



# Important Marine Turtle Areas

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**Prepared for the 7th Burning Issues Workshop (BI-7)**



**IUCN-SSC Marine Turtle  
Specialist Group**

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**By the Important Marine Turtle Area (IMTA) Working Group**

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## SUMMARY

Ten years after the seminal findings from the first six Burning Issues (BI) workshops were published, the Marine Turtle Specialist Group's (MTSG's) seventh Burning Issues workshop (BI-7) now aims to not only update past outputs with new scientific data and expertise, but also to move toward finer-scale priority setting for sea turtle habitats at-sea in support of global conservation efforts.

The BI-7 process is a collaborative, inclusive, and science-based initiative intended to draw the most accurate and comprehensive picture of global sea turtle conservation status in order to provide policymakers, managers, funders, and others with guidance around the most effective sea conservation actions. BI-7 enhances and supports the MTSG network, and the resulting peer-reviewed publications will be referenced widely by those in the sea turtle conservation community, as well as global and national policymakers.

This document presents the context and proposed criteria and process for defining Important Marine Turtle Areas (IMTA) within the MTSG Burning Issues 7 (BI7) framework. To develop guidelines for delineating IMTAs, the Working Group engaged the global MTSG membership in a series of consultations to solicit and incorporate feedback into an evolving guidance document. The result is the present document, which describes: 1) the background and need for IMTAs, as well as the approach used to develop these guidelines; 2) standardized criteria and process for determining IMTAs; 3) a plan for initial testing of IMTA criteria at a regional scale, and; 4) a Draft Strategy for Global IMTA Delineation.



# BACKGROUND

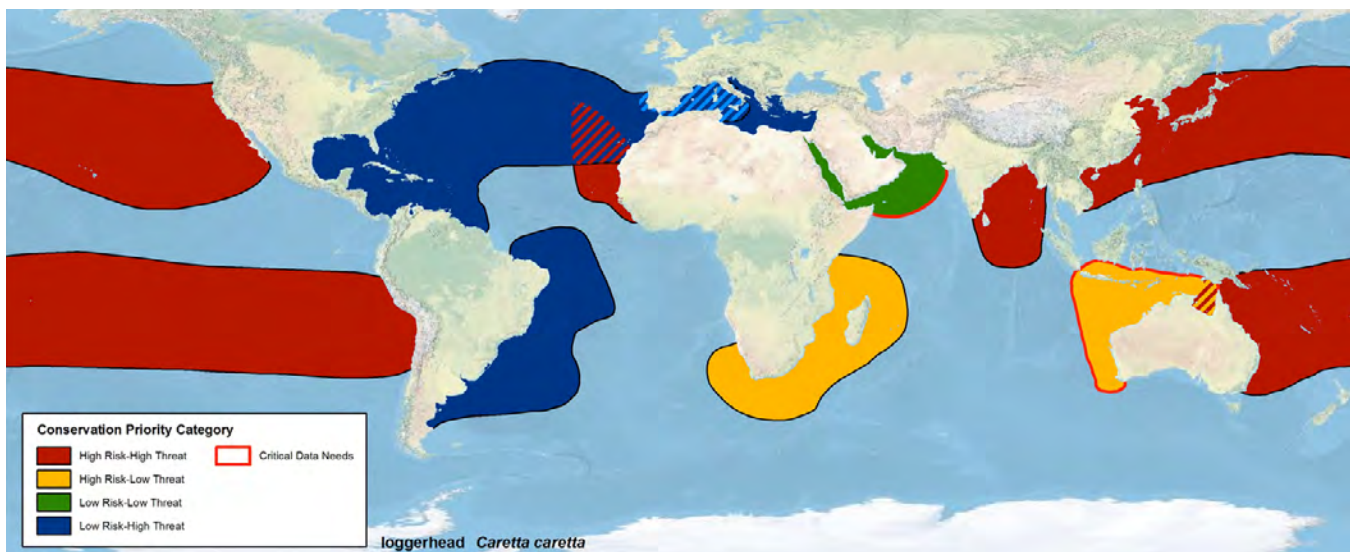
## Burning Issues Workshop Series

Until recently, the seven sea turtle species were assessed only at the global level. For globally ranging species with diverse and distinct genetic stocks, this proved to be a coarse evaluation, that did little to help conservationists prioritize their actions within the vast geographic distributions of sea turtle species. To address this challenge, the MTSG began its Burning Issues (BI) workshop series in 2003 with the aim to better direct on-the-ground conservation actions toward the highest priorities for preventing extinctions.

