

# Sea Turtle Stranding and Salvage Network Operating Procedures Handbook

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Marine Mammal and Sea Turtle Conservation Division

Office of Protected Resources

National Marine Fisheries Service

National Oceanic and Atmospheric Administration

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## Commonly Used Acronyms

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DWH	Deepwater Horizon (oil spill)
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FOIA	Freedom of Information Act
FOSC	Federal On-Scene Coordinator
GAR	Greater Atlantic Region
GARFO	Greater Atlantic Regional Fisheries Office
GOA	Gulf of America
MOU	Memorandum of Understanding
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NGO	Non-Governmental Organization
NGOA	Northern Gulf of America
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRDA	Natural Resource Damage Assessment
OPR	Office of Protected Resources
PRA	Paperwork Reduction Act
SEFSC	Southeast Fisheries Science Center
SERO	Southeast Regional Office
STSSN	Sea Turtle Stranding and Salvage Network
USFWS	U.S. Fish and Wildlife Service

## Key Terms and Definitions

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**Cold stunning:** Phenomenon caused by cold weather events that cause water temperatures to fall near or below 50 °F/ 10 °C, resulting in hypothermia and potentially death of sea turtles within the affected area. Most commonly applied to mass stranding events involving tens to thousands of sea turtles in specific water bodies with historically documented occurrences.

**Host Agency:** A state or federal natural resource agency with an established sea turtle conservation program, that employs the State STSSN Coordinator for a given state.

**Incidental capture:** Unintentional capture or killing of a sea turtle during the course of an otherwise lawful activity, such as fishing (commercial and recreational), dredging, and operation of power plants. Incidental capture in commercial and recreational fisheries is referred to as bycatch.

**Necropsy:** Postmortem examination of an animal for the purposes of determining the cause of death or morbidity, making observations related to health or life history, and collection of data or biological samples.

**OPR STSSN Coordination Team:** A team of OPR staff who jointly coordinate the STSSN. The team is composed of the NMFS Sea Turtle Coordinator, Veterinary Medical Officer, and STSSN Database Coordinator.

**Regional Coordinator:** A NOAA employee who provides oversight over the STSSN in a particular region, when the regional network structure consists of State Liaisons instead of State Coordinators. The Greater Atlantic Region has a Regional Coordinator.

**State Coordinator:** A state or federal natural resource agency employee who has accepted the responsibility of coordinating the STSSN in a given state, per Section 3 of this document.

**State Liaison:** An employee of a state or private STSSN organization who serves as the coordinator of their organization's stranding program and has been selected by the Regional Coordinator to serve as a point of contact for stranding response in their state.

**Stranding:** A sea turtle that is found on shore or floating that is either dead or is alive but ill, injured, entangled/entrapped or otherwise impaired in a manner that limits or prevents normal behavior and movement.

**STSSN Partners:** Any agency, organization or individual who is permitted and participates in the STSSN.

**Unusual Stranding/Mortality Events:** Multiple sea turtle strandings within a defined area and time that exhibit any of the following characteristics: marked increase in the magnitude or a marked change in the nature of morbidity or mortality (including species, life stage, and sex); a marked change in temporal or spatial distribution; strandings exhibiting similar or unusual pathologic findings, behavior patterns, clinical signs, or general physical condition. Events that primarily include live sea turtles may be considered unusual stranding events whereas those represented by mostly deceased animals are referred to as mortality events.

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# 1. Introduction and Background

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## 1.1 Document Purpose

The National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) Office of Protected Resources (OPR) leads the administration and coordination of the Sea Turtle Stranding and Salvage Network (STSSN). The STSSN currently responds to and documents stranded<sup>1</sup> sea turtles in coastal areas under U.S. jurisdiction along the Atlantic Ocean, Gulf of America (GOA, formerly Gulf of Mexico), and the U.S. Caribbean territorial sea.

The purpose of this document is to:

- 1) Provide the background and history of the STSSN,
- 2) Outline the roles and responsibilities of NMFS, USFWS, STSSN coordinators, liaisons, and participants, and
- 3) Consolidate current STSSN operating procedures into one reference document to ensure program-wide consistency.

