

The IUCN Species Survival Commission

A Global Strategy
for the Conservation of
Marine Turtles



Prepared by IUCN/SSC Marine Turtle Specialist Group

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Cover photo: Hawksbill turtle, *Eretmochelys imbricata* (Photo: D.R. Schrichte)



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The World Conservation Union

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Introduction

As a group, marine turtles represent an ancient and distinctive part of the world's biological diversity, first appearing more than 100 million years ago. As recently as the 18th and 19th centuries, marine turtles were very abundant, with some populations numbering well into the millions. But in the last several hundred years, we have overwhelmed the species' ability to maintain their numbers with intentional and accidental capture in fisheries, destruction of foraging, nesting and resting habitats, and, most recently, pollution of the oceans. Today, few populations of marine turtles are unaffected; most are declining, often seriously. Many are extinct.

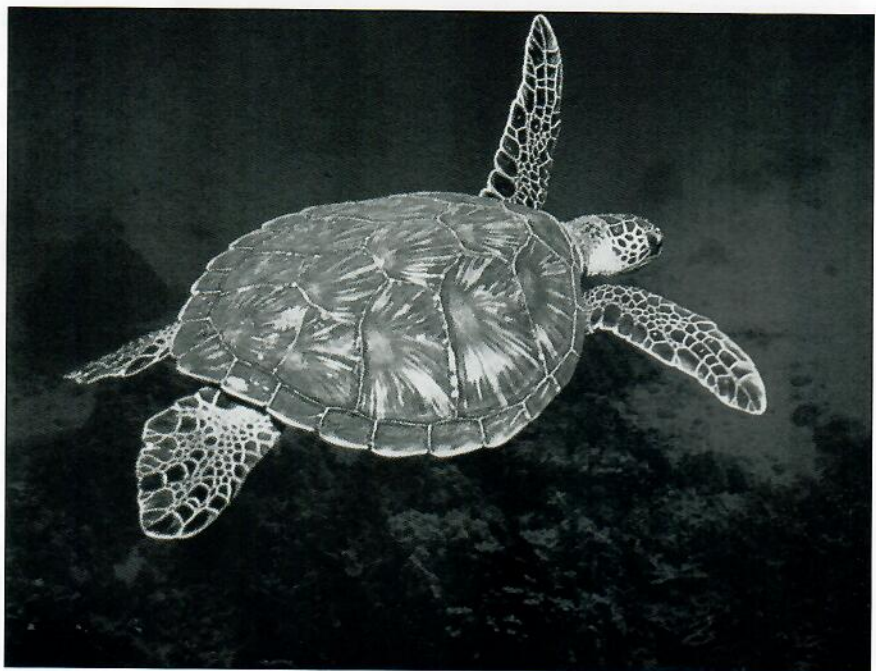
Currently, seven species are clearly recognized. They include the green turtle (*Chelonia mydas*), loggerhead (*Caretta caretta*), flatback (*Natator depressus*), hawksbill (*Eretmochelys imbricata*), leatherback (*Dermochelys coriacea*), olive ridley (*Lepidochelys olivacea*), and Kemp's ridley (*Lepidochelys kempi*). Many scientists also consider the distinctive 'black' turtles of the Pacific coast of the Western Hemisphere, sometimes referred to as *Chelonia agassizi*, as an eighth species. Most species have circumglobal and subtropical or tropical distributions.

Marine turtles have a fascinating life history—they are long-lived species that mature late in life and move great distances during their lifetimes. Marine turtles are excellent navigators, frequently migrating hundreds or even thousands of kilometers between foraging and nesting grounds. They spend their lives at sea but return to land to reproduce. Adult females nest in multiyear cycles, coming ashore several times to lay hundreds of eggs during a nesting season. After about 50 to 60 days of incubation, the hatchlings emerge and head for the ocean to begin life as pelagic drifters. While maturing over the course of several decades, they move in and out of a variety of ocean and coastal habitats. This open ocean existence often frustrates our efforts to study and conserve them. Survival to adulthood is low.

Presently, all species except the Australian flatback are listed in the IUCN Red List as Endangered or Vulnerable. All marine turtles are included in Appendix I of CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora), and all species except the flatback are listed in Appendices I and II of CMS (the Convention on the Conservation of Migratory Species of Wild Animals). There can be no doubt that if these magnificent animals are to be safeguarded from eventual extinction, comprehensive, focused and integrated efforts must be undertaken on a global scale.

Today thousands of individuals in volunteer and government-supported management and conservation programs throughout the world are working to conserve marine turtles. Although marine turtles spend the majority of their time at sea, these programs primarily focus on nesting

Green turtle



D.R. SCHRICHTE

beach activities, an emphasis that has resulted in large gaps in our knowledge about these animals. Furthermore, recent population modelling suggests that conservation of eggs and hatchlings, without concurrent conservation of the older life stages, may be of limited value. Conservation efforts are also hampered by a lack of coordination on an international basis. This is unfortunate as marine turtles are under assault throughout their lives as they move from the waters of one nation to another.

In June 1994, 19 members of the Marine Turtle Specialist Group of the Species Survival Commission of IUCN – The World Conservation Union – from 15 nations and a representative of the IUCN Secretariat met in Puerto Vallarta, Mexico, with two professional strategic planners to draft a comprehensive global strategy for the conservation of marine turtles. The resulting draft was sent to all members of the MTSG and selected members of the SSC for review and comment. This document, *A Global Strategy for the Conservation of Marine Turtles*, is the product of that session and review.

The Strategy is presented in nine parallel strategies, Research and Monitoring; Integrated Management for Sustainable Marine Turtle Populations; Building Capacity for Conservation, Research, and Management; Public Awareness, Information, and Education; Community Participation in Conservation; Regional and International Cooperation; Evaluation of the Status of Marine Turtles; Funding for Marine Turtle Conservation; and Operation of the Marine Turtle Specialist Group.