Annually between 2003 and 2009, BI workshops brought together dozens of the world's experts on sea turtle biogeography with the express goal of setting meaningful global, regional, and local priorities for sea turtle conservation. Through BI workshops, the MTSG defined biologically-based Regional Management Units (RMUs, or subpopulations) for all sea turtle species for the first time, then subsequently ranked them to create a portfolio of global priorities for sea turtle conservation. These results were published in two landmark peer-reviewed publications (Wallace et al. 2010 and Wallace et al. 2011) that, beyond their impacts to global sea turtle conservation, also have broad implications for the way that Red List assessments are conducted for other highly migratory marine species.

The newly defined RMUs, of which there are 58, have already been used as the basis of all new sea turtle Red List assessments, including the leatherback (2013), loggerhead (2015), and Kemp's ridley (2018), with the remaining four species currently in the works. These efforts have also contributed to launching regional conservation action plans for highly endangered subpopulations such as the eastern Pacific leatherback and eastern Pacific hawksbill, and they have driven an Association of Zoos and Aquariums-SAFE initiative that aims to focus the attention of zoos and aquaria worldwide on field-based actions to conserve the most threatened RMUs.

Most importantly, the results of the MTSG's first six Burning Issues workshops have laid the foundation for a range of other analyses that are still needed to effectively guide global sea turtle conservation, such as evaluations of threats like fisheries bycatch and climate change, and the identification of important at-sea habitats for sea turtles worldwide. Thanks to the Burning Issues workshop series, RMUs have become globally accepted by the sea turtle community as the functional unit for subpopulations of sea turtles.



Map showing loggerhead turtle Regional Management Units color coded according to their conservation priority, a product from the sixth Burning Issues workshop published in Wallace et al. 2011.

## The Seventh Burning Issues Workshop (BI-7)

A commitment from the Oceanographic Museum of Monaco and the Prince Albert II of Monaco Foundation in 2019 enabled the MTSG to begin planning a 7th Burning Issues workshop (BI-7), the first in more than a decade. Until COVID disrupted planning, BI-7 was to have been hosted at the Monaco Oceanographic Institute in June 2020, and the MTSG had begun to organize the data and analyses that would have allowed the workshop participants to achieve their ambitious goals while gathered in Monaco.

The primary goal of BI-7 remains to: 1) formally update the RMUs for all 7 species of sea turtles, and 2) expand and assess the criteria used to classify population vulnerability and threats.

In 2020, a third product was added to the BI-7 workshop goals to develop a general agreement from the participants on the process for defining global “Important Marine Turtle Areas” (IMTAs) for all sea turtle species, using the best available data and expert opinion. This would be the world’s first global delineation and prioritization of in-water habitats for sea turtles, and alongside results from prior BI workshops, would serve as an urgently needed tool to inform fisheries managers, governments, and organizations who are working to protect sea turtles and their habitats worldwide. Additional support for the development of IMTA criteria was generously offered by a number of donor agencies, including the Mediterranean Protected Areas Network (MedPAN), the Regional Activity Centre for Specially Protected Areas (RAC/SPA), and the Office Français de la Biodiversité (OFB).



# IMPORTANT MARINE TURTLE AREAS (IMTAs)

## Relevance and Need for IMTAs

Conservation priority-setting at any scale requires identification of areas that are important for the persistence and recovery of biodiversity, especially protected species that have wide geographic ranges. However, one such taxon—marine turtles—is currently underrepresented in global and regional priority-setting processes because there is no global source for the information needed to identify important areas. This document aims to fill this critical data gap by defining a globally applicable framework for establishing “Important Marine Turtle Areas.” This IMTA framework parallels similar initiatives for seabirds and marine mammals, thus ensuring that biodiversity assessment and prioritization processes are comprehensive and comparable across multiple taxa of marine megafauna.

Several national and international processes are underway to better conserve biodiversity. For example, the United Nations (UN) is negotiating a new international legally binding instrument under the UN Convention on the Law of the Seas for the conservation and sustainable use of biodiversity in areas beyond national jurisdiction. Further, Parties to the Convention on Biological Diversity committed to protect 10 percent of the world’s oceans by 2020, with calls to expand this to 30 percent by 2030, based on the many domestic initiatives that are underway to create networks of marine protected areas, and there have been calls for additional such efforts.

