participation within federal and local legislation. By the end of the workshop, participants will know the challenges that they must face in order to effectively defend their natural resources, and they will have the capacity to participate in a clear and timely manner in legislative and environmental decision making.

### **Data Capture for Marine Turtles**

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#### **Summary:**

An extremely important part of the Grupo Tortuguero's work towards sea turtle conservation on the Baja California Peninsula has to do with generating the knowledge needed to carry out research on sea turtle populations, biology and health. In the field, this work takes place once a month, during a period of 24 hours in which the monitoring teams set out and monitor turtle catching nets at different sites along the peninsula. They follow a well established protocol and take in data that are registered and filed. Once the organisms are captured, it's necessary to measure the body of the turtle, and observe its physical appearance and coloration; all organisms are tagged, and info on these tags is also archived.

For this reason, it's important to review all the notes and registered data, so that community monitoring members can become familiar with them, and clear up any doubts they may have, as well as make suggestions to make the forms better and more appropriate to their own specific sites.

## First Workshop on Sea Turtle Tagging in Northwestern Mexico I tag, you tag... Why tag sea turtles?

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### Summary:

Northwestern Mexico is an extremely important region in terms of sea turtle abundance and diversity. During the past decade, monitoring and research sites of the 5 species of sea turtle that nest and forage in the Mexican northwest have grown significantly, and along with it have grown the amount of information generated by the work of researchers, scientists and community members involved in the conservation and management of sea turtle populations in the region. Due to the highly migratory nature of sea turtles, tagging them as juveniles and adults is one of the most effective ways to track the routes, times, and places of their migrations during their lifespan.

However, this valuable information is still quite dispersed, being that there hasn't yet been established an exchange or integrative administration protocol for the data that has been collected. This gap limits the beneficial potential of sea turtle tagging, as well as the clarity of population models that might be useful to environmental decision making, which should be based on the best scientific knowledge available.

In this workshop, we hope to: a) carry out a survey of the work groups engaged in tagging at various feeding and nesting habitats; b) promote coordination strategies and standard protocol for turtle tagging in Mexico's northwest; c) generate a standardized set of information fields and structure for a regional database so as to distribute among interested persons; and d) search for alternatives for financing the work of integrating and disseminating this information.

### Marine Turtle: Regional Environmental Education Strategy

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### Summary:

Planning is a process through which one establishes objectives, and then selects the means or path to follow in order to achieve them. A key element here is to define the plan before engaging in the actual activity. These means or options are precisely the strategy that permits us to achieve our goals, and should be based on an analysis of advantages and disadvantages for each alternative.

Being strategic means understanding the decisions that we make, and why we make them; even more importantly, we need to understand which options we are *not* selecting, and why. Being strategic not only has to do with decisions in the future. It also means having the capability to make decisions now, which may affect the future. Strategic planning must be dynamic, where strategy and implementation are constantly paired according to activities and results that are implemented and then evaluated, and where we also receive feedback on our results.

A SOWT analysis is one of the most well known and most utilized tools used by non-profit organizations. It identifies key internal characteristics for each work group, organization or institution, as well as the external factors that surround it, evaluating each one as positive or negative.

*Objective:* We will analyze the need to have universal teaching materials so as to carry out environmental education activities for the Grupo Tortuguero.

*Target Audience:* All environmental educators and persons that work in the communities involved with the Grupo Tortuguero.

*Development:* Depending on the number of participants, there will be work tables, or plenary discussions on the SOWT analysis (Strengths, Opportunities, Weaknesses and Threats), where each participant will give his or her opinion and analysis, and will write each of his or her observations about these four points in relation to environmental education. They will analyze the possibility of having a single universal teaching tool that can bring environmental education to each community. Results will be presented at the end.

*Expected Results:* To identify the Strengths, Opportunities, Weaknesses and Threats that each participant can point out, so as to be able to more effectively generate teaching materials for the environmental education activities of the Grupo Tortuguero.

### **Our Hand in Preventing Extinction: Sea Turtle First Aid**

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The thin line between life and death for sea turtles could one day be in our very hands. With knowledge of first aid, we can save them in life threatening situation. To do this, our skills must be brought to bear rapidly and effectively.

The basic principles we need to have are:

*Location:* Place where the turtle is (beach, sea, net, long-line, etc.)

*Verification:* Check that the turtle is alive, or in hopes of being rescued

*Access:* Route and path towards the turtle (swimming, walking, driving)

*Auscultation:* Check for external lesions on the turtle (bruises, cuts, etc), and internal injury (hooks, etc)

*Evaluation:* Is the problem an emergency, or is there time to calmly attend to the situation

*Medical Attention:* Take the necessary actions to recover the turtle.

*Release:* Set the turtle free at sea, after having assured that it is in good health to survive unattended.

This work has been developed so that those interested in sea turtle conservation can begin first aid, and with the main objective of avoiding as many deaths as possible, and identifying common causes of death in sea turtles. It is necessary to keep in contact with specialized personnel, especially in cases where there may be a need for special equipment, medication, specialized knowledge, etc.