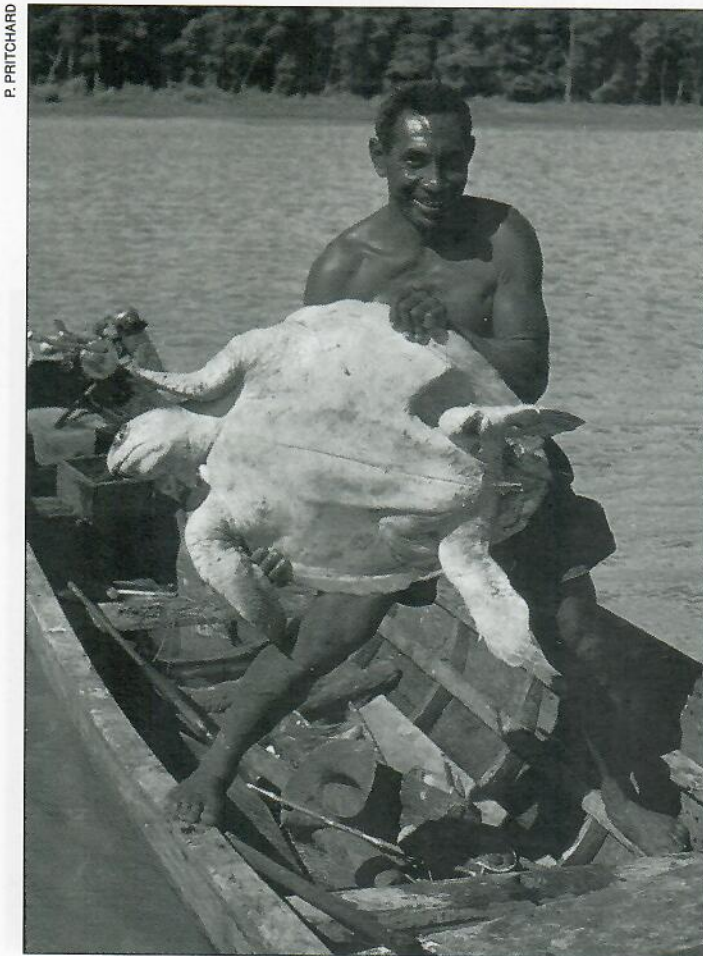
Several strategies within this document may be considered as tools for implementing other strategies. For example, Funding, Building Capacity, and Community Participation in Conservation can be tools for implementing Integrated Management for Sustainable

Marine Turtle Populations. However, each of these tools was elevated to strategy status to facilitate effective development and use for application to other strategies. The reader will also find that some strategies interface or overlap. This is appropriate, as the intent is a comprehensive, unified approach to marine turtle conservation and management.

Three recurrent themes of the strategy session were integration of marine turtle conservation and management, the need to involve local people who utilize turtles in their conservation, and the restoration/maintenance of the roles of marine turtles in their ecosystems. These issues have been widely discussed among marine turtle conservationists for a number of years and need some clarification to avoid possible misinterpretation in the Strategy.

To date, one shortcoming of activities to promote marine turtle conservation has been our failure to address conservation issues in a systematic and unified way. The concept of integrated management is crucial to marine turtle conservation in several ways: 1) marine turtle management should be incorporated into coastal management regimes to ensure that habitat quality and ecosystem functions are maintained; 2) marine turtle management should be included at local, regional and global levels so that those people directly affected

Turtle hunt for olive ridleys



P. PRITCHARD

by management, as well as those who have influence over regional and global activities, are involved; and 3) management of any marine turtle species or population should be integrated across its entire geographic range so that activities in one part of the range do not undermine conservation management in other areas of its range.

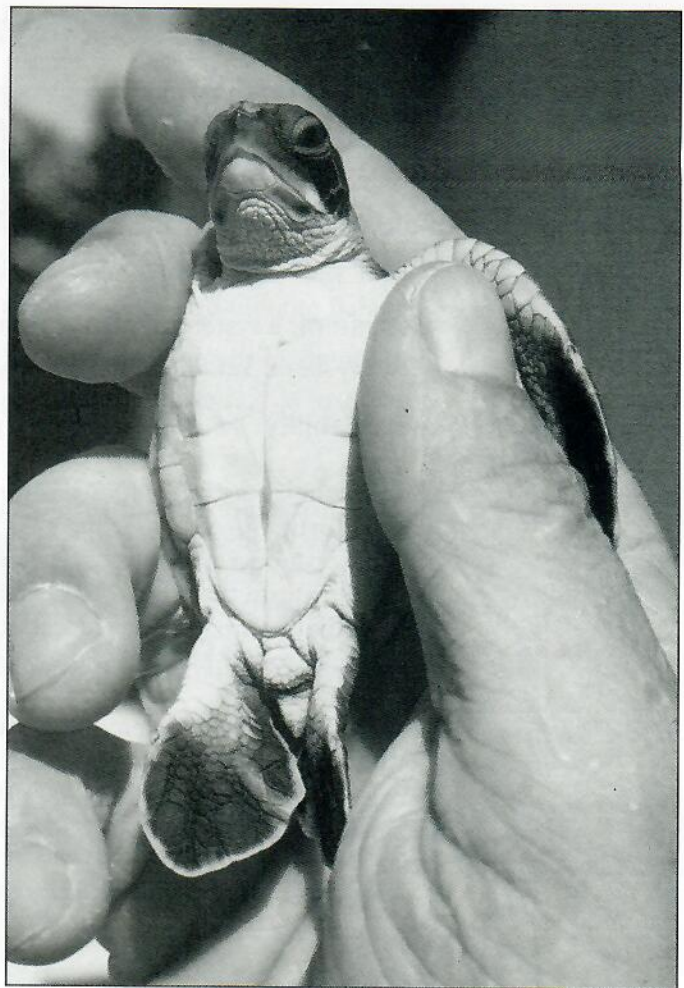
For a number of years many people have debated whether declining populations of marine turtles should be exploited. Most recognize the significance of marine turtles in the cultural and social lives of many coastal people and the importance of these animals and their eggs as a source of protein. Too frequently, however, wide use by a growing human population, coupled with the migratory nature and slow rates of natural increase of these animals, has resulted in most utilization being non-sustainable. Clearly, failure to stop or reverse these declines will result in the eventual extinction of marine turtle populations. Although this Strategy recognizes that utilization of marine turtles occurs in many areas and does not oppose all use, it does not support non-sustainable use. There are many areas where complete protection has been necessary for the management of marine turtles, and this is an important option for conservation planning.

Because there are inherent difficulties with exploitation, there is an emphasis in the Strategy on the need to involve the local people who utilize marine turtles in their conservation and management. At the heart of the debate is making appropriate decisions about use, an issue which is hard to resolve given our incomplete knowledge of these species and the amount of time required for the effects of overexploitation to be noted. This Strategy advocates informing and involving local people in the decision-making process while continuing to base management decisions on science.

Marine turtles serve important functions in the ecosystems in which they are found, although the details of those functions may be hard to clarify where populations currently are seriously depleted. For example, seagrass beds where green turtles graze regularly are more productive, nutrients are cycled more rapidly, and the grass blades have a higher protein content, thus benefitting other species. Furthermore, some populations of marine turtles, whose feeding areas may be hundreds or even thousands of kilometers from their nesting beaches, serve an important role in nutrient cycling by transporting massive quantities of nutrients from these feeding grounds to typically more nutrient-poor coastal and inshore habitats in the vicinity of the nesting beaches.

Without active intervention and management, marine turtle populations are expected to continue to decline to extinction. With the resulting loss of productivity within marine ecosystems, we can expect a resulting decline in quality of life for human populations dependent on coastal ecosystems.