Many of these processes rely on readily available, synthesized data to inform where biodiversity needs to be protected. Key Biodiversity Areas are based on relatively straightforward presence data of focal species, while Ecologically and Biologically Significant Areas (EBSAs) are determined by applying internationally agreed upon criteria to, among other things, data on presence and importance of areas for focal species. The inputs to these processes are often derived from taxonomically specific data compilation, analysis, and priority-setting exercises, namely Important Bird Areas (IBAs) and ongoing work on Important Marine Mammal Areas (IMMAs). Specific to marine turtles, the Network of Sites of Importance for Marine Turtles in the Indian Ocean – South-East Asia (IOSEA) Region was created “to promote the long-term conservation of sites of regional and global importance to marine turtles and their habitats.” The IOSEA framework uses a weighted scoring scheme composed of 18 evaluation criteria, divided into four categories: Ecological and Biological, Governance, Socioeconomic and Political, and Network-wide Ecological. This system allows nominations from IOSEA signatory countries and includes sites within exclusive economic zones of IOSEA countries. As of October 2019, 11 sites have been officially included in this Important Site Network.

Considering the current landscape of conservation prioritization initiatives, there remains a growing need for a globally applicable framework for the identification of areas of conservation significance for marine turtles within Exclusive Economic Zones (EEZs) and in areas beyond national jurisdiction. This framework should also be compatible with existing initiatives and processes for marine turtles such as the IOSEA Important Site Network, as well as national-scale important area designations.

## Goal and Applications of IMTAs

The goal of IMTAs is to provide a robust, globally consistent framework to support conservation and management of areas important to marine turtles at multiple scales. Examples of applications of IMTAs at regional or national levels include (but are not limited to):

- Informing designation of marine protected areas or other instruments of conservation policy or legal framework to protect marine turtles or areas where human cultures and marine turtles connect;
- Evaluating the contribution of conservation and management efforts to marine turtle recovery, and;
- Prioritizing additional efforts needed to protect and recover marine turtles in distinct countries and regions.

## Development of IMTA Criteria and Approach

During 2019–2021, MTSG experts from across the globe with expertise spanning biology, ecology, and socio-economic and cultural values of marine turtles have worked to develop criteria and a process for identifying Important Marine Turtle Areas (IMTAs). The original BI7 workflow and timeline were constructed around an in-person workshop intended to take place in Monaco in June 2020, which was delayed and then ultimately cancelled due to restrictions related to the COVID-19 pandemic. This disruption resulted in the consultation process being reconfigured to be completely virtual.

In March 2020, the organizers shared a [concept note](#) among MTSG’s global members describing the background and need for IMTAs, existing resources and information, and a set of criteria used by other spatially explicit planning initiatives, such as IBAs and IMMAs. At the same time, a [survey](#) was used to solicit specific feedback on potential IMTA criteria and their relative importance. A smaller IMTA Working Group was also created to pursue this initiative. Based on [responses to these calls for input](#), an updated draft synthesizing MTSG member comments and revised IMTA criteria was developed, along with a new survey to solicit additional comments about how the updated criteria should be evaluated. Fully 39 MTSG members responded to this latter survey, including [many valuable comments](#) that aided in the evolution of the process described herein.

A final review of the present document by all MTSG members was solicited in June 2021, resulting in this ‘draft final’ set of IMTA guidelines. It is anticipated that the IMTA guidelines and process described herein will change over time as they are tested in real world scenarios regionally. The following sections describe the standardized criteria and process for determining IMTAs as well as suggested plans for testing and establishing IMTAs globally.

## STANDARD CRITERIA AND IMTA DEFINITION PROCESS

As mentioned above, the MTSG has spent significant effort since the early 2000s to define Regional Management Units (RMUs, or subpopulations) for all seven sea turtle species globally. RMUs have since become the most widely used tool for subdividing these widely (often globally)-ranging species into small enough units to plan and implement effective conservation actions. IMTAs are a new tool that will add both a finer scale of biological importance to RMUs, but also one of cultural significance; hence, IMTAs are intended to reflect the truly *most* important areas for each RMU.

### What is an Important Marine Turtle Area (IMTA)?

IMTAs are discrete areas within existing marine turtle regional management units (RMUs) that are of particular biological significance for the persistence of marine turtles, and/or where the contributions of marine turtles to traditions and cultures of local people are particularly significant.