Although the STSSN has been in operation for several decades, the Coordination role formally shifted to OPR in January 2022. This transition prompted an evaluation of STSSN operations, development of this Operating Procedures Handbook, review of the program under the National Environmental Policy Act (NEPA), and completion of Paperwork Reduction Act (PRA) requirements for all STSSN-related forms.

## 1.2 Federal Jurisdiction Regarding the STSSN

All species of sea turtles found in U.S. waters are listed as endangered or threatened under the Endangered Species Act (ESA). NMFS and the U.S. Fish and Wildlife Service (USFWS) share federal jurisdiction for the conservation and recovery of sea turtles. Section 4(f) of the ESA (16 U.S.C. 1533(f)) provides for the creation of Recovery Plans for endangered and threatened species and provides NMFS and USFWS with authority “to procure the services of appropriate public and private agencies and institutions and other qualified persons” in order to implement those plans. To advance the conservation and recovery of listed sea turtles, each sea turtle [Recovery Plan](#)<sup>2</sup> developed jointly by NMFS and USFWS identifies and highlights the need to

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<sup>1</sup> **Stranded Definition:** A sea turtle, in the marine environment, that is alive but sick, injured, or entangled. 50 CFR 222.310(a). For the purposes of this document, we consider a turtle stranded when found dead or alive but sick, injured, or entangled. In many places in this document we simply use the term stranded with the intention of capturing both dead and live stranded turtles.

<sup>2</sup> Sea Turtle Recovery Plans are available through the following link. At this link, click on “Read our Recovery Plans”:  
<https://www.fisheries.noaa.gov/national/endangered-species-conservation/recovery-species-under-endangered-species-act>

maintain an active stranding network. The STSSN is a cooperative effort of federal, state, and permitted private partners working to inform causes of morbidity and mortality in sea turtles by responding to and documenting stranded sea turtles in a manner sufficient to inform conservation management and recovery.

In accordance with the 2015 Memorandum of Understanding (MOU) between NMFS and USFWS (Appendix A), NMFS has lead responsibility for sea turtles when in the marine environment and USFWS has lead responsibility when in the terrestrial environment ([NMFS and USFWS 2015b](#)<sup>3</sup>). Sea turtle stranding response and rehabilitation have traditionally operated with a shared jurisdictional responsibility between the two agencies. The MOU establishes NMFS as the lead for, and coordinator of, the STSSN to attend to stranded turtles in the marine environment or when washed ashore from the marine environment. Coordination by NMFS of the STSSN may include coordinating the placement of stranded turtles at approved rehabilitation facilities. USFWS authorizes stranding response and rehabilitation, and within its capacity, USFWS shall assist the STSSN, including within the National Wildlife Refuge system. NMFS shall share STSSN information with USFWS to promote the recovery and conservation of sea turtles. USFWS shall serve as the lead for and coordinator of authorized facilities holding sea turtles for rehabilitation or captive display. USFWS shall share information with NMFS on captive sea turtles and coordinate with NMFS on guidelines and standards for such facilities.

## 1.3 STSSN Authorities

### 1.3.1 Statutory and Regulatory Authority

As mentioned above, all sea turtle species found in U.S. waters are listed as endangered or threatened under the ESA (16 U.S.C. 1533(f)), and Federal jurisdiction is shared between NMFS and USFWS. Both NMFS and USFWS have promulgated regulations that provide an exception to the prohibitions on sea turtle take and allow for response to stranded sea turtles in water and on land, based on their specific jurisdictional responsibility.

In 2005, NMFS published a final rule under 50 CFR Part 222.310: “Sea Turtle Conservation; Exceptions to Taking Prohibitions for Endangered Sea Turtles.” This rule is a programmatic permit by regulation pursuant to ESA section 10(a)(1)(A) to authorize any agent or employee of NMFS, USFWS, the United States Coast Guard (USCG), or any other federal land or water management agency, or any agent or employee of a state agency responsible for fish and wildlife who is designated by his or her agency for such purposes, when acting in the course of his or her official duties, to take *endangered* sea turtles if such taking is necessary to aid a sick, injured,

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<sup>3</sup> 2015 Memorandum of Understanding between NMFS and USFWS can be downloaded at: <https://www.fisheries.noaa.gov/resource/document/noaa-fisheries-and-us-fws-memorandum-understanding-sea-turtles>



entangled or stranded endangered sea turtle or dispose of such specimen or salvage such specimen which may be useful for scientific and educational purposes.