To avoid confusion over the definition of terms, we employ the IUCN definitions used in the document *Caring for the Earth: A Strategy for Sustainable Living* (IUCN - The World Conservation Union, UNEP - United Nations Environment Program, and World Wide



G.H. BALAZS

Hatchling green turtle

Fund for Nature, Gland Switzerland, October 1991). The terms and their definitions are:

conservation: the management of human use of organisms or ecosystems to ensure such use is sustainable. Besides sustainable use, conservation includes protection, maintenance, rehabilitation, restoration, and enhancement of populations and ecosystems.

biological diversity: the variety of life in all its forms, levels and combinations. Includes ecosystem diversity, species diversity, and genetic diversity.

ecosystem: a system of plants, animals, and other organisms together with the non-living components of the environment.

sustainability: a characteristic of a process or state that can be maintained indefinitely.

Many of the issues and actions outlined in this Strategy may be outside the purview of the Marine Turtle Specialist Group (MTSG) to implement. Likewise, all members of the MTSG serve on a voluntary basis, so readers of this Strategy and members of the MTSG should be aware that the MTSG cannot carry out all the actions indicated even though these activities are necessary to effect marine turtle recovery. However, the MTSG is an important catalyst and can serve to galvanize action.

Responsibilities for implementing many of these actions may lie with local nongovernmental organizations or government management agencies. In these cases, the MTSG sees its role primarily as providing expert advice, encouragement and facilitation, and we urge local and state organizations and agencies to implement the necessary actions identified here.

Background of the Marine Turtle Specialist Group

The Marine Turtle Specialist Group was founded in 1966 in response to a growing recognition of the endangered status of marine turtles. Sir Peter Scott asked Archie Carr to chair the group and appoint group members. Archie Carr remained the chairman until 1984, when he stepped down, and Grenville Lucas—then Chairman of SSC—appointed Karen Bjorndal as chairman. Tom Harrisson, Nicholas Mrosovsky, George Balazs and Karen Bjorndal served as either co-chairman or deputy chairman with Archie Carr. Karen Bjorndal has worked with two deputy chairmen: G. Stanley de Silva and George Balazs.

The MTSG was a small group, ranging from 15 to 30 members, until 1990, when the membership was expanded to over 150 members. Today, membership is nearly 200 with individuals from 47 countries.

During Archie Carr's chairmanship, the MTSG operated with a minimum of structure. Peter Pritchard served as Coordinator of Marine Turtle Conservation Programs from 1969 to 1973. In response to the larger size of the group, an Executive Committee composed of the chairman, deputy chairman and seven members was appointed in 1993. In 1994, Marydele Donnelly became Program Officer under support provided by an anonymous donor to the MTSG through the efforts of the Center for Marine Conservation (Washington, DC).

Mission

The IUCN/SSC Marine Turtle Specialist Group exists to develop, support, and implement programs which promote the restoration and survival of healthy marine turtle populations that fulfill their ecological roles.

We accomplish this by :

1. Ensuring that the conservation of marine turtles is guided by the biological constraints of the animals and the best scientific information available.
2. Conserving and managing natural resources and habitats that are fundamental for marine turtles.
3. Emphasizing management for long-term survival of the species.
4. Recognizing that marine turtles are a shared international resource.
5. Involving local communities in conservation management.
6. Seeking assistance and support from people and organizations interested in conserving marine turtles.
7. Integrating local, regional, national, and international efforts through advisement and advocacy.
8. Helping to build capacity of concerned authorities to conserve marine turtles.
9. Adopting and advocating innovative methods.

Strategy: Research and Monitoring

Situation: Gaps currently exist in our knowledge of marine turtle population dynamics, life histories, and threats. These gaps lessen or prevent effective conservation management. In addition, the limited dissemination of results from research and monitoring activities contribute to duplication of effort and loss of collaborative and coordinated opportunities.

Risk: Gaps in our knowledge of marine turtle biology will continue to hamper management and recovery efforts. Both research and management activities may focus on non-essential issues, while failing to act on essential and critical issues. Lack of understanding will lead to uninformed and inappropriate decision-making.

Desired state: Coordinated research and monitoring programs will be based on population identification and knowledge of population distribution, size, and trends. Reliable estimates of growth rates, fecundity, and mortality rates and factors at each life history stage can be used to make better-informed, more effective management decisions. Improved understanding of marine turtle ecological roles will contribute to better integrated coastal management. An integrated data base compatible with Geographic Information Systems (GIS) will facilitate more rapid, comprehensive management decisions. Regular, ongoing monitoring of key parameters of population function will allow assessment of the success or failure of various management practices, and permit more realistic estimates of the ability of populations to sustain various levels of loss. Regular communication between researchers and managers will facilitate both research and management decisions.

Action arenas and priority issues:

Address critical knowledge deficiencies of marine turtle biology

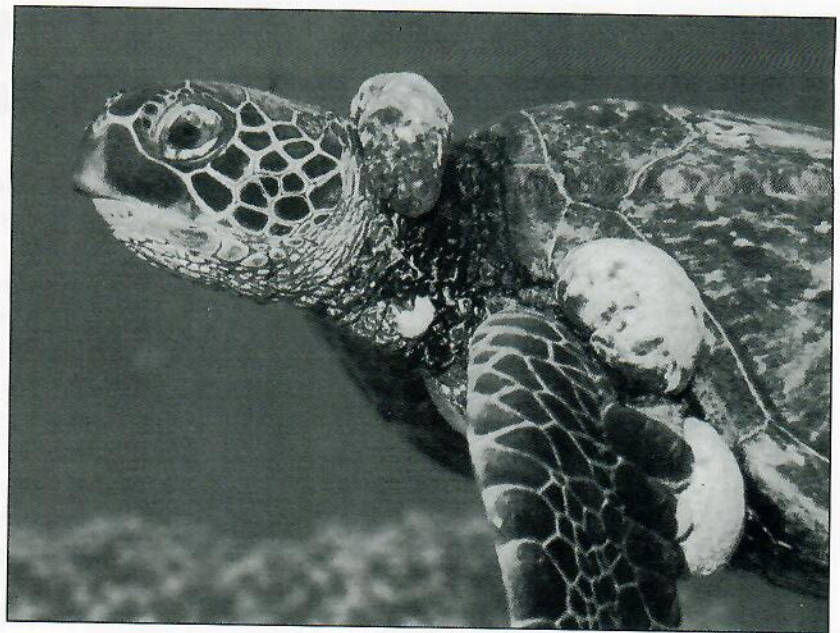
- identify critical deficiencies, a preliminary list includes:
 - mortality rates at each life history stage with particular attention to the aquatic stages
 - population structure

G.H. BALAZS



Green turtles basking ashore at French Frigate Shoals, Hawaiian Islands. Turtle on left carries a radio transmitter to allow satellite tracking of oceanic migrations