### How are IMTAs different from Regional Management Units (RMUs)?

**RMUs** are spatially explicit, biologically-defined marine turtle demographic units above the level of nesting populations, but below the level of species, based on an array of biogeographic data including genetics, tag/recapture studies, telemetry, and more. **RMUs** are similar to range maps for marine turtle subpopulations; they encompass the primary distribution for a given population, including areas used for nesting, foraging, migration, etc. **IMTAs** will improve upon the RMU framework by highlighting specific areas within RMUs that are disproportionately important for biological and/or cultural reasons.





## Nature of IMTA Criteria, and their Application

The IMTA criteria proposed herein are designed to be flexible and inclusive of the many differences that exist across marine turtle species' ranges, including differences in cultures, ecosystems, and data availability, thus allowing for the integration of different types of knowledge to complete the regional or local IMTA assessments.

We aim for the determination of IMTAs to be a 'decentralized' process whereby regions have the ability to define IMTAs according to their unique set of biological traits and cultural contexts. Thus, quantitative thresholds are not specified at a global level, though we provide some examples below to guide discussions. If quantitative thresholds are to be used for any of the criteria, these will be defined for RMUs within individual regions, as appropriate, given available information and cultural context. Similarly, maximum and minimum sizes of IMTAs will also be determined at the regional level.

IMTAs will be identified through a two-step process. First, a candidate area must fall into one of two categories: Biologically Significant and/or Culturally Significant. Second, the area will be evaluated against several criteria to demonstrate its disproportionate importance to a given marine turtle RMU. For example, a nesting area could be 'Biologically Significant', and determined to be an 'important' area because of its "Relative Importance" to the population or because of the "Distinctiveness" of the genetic diversity of the population that nests there. Similarly, a 'Culturally Significant' foraging area could be of particular importance because of the "Distinctiveness" of this area when turtles are utilized as part of traditional cultural practices.

An area must fall into one of these two categories:

CATEGORIES	DEFINITION
<b>Biologically significant</b>	Areas that are important for courtship, mating, nesting / hatching; areas and conditions that provide an important habitat on which a species or population depends for vital processes such as feeding, resting, and ontogenetic development; areas used as migration corridors or other movements, connecting distinct life-cycle areas or the different parts of the year-round range of a non-migratory population.
<b>Culturally significant</b>	Socioeconomic and cultural activities occurring within an area do not degrade the integrity of marine turtle habitat and do not entail unsustainable use of marine turtles; specifically these may include areas where these species have a salient role in shaping cultural heritage, such as diet, materials, medicine, and/or social practices; areas that contain prehistoric, historic, and/or contemporary cultural resources related to marine turtles; or areas that embody traditional or contemporary beliefs/practices of cultural, religious and/or spiritual significance in relation to marine turtles.

Then, the area must meet at least one of the following criteria, as described by supporting information, research data, and/or other evidence (see Data Types below):

CRITERIA	DEFINITION
<b>Relative importance to the population</b>	Areas that are of particular importance to marine turtle populations, because of age class of turtles, number of individuals included, or other defining characteristics (e.g., > 50 percent of total RMU nesting abundance, high density of foraging turtles regularly observed or inferred from tracking data).
<b>Species or populations of particular conservation concern</b>	Areas containing habitat important for the survival and recovery of species or populations at particularly high risk of extinction and/or under most severe threats, ideally according to an established conservation status assessment framework (e.g., IUCN Red List Critically Endangered, Endangered, or Vulnerable; MTSG's conservation priorities portfolio; national scale endangered species lists; documented significant historical depletion).
<b>Aggregations or congregations</b>	Areas with underlying qualities that support important concentrations of a species or population, especially those composed of multiple species or populations, or are important to the persistence of turtle populations or human cultural practices related to marine turtles.
<b>Distinctiveness</b>	Areas which sustain populations with important genetic, behaviorally or ecologically distinctive characteristics, including refugia from environmental change, or areas of distinct or important cultural significance in relationship to marine turtles.
<b>Diversity</b>	Areas containing habitat that supports an important diversity of species, populations, genetic lineages, or human cultural practices (e.g., area regularly supports three or more species, RMUs, or genetic management units).





A screenshot from the interactive GIS tool developed for the BI-7 process shows the many data types and sources that have already been compiled to support this work.