Additionally, 50 CFR Part 223.206(b) provides an exception to the prohibitions on take of threatened sea turtles. The regulation states that: “If any member of any *threatened* species of sea turtle is found injured, dead, or stranded, any agent or employee of the NMFS, USFWS, the USCG, or any other federal land or water management agency, or any agent or employee of a state agency responsible for fish and wildlife who is designated by his or her agency for such purposes, may, when acting in the course of his or her official duties, take such specimens without a permit if such taking is necessary to aid a sick, injured, or stranded specimen or dispose of a dead specimen or salvage a dead specimen which may be useful for scientific study.” The USFWS has codified regulations similar to NMFS. Specifically, sections 17.21(c)(3) and 17.31(b) provide exceptions to the prohibition on take of endangered and threatened species, including sea turtles identified in 17.42(b)). The USFWS regulations allow USFWS and NMFS personnel to respond to strandings on land, including aiding incidentally caught sea turtles at piers.

On July 27, 2016, NMFS OPR’s Endangered Species Act Interagency Cooperation Division issued a biological opinion under the authority of section 7(a)(2) of the ESA regarding the effects of NMFS Permit by Regulation, 50 CFR Part 222.310: “Sea Turtle Conservation; Exceptions to Taking Prohibitions for Endangered Sea Turtles,” which authorizes response to stranded *endangered* sea turtles in the marine environment. In this opinion, NMFS concludes that the operation of the STSSN, including actions to aid stranded turtles, and salvage and dispose of dead carcasses, is not likely to jeopardize the continued existence or recovery of green, hawksbill, Kemp's ridley, leatherback, loggerhead, or olive ridley sea turtles and is not likely to destroy or adversely modify designated critical habitat.

### 1.3.2 Permitting for Stranding Response and Rehabilitation

Every organization that conducts response and/or rehabilitation activities as part of the STSSN must be authorized under the ESA. USFWS is responsible for permitting rehabilitation and captive holding facilities, and issues authorizations for response organizations. Additionally, in some cases, USFWS delegates their permitting authority to the states, through ESA Section 6 delegations of authority.

#### *History of the STSSN*

The multi-state STSSN, operating in the Gulf of America and along the U.S. Atlantic coast (and later U.S. Caribbean Territories), was established in the early 1980s, with the coordinating role assumed by NMFS Southeast Fisheries Science Center (SEFSC), Miami Laboratory. Prior to NMFS SEFSC taking on the coordination role, some southeastern states collected and maintained sea turtle stranding data for their state and the University of Miami Rosenstiel School

of Marine and Atmospheric Science served as an early central repository for some of those data until NMFS SEFSC took on that role. Today, the states along the Atlantic and Gulf coasts, Puerto Rico, and the U.S. Virgin Islands comprise the STSSN.

NMFS SEFSC played an important role in formalizing the multi-state STSSN, maintaining a sea turtle stranding database, and providing STSSN summary data when requested. In the early 2000s, OPR began providing overarching support to the STSSN, then in 2012 established a Veterinary Medical Officer position within its National Sea Turtle Program. After the Deepwater Horizon (DWH) oil spill in 2010, which caused catastrophic impacts to sea turtles in the Gulf of America, OPR staff designed and are currently implementing the Deepwater Horizon Sea Turtle Early Restoration Project, which includes enhancements to the STSSN across the Gulf of America. On January 1, 2022, the responsibility for administering and coordinating the STSSN was transferred to OPR from SEFSC as the program aligns with OPR's national coordination role for protected resources at NMFS. OPR's longer-range goals for the STSSN include integrating the existing west coast and Hawaii sea turtle stranding networks into the STSSN.

#### 1.4 STSSN Purpose and Mission Statement

The STSSN is a cooperative effort to monitor and inform causes of morbidity and mortality in sea turtles by responding to and documenting stranded sea turtles in a manner sufficient to inform conservation management and recovery. The STSSN accomplishes this through:

- (1) Collection of data in accordance with STSSN protocols;
- (2) Monitoring of stranding trends;
- (3) Provision of initial aid to live stranded sea turtles;
- (4) Provision of sea turtle samples/parts for conservation-relevant research; and
- (5) Availability of timely data for conservation management purposes.