- growth rates
 - age at first reproduction and reproductive longevity
 - population identification, including geographic distribution, habitat utilization and migratory routes
 - fibropapillomas and other diseases (causes and treatment)
 - population modelling
 - regulating mechanisms (nutritional, hormonal)
 - critical habitats
- review historic data relevant to conservation management of marine turtles by populations and regions to elucidate population trends and verify population models
 - facilitate specific research to address deficiencies as identified, by:
 - advocating for research addressing priority issues
 - advocating for revision of research permitting process and issuance of permits where necessary



D.R. SCHRIEGE

Green turtle with life-threatening tumors known as fibropapillomas

Ensure availability of appropriate and compatible data for formulating effective conservation management

- produce manuals of guidelines and techniques, including a list of critical deficiencies, by conducting workshops or commissioning a task force
- train personnel at regional and national levels in methodologies for collection, storage and analysis of compatible, high quality data by:
 - providing model training programs for specialized tasks
 - identifying institutions and venues that can offer appropriate training
- facilitate the establishment of regional databases by:
 - identifying existing databases
 - encouraging sharing and linking of data bases
 - establishing new databases in Geographic Information System compatible formats
- facilitate sharing of regional expertise and data by developing and distributing a database of persons and institutions involved and interested in marine turtle conservation

Increase understanding of ecological roles of marine turtles

- promote increased research into the ecological roles of marine turtles by:
 - summarizing current knowledge of roles in energy and nutrient flows, habitat impact and interspecific interactions
 - advocating research to further elucidate these roles

Regularly monitor key population parameters and trends

- monitor and provide information on population trends in a form usable by managers
- facilitate establishment of specific national/regional monitoring programs to assess management success and guide future management by preparing a database of existing programs and advocating the establishment of programs where there are deficiencies
- review the conservation status and trends of seriously depleted species and populations

Strategy: Integrated Management for Sustainable Marine Turtle Populations

Situation: Current management for sea turtle conservation includes inappropriate or outmoded methodologies. Lack of enforcement of existing laws and regulations contributes to poor management. Additionally, the lack of coordination across an entire species' or population's geographic range may result in one country's management and conservation efforts inadvertently being negated by activities affecting the same species in another country or region.

Risk: While many current efforts to conserve marine turtles will continue, their ultimate effectiveness in many cases will be hampered by non-performance of appropriate management, the performance of inappropriate management, and the probability that the beneficial effects of many marine turtle management efforts may be negated by inappropriate management in other parts of the species' or population's range.

Desired state: Adequate, appropriate management of marine turtle populations, their associated habitats, and coastal ecosystems will result in the recovery of marine turtle populations and lead to their sustainability. People benefit from fully functional marine and coastal ecosystems which include healthy marine turtle populations.

Action arenas and priority issues:

Reduce mortality due to:

- fisheries bycatch (trawls, longlines, gillnets, etc.)
- egg harvest
- turtle harvests (for subsistence and trade)
- pollution and debris (including lost and discarded fishing gear)

P. PRITCHARD



Olive ridley shells
outside former
slaughterhouse in
Mexico

- disease and fibropapillomas
- unintentional non-fishing mortality (boat propellers, dredges, etc.)

Increase habitat protection and management

- identify and designate/acquire critical marine turtle habitat
- incorporate marine turtle conservation needs into integrated coastal management programs
- protect marine turtle habitats on land from degradation due to coastal development, including industry, agriculture, urban growth, highways, sand mining, and tourism
- conserve/manage marine turtle feeding, migration, mating, and resting habitats from degradation due to destructive fishing practices, pollution, debris, global warming, and other factors

Produce new management techniques manual and develop training courses to identify and disseminate guidelines for responsible rookery management, including:

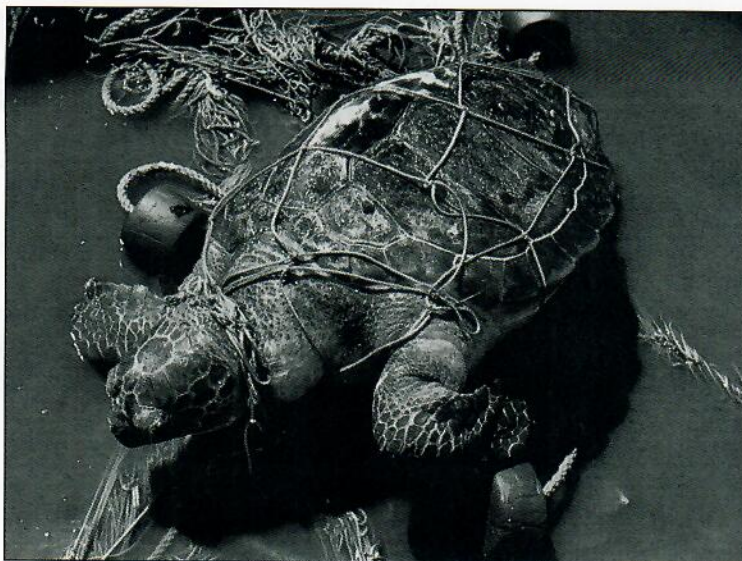
- hatchery/incubation techniques (handling, sex ratio, release of hatchlings, etc.)
- policy on headstarting
- managed egg harvests
- predator controls
- light pollution
- egg and hatchling transfers between rookeries, restocking

Facilitate integrated management through regional and international cooperation and coordination

- promote regional management plans and participation in international treaties
- promote sharing of data/expertise

Advocate legislation/enforcement sensitive to marine turtles

- establish international liaisons, evaluate treaties and legislation (including trade), provide legislative advice
- advocate integration and enforcement of existing legislation
- oppose those actions that do not comply with sound principles for sustained management
- support local, regional, and international efforts that benefit marine turtles



D. ALLEN



J. FRETEY

Top: Subadult loggerhead entangled in a net
Above: Cooking leatherback eggs in Amerindian village, French Guiana

Strategy: Building Capacity for Conservation, Research and Management

Situation: In many parts of the world marine turtle conservation is hampered by few or no training opportunities, inadequate formal education, insufficient knowledge of or access to technology and its applications, and meager institutional capacity.