## Data Types to Support IMTA Selection

Many types of data can be used to both document that an area meets IMTA criteria, or to define boundaries of an IMTA. These data include<sup>1</sup>:

1. Population data
2. Global or regional management documents (e.g., MTSG regional reports; IUCN Red List; Red List of Ecosystems; Large Marine Ecosystems assessments; Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services [IPBES])
3. Genetic and other molecular (e.g., stable isotopes) data
4. Tracking or survey data
5. Local or indigenous knowledge, published or unpublished (e.g., historical, non-technical references; IPBES reports)

## IMTA Definition and Approval Process

The process for IMTA determination draws upon and blends components of existing techniques successfully used by others, including IMMAs, the IOSEA Important Site Network, and the MTSG's own IUCN Red List assessments and Regional Reporting Initiative.

<sup>1</sup> Note: the MTSG-BI7 organizers have compiled an exhaustive, up-to-date (2021) database of all published spatial data on marine turtles by RMU that can also support IMTA definition, and a spatial data management tool for delineating RMUs has been developed for use in achieving BI-7 objectives.

- 1) **Area of Interest.** An IMTA Area of Interest (AOI) template (to be developed) can be submitted that will summarize information about the AOI, including location, spatial extent, and information/data/evidence that support the specific categories and sub-criteria that describe its potential importance. Areas associated with marine turtles previously defined by another process (e.g., national important areas; critical habitat designations; IOSEA Important Sites; Biophysically Special, Unique Marine Areas [SUMAs]) should be automatically considered as IMTA AOIs to promote consistency with existing designations. In such cases, existing documentation describing these areas can be provided in place of the aforementioned template.
- 2) **Initial review by IMTA Steering Committee.** AOI nominations will be evaluated by an IMTA Steering Committee that will include the MTSG Regional Vice Chairs (RVCs) and Co-Chairs, as well as additional MTSG and outside experts; we will work to ensure that experts in incorporating local and indigenous knowledge and interests are represented on the Steering Committee. The role of this Steering Committee, as with the Red List Assessment Steering Committee, is to ensure that the AOI nominations have sufficient information and that the nominating party has fairly interpreted and evaluated the criteria. This Steering Committee will NOT make final decisions about whether an IMTA is officially declared; rather it will help support the discussion and decision-making process within regions and will work to ensure consistency among IMTAs across regions. Nominating parties will be able to provide additional information if required to re-submit a revised nomination.
- 3) **Regional IMTA workshop.** A workshop (virtual or in-person) will be convened to evaluate the various AOIs for a given region. Nominating parties will be able to present their cases for the AOIs they have nominated, and group discussions will evaluate the merit of the submissions. These regional workshops, potentially convened by RVCs with support from the Co-Chairs and IMTA Steering Committee, should be inclusive of MTSG members as well as other stakeholders, such as indigenous residents with important local perspectives and experiences to contribute. Discussions about AOIs will result in a proposed list of ‘Candidate IMTAs’ for that region. Some AOIs might not qualify as Candidate IMTAs, perhaps because insufficient information exists to draw geographic boundaries or to fully evaluate its importance, particularly relative to others in the same RMU or region. AOIs that fail to make the list of Candidate IMTAs can remain an AOI until the next IMTA determination cycle within a region (i.e., 5 years). Regional groups will develop their organization and decision-making processes (e.g., committees, ranking) in consultation with the IMTA Steering Committee. Details about how decisions are made will be provided with the Candidate IMTAs for context.
- 4) **Review of Candidate IMTAs.** The Candidate IMTAs will then be submitted for MTSG member review, first by the regional MTSG membership, so that people unable to attend the workshop can provide comments. Once regional review is completed, Candidate IMTAs will also be shared with the global MTSG membership for review.
- 5) **Finalize IMTAs for a region.** Following these rounds of review, IMTAs will be finalized for a given region. IMTAs will be displayed on the MTSG website by region and RMU.