#### 1.5 STSSN Operations and Coordination

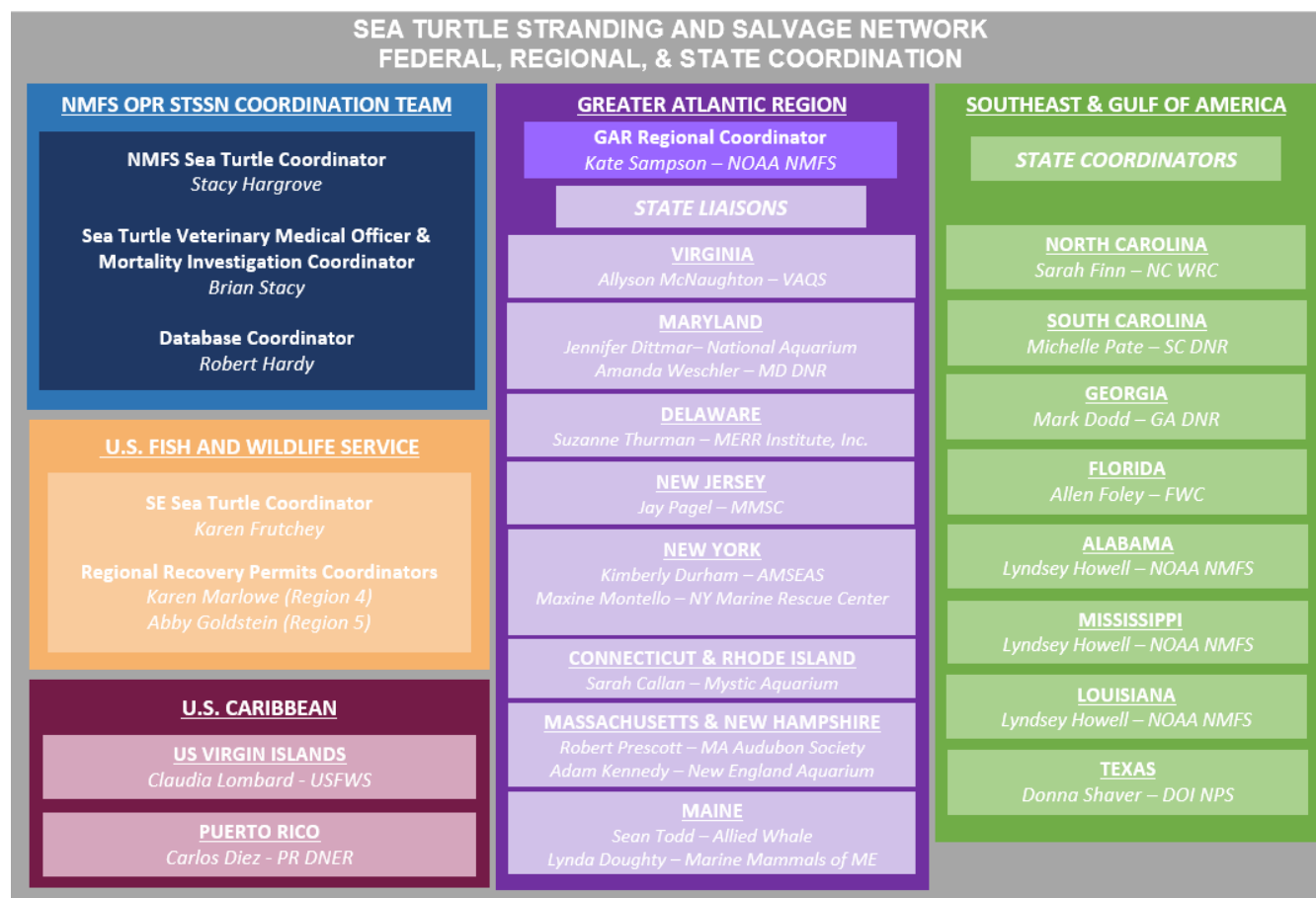
NMFS OPR established the STSSN Coordination Team in 2022, to implement the STSSN program. The STSSN Coordination Team oversees STSSN efforts throughout the STSSN operating area, defined as the coastal areas throughout the Gulf of America, U.S. Atlantic coast, and U.S. Caribbean waters, and maintains and manages the STSSN database. Leadership of the regional and state networks varies by region, and is described in more detail below. Figure 1 shows the full scope of STSSN partners, including Federal, regional, and state or territory roles, and the individuals holding each role as of publication of this document. Data queries and additional stranding-related information are available at the [Sea Turtle Stranding and Salvage](#)

[Network Data Summary and Visualization Application](#)<sup>4</sup>, which currently (as of the publication of this document) allows access to at least 10-years of data maintained in the STSSN database.