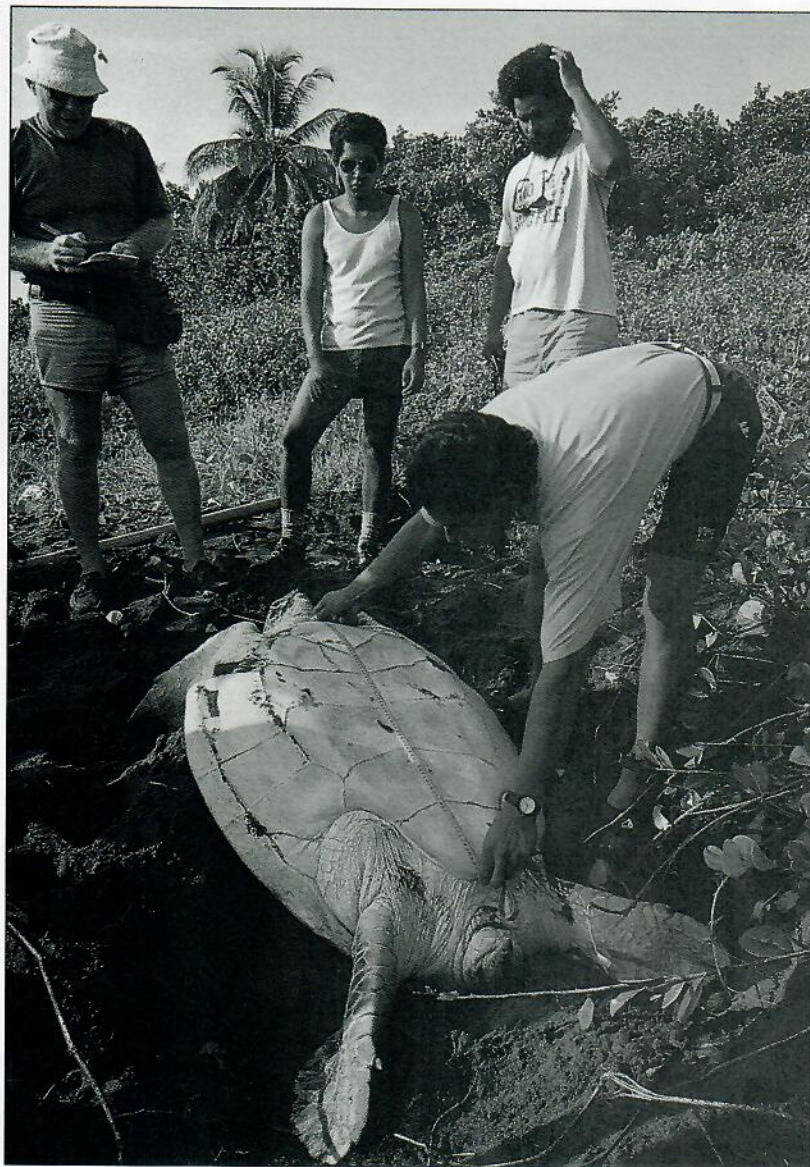
Risk: Failure to address the development of local institutions and training will perpetuate major gaps in our understanding of global marine turtle biology and conservation and prevent the local evolution of professional opportunities and institutions involved with marine turtle conservation.

Desired state: The development of appropriately trained national and local personnel, professionals, and local institutions worldwide to effect marine turtle conservation, research and management.

Turtle biology and conservation training course, Costa Rica

Action arenas and priority issues:

C. TAMBAH



Facilitate training opportunities

- organize and implement training courses
- develop scholarship program for higher education
- establish fund for training and meeting participation
- promote internship program
- catalyze international exchange programs
- organize regional study tours

Provide management tools

- review and distribute information on standard management techniques
- prepare and distribute beach management kits with standard equipment and instructions
- facilitate establishment of a fund to subsidize equipment acquisition

Establish small grants fund for research

Provide information about data base management

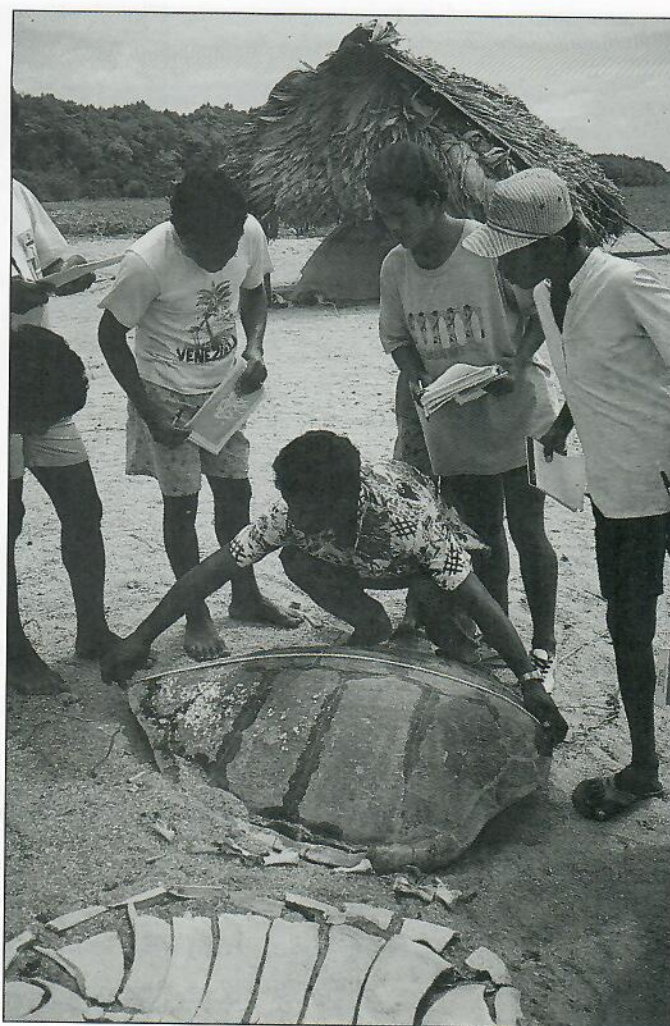
- identify a model data management system for distribution
- organize data management training workshops

Facilitate the compilation and distribution of reference materials, including books, reprints, slides, and videos

Facilitate use of the Online Sea Turtle Bibliography and the *Marine Turtle Newsletter*

Support development of networks

- support existing networks
- provide guidelines for network management
- facilitate seed funding for network establishment and communication



Students being trained in turtle data collection, Guyana

Strategy: Public Awareness, Information, and Education

Situation: The recent blossoming of education and public awareness efforts on behalf of marine turtles worldwide is in need of improved coordination, enhanced quality of execution, and increased activities.

Risk: Public failure to understand and care about marine turtles and their needs will result in fewer options to conserve these species.

Desired state: Universal appreciation of the value of marine turtles and the need to conserve them, with special emphasis on coastal communities and the resource users, will result from public awareness and education efforts. Both attitudes and actions will influence marine turtle conservation positively.