## IMTA REGIONAL PILOT TESTING

To ensure the appropriateness and effectiveness of the proposed criteria and process for delineating IMTAs, the guidelines described above will be tested through a trial or pilot process. We propose working closely with colleagues in one or two regions (e.g., Wider Caribbean, Southwest Indian Ocean, and/or Mediterranean) to test the IMTA criteria using actual information in a participatory setting that follows the above outline. The IMTA steering committee and regional participants would work closely at each step to evaluate the performance of the criteria and consultation process, and to suggest refinements as necessary. This pilot IMTA effort could be carried out during a period of 3 to 6 months, depending on availability of participants and relevant information, and would be structured as follows:



- 1) Use available tracking data being compiled as part of the BI-7 process as well as sample AOI nominations to seed the determination process.
- 2) Steering Committee and regional participants work together on regional context for IMTA criteria (e.g., appropriateness of quantitative thresholds) to evaluate initial AOI nominations.
- 3) Two virtual workshops will be organized, one for initial discussion of AOIs wherein refinements to applications and descriptions can be made, and a second for more refined discussions based on results of the first.
- 4) Workshop (ideally in-person) to develop candidate IMTAs, as well as an accompanying report describing discussions and suggested changes or refinements to the initial IMTA framework, for MTSG member review.
- 5) Virtual workshop to summarize these products and facilitate broader discussion.
- 6) Follow-up workshop within regional team if needed.
- 7) Finalize IMTAs and summary documents describing the overall process.
- 8) Pursue publication and communication to highlight first IMTAs and subsequent IMTA delineation for other regions.

## GLOBAL IMTA DETERMINATION

Once the IMTA framework has been refined and finalized through pilot testing as described above, IMTAs can be determined for all regions globally (MTSG recognizes 10 regions). The global IMTA delineation strategy will depend on availability of resources to support the time and effort of participants, including the organization of workshops, development of work products, and publication and communication of results. The timing of global IMTA delineation could be calibrated to coincide with timetables of relevant marine conservation or policy cycles (e.g., EBSA delineations; Secretariat of the Pacific Regional Environmental Programme [SPREP] Marine Species Action Plans) and other MTSG processes (e.g., Regional Reporting Initiative); such considerations should be made at the appropriate future moment.

Assuming critical resources are made available, the RVCs of all 10 MTSG regions will be engaged to roll-out a global initiative that allows individual regions to set their own timetables, but that aims to have IMTAs developed for all regions within two years of the conclusion of at least one of the pilot regions described above. The global IMTA delineation process will follow the criteria and process described in previous sections, with any needed clarifications, changes, or updates highlighted by the pilot IMTA testing rounds. In the future, IMTAs should be reviewed periodically (i.e., every five years) to confirm that areas still warrant official status as IMTAs, or, if they fail to meet the criteria, to identify (and potentially address) the reasons for the change in status.

# COLLABORATORS

## Marine Turtle Specialist Group (MTSG)

Founded in 1966, the Marine Turtle Specialist Group (MTSG) is among the oldest Specialist Groups of IUCN-SSC. The MTSG's mission is to “develop and support strategies, set priorities, and provide tools that promote and guide the conservation of marine turtles.” It is the foremost authority on marine turtles, and a thriving and collaborative community of ~300 volunteer experts from more than 95 countries. The power of the MTSG lies in its global expert members with diverse backgrounds and wide-ranging expertise. All MTSG's volunteers are committed to the pursuit of our shared mission, and we keep close working relationships through regional and local meetings, networking via global and regional listservs, a website ([www.iucn-mtsg.org](http://www.iucn-mtsg.org)), an Annual General Meeting, and strategic partnerships with multiple international initiatives. MTSG is led by two co-chairs (Paolo Casale [Pisa, Italy], and Roderic Mast [Washington, DC, USA]), and MTSG business is conducted in consort with a team of ~25 Regional Vice Chairs (RVCs) throughout the world who manage members from all the countries where sea turtles are found.

## State of the World's Sea Turtles Program

The State of the World's Sea Turtles (SWOT) Program ([www.seaturtlestatus.org](http://www.seaturtlestatus.org)) convenes an even larger global network of researchers and conservationists that together generate and host the most comprehensive, publicly available database of sea turtle biogeographical information (in partnership with Duke University). SWOT also provides small grants to priority conservation projects worldwide, publishes an award-winning annual magazine (*SWOT Report*), and much more. Since 2003, the SWOT database has compiled and now maintains data that encompasses more than 6,000 sea turtle nesting sites worldwide, thousands of satellite telemetry tracks, information about genetic stocks, subpopulations, global distributions, and more. SWOT is the go-to resource for global sea turtle data among researchers, students, and managers worldwide who regularly use SWOT data for hundreds of applied conservation projects.

MTSG and SWOT are both managed by the Oceanic Society ([www.oceanicsociety.org](http://www.oceanicsociety.org)), a U.S.-based nonprofit organization that serves as fiscal sponsor for both initiatives, and also oversees all related public outreach, fundraising, and more.

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