Action arenas and priority issues:

Establish MTSG Environmental Education Task Force

- appoint leader
- identify members

Identify and promote six successful environmental education models

- support exchanges
- produce materials
- disseminate information
- highlight these examples in the appropriate fora

L. STARNES



Local Nahua children and turtle camp worker with black turtle in Michoacan, Mexico

Improve quality and execution of education efforts

- archive existing educational materials
- improve existing educational materials
- disseminate succinct marine turtle fact sheets
- develop new educational materials, including information about marine turtle ecosystems and local coastal cultures
- develop model interpretive materials

Improve coordination

- encourage worldwide electronic network, such as CTURTLE, an Internet listserver discussion group
- exchange materials
- encourage local, regional, and international meetings
- collaborate with existing marine and coastal education and information programs and networks

Expand/increase educational programs

- obtain seed funding for new programs
- integrate information on marine turtles into public school curricula
- communicate with textbook editors
- educate politicians, government officials, and administrators on all levels
- identify key target groups, including children, adults, and businessmen and develop specific literature for them

Expand involvement with mass media

- hold workshops for educators and media experts
- develop sample press releases

Train talented educators

- identify talented educators
- conduct training programs
- organize international educational exchanges



C. TAMBIAH

Turtle education program, Guatemala

Strategy: Community Participation in Conservation

Situation: Local communities associated with marine turtles and their habitats are often a strong force in the depletion of marine turtle populations and the destruction of their habitats. Where management projects have excluded rural people as agents in conservation, unsustainable management plans have sometimes resulted.

Risk: Unsustainable use of marine turtles and the destruction of their habitats will continue. Lack of understanding and involvement will lead to lack of support for conservation activities. Inappropriate conservation strategies will contribute to socioeconomic and cultural degradation.

Desired state: Encourage marine turtle recovery management plans that address and include the political, economic, and cultural conditions of coastal people affected by management actions and promote, where appropriate, the active participation of these communities in marine turtle conservation. Promote grassroots movements leading towards self-sufficiency.

Action arenas and priority issues:

Promote and facilitate the participation of coastal communities in conservation, research, and management

- identify and promote successful examples and examine unsuccessful ones
- facilitate model development and transfer
- facilitate integration of local people into ongoing projects
- facilitate training programs for local researchers

C. TAMBAH



Fish-catcher in Guyana collaborating in data collection with accidentally caught leatherback prior to its release

Improve information base of coastal communities

- facilitate education programs in communities
- facilitate training programs for community members (including visits to other community projects)
- compile and disseminate resource materials
- promote information networks among communities and information sources

Promote and facilitate conservation as an integral part of community development

- promote environmental sustainability and economic self-sufficiency at the community level
- reinforce internal structure of community
- promote avenues for direct benefit to local communities
- promote locally owned and operated efforts

Identify and promote economic alternatives to exploitation and economic incentives to conserve marine turtles (e.g., ecotourism, handicrafts)

- identify and disseminate examples, opportunities, and approaches, including alternate sources of food and livelihood

Develop policy, guidelines, and monitoring mechanisms for community participation in conservation programs

Facilitate establishment of small grants program for activities at the community level

- establish criteria
- identify funding sources (including development agencies) and disseminate information
- facilitate and/or review proposals for grants
- provide seed funding



C. R. HASBON

Burying turtle eggs in the school's hatchery is a conservation activity undertaken in Barra de Santiago, El Salvador

Strategy: Regional and International Cooperation

Situation: Marine turtles are highly migratory and utilize the waters of more than one country in their lifetimes. Within a region, conservation efforts for turtle populations in one country may be jeopardized by activities in another country. Thus, cooperation among range countries is critical to ensure the survival of marine turtles. Agreements addressing protection of marine turtles on the high seas are needed.

Risk: Lack of cooperative regional efforts will lead to ineffective turtle management, socioeconomic and cultural degradation, and the waste and misuse of limited human and financial resources.

Desired state: Range countries endorse and support international agreements and efforts which recognize that marine turtles are shared resources requiring both cooperative conservation efforts and the sustained implementation of effective programs and projects.

Action arenas and priority issues:

Encourage national governments, regional and international organizations/fora to develop and support national and regional programs for long-term conservation of marine turtles and their habitats

- promote technical assistance and support to regional marine turtle conservation and management programs and regional initiatives

Promote full implementation of CITES, the Convention on International Trade in Endangered Species of Wild Fauna and Flora

- identify interested parties on local, national and international bases
- facilitate CITES workshops and standard law enforcement workshops for enforcement personnel
- promote development of educational materials to stop illicit activities under CITES, e.g., international trade in marine turtle eggs and shells

Promote international regional agreements for marine turtles under CMS, the Convention on the Conservation of Migratory Species of Wild Animals, that provide for coordinated species and habitat conservation measures, cooperative research and monitoring, information exchange and educational activities

- prioritize regions needing international agreements
- facilitate the drafting of international agreements, encouraging local participation through workshops, etc.
- identify governments, institutions and individuals to draft and promote agreements nationally and regionally through regional meetings, exchange programs etc.
- promote full implementation of CMS, including monitoring of domestic taking of marine turtles inconsistent with CMS obligations, efforts to conserve/restore habitat, and efforts to prevent, reduce, or control factors endangering marine turtles

Evaluate other existing treaties, agreements, and cooperative programs, such as the Bern and Barcelona Conventions, and promote international agreements where appropriate

- recommend changes as needed
- participate in selected treaties and programs as appropriate
- assist the establishment and implementation of additional cooperative programs
- promote full implementation of applicable treaties and cooperative programs

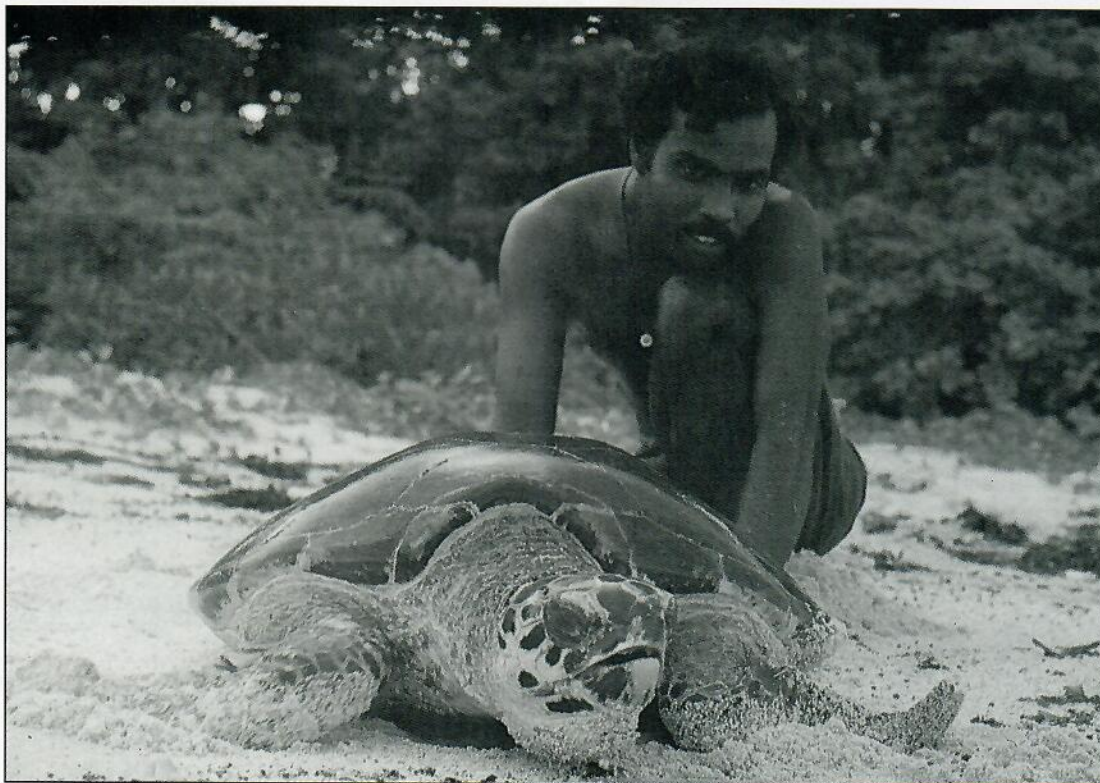
Work with the United Nations and UN bodies such as UNEP/CMS to develop and implement agreements addressing the protection of marine turtles on the high seas

Facilitate the drafting of new international agreements as needed

- prioritize regions needing international agreements and identify criteria/guidelines for selection
- identify drafters, facilitate local participation, and produce first draft
- identify individuals and institutions to promote agreements nationally and regionally by conducting regional meetings and facilitating exchange programs

Monitor, evaluate, and make recommendations to relevant treaties and ongoing programs

- identify task force to monitor, evaluate and make recommendations
- set evaluation standards



S. BHASKAR

Researcher observes nesting hawksbill's return to the sea in India

Strategy: Evaluation of the Status of Marine Turtles

Situation: Revisions in the criteria by which IUCN – The World Conservation Union – and CITES, the Convention on International Trade in Endangered Species of Wild Fauna and Flora, designate the status of species have recently occurred. It is not known whether these revised criteria are appropriate for marine turtles. Status designations under other conventions and treaties should be reviewed regularly.

Risk: Marine turtles may be incorrectly assigned to status categories by IUCN, CITES and other treaties either because the criteria are inappropriate for marine turtles or because we have insufficient data for analysis.

Desired state: Accurate designation of marine turtles under appropriate criteria.

Action arenas and priority issues:

Decide whether to assign marine turtle status at species or population level for IUCN and CITES categories

Determine necessary parameters for evaluation of species or populations under IUCN and CITES criteria

- population size
- generation time
- population trends
- quantitative population analysis (e.g., population modelling)

Determine status of each species or population under new IUCN criteria

Determine status of each species or population under new CITES criteria

Evaluate appropriateness of IUCN criteria for marine turtles. If inappropriate, work to improve

Evaluate appropriateness of CITES criteria for marine turtles. If inappropriate, work to improve

Ensure MTSG continues its major role in assigning IUCN status designations to marine turtles

Compile data on marine turtles worldwide to determine global status

Investigate options within CMS, the Convention on the Conservation of Migratory Species of Wild Animals, to provide for

Students participating in leatherback tagging, Guyana

C. TAMBAH



long-term sustainable management of marine turtles in selected Range States. If appropriate, develop guidelines

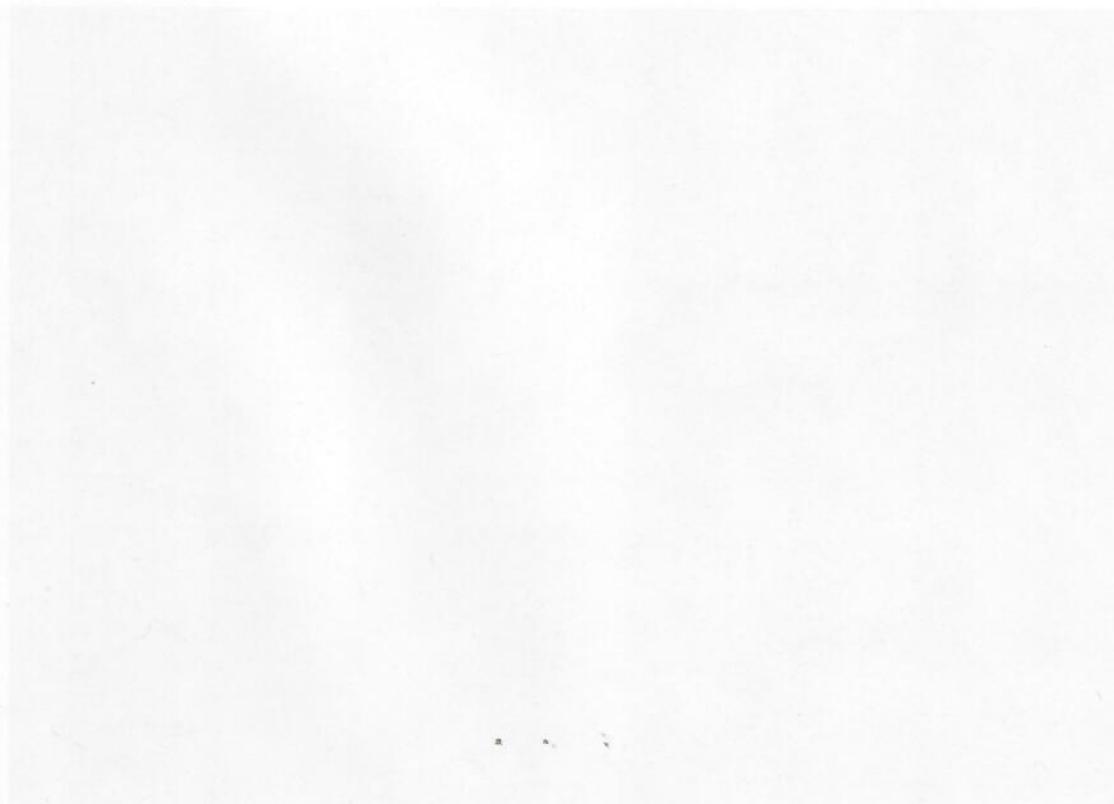
Assess status of marine turtles in other international conventions, treaties and in national legislation. Evaluate the criteria used to designate status of marine turtles

Review status designations at intervals that are appropriate for each convention/ treaty



P. PRITCHARD

Nesting Kemp's ridley,
Rancho Nuevo, Mexico



Strategy: Funding for Marine Turtle Conservation

Situation: Limited core funds need to be augmented to promote conservation of marine turtles and support MTSG professional staff.

Risk: Inadequate funding will limit the implementation of *A Global Strategy for the Conservation of Marine Turtles* and seriously impede efforts to manage marine turtle populations on a sustainable basis. Without additional funding the MTSG will lose its full-time coordinator and opportunities to implement effective conservation programs.

Desired state: Sufficient funding will support real progress in the conservation and management of marine turtles and maintain MTSG professional staff.

Action arenas and priority issues:

Identify available sources of funds, including:

- global environmental institutions
- governmental sources
- non-governmental sources

Collaborate with other SSC/IUCN groups on funding

- develop multi-species proposals
- include marine turtles in larger project proposals

USFWS



Loggerhead hatchlings heading for the ocean, USA

Facilitate local, national, and regional fundraising activities

- provide information on Global Environment Facility (GEF) funding opportunities to national contacts
- share successful fundraising models
- assist proposal development
- undertake proposal review
- identify foundations and other funders that require in-country initiatives
- assist/secure funding for approved activities

Maintain MTSG professional staff

- establish funding requirements
- obtain fundraising/development training for Program Officer



P. PRITCHARD

Flatback turtle in Australia



Strategy: Operation of the Marine Turtle Specialist Group

Situation: The MTSG must become increasingly effective and efficient in capitalizing on opportunities provided by recent financial support for a Program Officer and increased activities.

Risk: A poorly functioning group will lose opportunities to provide expertise and support for issues and projects.

Desired state: The MTSG should be an efficient and effective organization with a strong feeling of group identity. This will strengthen marine turtle conservation and research programs.

Action arenas and priority issues:

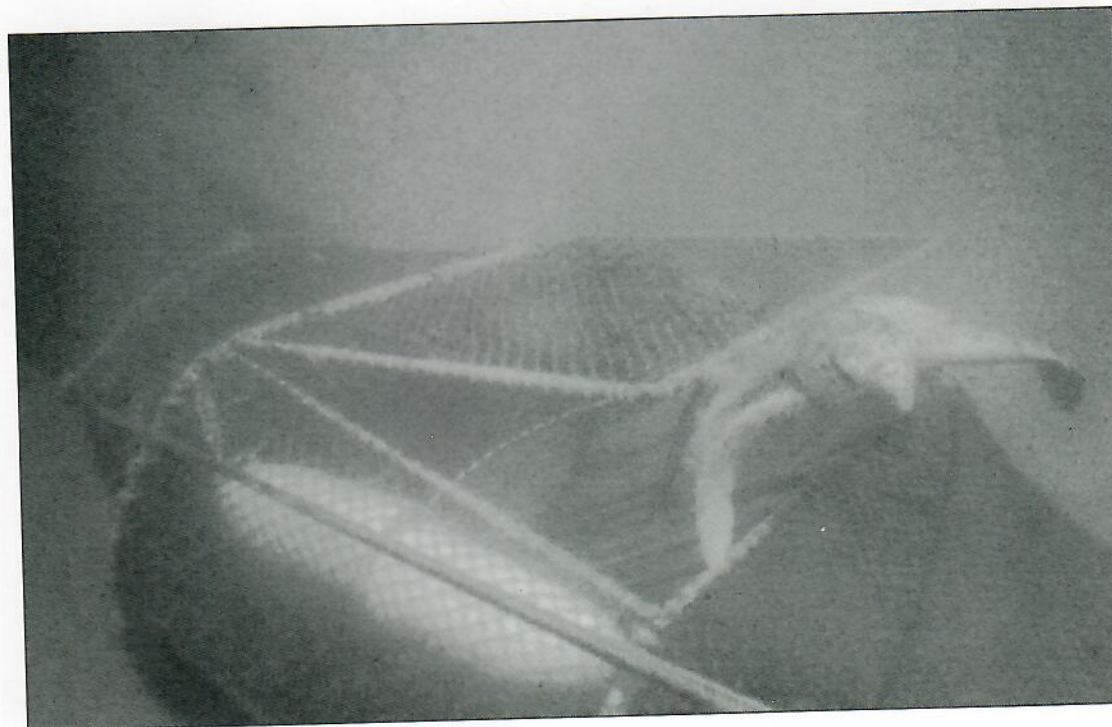
Improve internal communication

- encourage electronic (Internet) communication
- distribute *MTSG Bulletin*
- encourage worldwide and regional meetings of MTSG
- test software to translate *MTSG Bulletin* and other documents into other languages
- identify willing translators within MTSG membership

Improve external communication

- encourage use of CTURTLE (Internet listserver discussion group)
- create MTSG fact sheet for members to distribute to governments, newspapers, and non-governmental organizations

NMFS



Loggerhead turtle emerging from a Turtle Excluder Device (TED) installed in a shrimp net

- mail MTSG Strategy, *A Global Strategy for the Conservation of Marine Turtles*, to major organizations
- encourage members to distribute MTSG Strategy

Strive to incorporate members from all regions and appropriate disciplines

- identify under-represented regions and/or countries and strive to appoint members from those areas
- be open to members from all appropriate disciplines

Secure permanent position for Program Officer and address other professional staff needs as appropriate

Draft guidelines and terms of reference for MTSG members to complement the SSC's *A Member's Guide*

- develop membership roles and responsibilities
- identify appropriate use of MTSG affiliation
- develop system for drafting, approving, and disseminating MTSG positions and position papers

Increase delegation of tasks to MTSG members by MTSG Chair, with advice of Executive Committee and Program Officer

- appoint task forces to deal with specific issues
- delegate tasks to individual members

Improve system for appointment and reappointment of MTSG members

Appendices

Suggested Guidelines for Setting Priorities

1. Significance of Issue

- level of criticality
- universality/broadness of application

2. Risk or Threat to Population

- degree of urgency for action
- degree of threat to population/species

3. Contribution to Long-term Conservation

- level of integration in approach
- magnitude of contribution to capacity building
- level of involvement of local people
- degree of catalysis for further action
- magnitude of existing momentum

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IUCN/Species Survival Commission

The Species Survival Commission (SSC) is one of six volunteer commissions of IUCN – The World Conservation Union—a union of sovereign states, government agencies and non-governmental organizations. IUCN has three basic conservation objectives: to secure the conservation of nature, and especially of biological diversity, as an essential foundation for the future; to ensure that where the earth's natural resources are used this is done in a wise, equitable and sustainable way; and to guide the development of human communities towards ways of life that are both of good quality and in enduring harmony with other components of the biosphere.

The SSC's mission is to conserve biological diversity by developing and executing programs to save, restore and wisely manage species and their habitats. A volunteer network comprised of nearly 6,000 scientists, field researchers, government officials and conservation leaders from 179 countries, the SSC membership is an unmatched source of information about biological diversity and its conservation. As such, SSC members provide technical and scientific counsel for conservation projects throughout the world and serve as resources to governments, international conventions and conservation organizations.

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