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<sup>4</sup> The Sea Turtle Stranding and Salvage Network Data Summary and Visualization Application is available for public data queries here: <https://connect.fisheries.noaa.gov/stssnDataSummary/>

**Figure 1: STSSN Federal, Regional, and State Coordination<sup>5</sup>**



### 1.5.1 Southeast Region (Texas through North Carolina)

Each of the southeastern states have STSSN Coordinators who manage the day-to-day operations of the STSSN in their respective states. The current State Coordinator affiliations are either state wildlife agency staff or federal agency staff (National Park Service or NMFS). Duties and responsibilities of State Coordinators are detailed in Section 1.9.2 of this document.

In the Southeast Region (SER), the STSSN is often divided into two sub-regions, the Gulf of America (GOA), including Texas through the Florida west coast, and the Southeast Atlantic

<sup>5</sup> **Organization acronyms found in Figure 1:** Atlantic Marine Conservation Society (AMSEAS), Florida Fish and Wildlife Conservation Commission (FWC), Georgia Department of Natural Resources (GA DNR), Maryland Department of Natural Resources (MD DNR), Marine Mammal Stranding Center (MMSC), National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), National Park Service (NPS), North Carolina Wildlife Resources Commission (NC WRC), Office of Protected Resources (OPR), Puerto Rico Department of Natural and Environmental Resources (PR DNER), United States Fish and Wildlife Service (USFWS), Virginia Aquarium & Marine Science Center (VAQS)

(SE), including the Florida east coast through North Carolina. The GOA and SE STSSN both document high numbers of strandings each year, and routinely respond to strandings, incidental captures, and cold stuns, or aperiodic mass strandings caused by cold weather events. The incidental capture data within the STSSN database are primarily turtles captured by hook and line at recreational fishing piers and do not include many other incidental captures, such as those recorded by commercial fisheries observer programs.

### 1.5.2 Greater Atlantic Region (Maine through Virginia)

The Greater Atlantic Region (GAR) STSSN is led by the GAR Regional Stranding Coordinator, who also serves as the lead for the Sea Turtle Disentanglement Network. The Sea Turtle Disentanglement Network operates in the GAR states and focuses mainly on response to sea turtles that are entangled by line associated with commercial pot/trap gear and gillnets.

STSSN State Liaisons are established in each of the northeastern states, working under the direction of the GAR Stranding Coordinator. Each state has one or more State Liaisons who manage the day-to-day operations of the STSSN program for their organization, within their specific response area. The current State Liaisons are primarily affiliated with non-governmental organizations and facilities, but one liaison is a state wildlife agency representative. Duties and responsibilities of State Liaisons are detailed in Section 1.9.2 of this document.

The GAR STSSN routinely responds to and documents strandings, incidental captures, and cold stun events. The incidental capture data within the STSSN database for GAR are primarily leatherback turtles captured by vertical lines in pot/trap gear or by hook and line of recreational fisheries. Cold-stunning events in the GAR result in hundreds to more than a thousand turtles stranding in Massachusetts, New York, and other GAR states annually.

### 1.6.3 U.S. Caribbean (U.S. Virgin Islands and Puerto Rico)

In the U.S. Caribbean, the STSSN is led by the USFWS in the U.S. Virgin Islands, and in Puerto Rico by the Department of Natural and Environmental Resources. The U.S. Caribbean STSSN involves a network of volunteers and organizations. Stranding data have historically been maintained locally in USVI and Puerto Rico, however, Caribbean State Coordinators and partners are beginning to enter data into the STSSN Database.

Duties and responsibilities of State Coordinators are detailed in Section 1.9.2 of this document.

## 1.6 Requirements and Process to Join the Sea Turtle Stranding and Salvage Network

The STSSN is a network of federal and state agencies, non-governmental entities, and individual volunteers authorized to respond to and document sea turtles found dead, debilitated, or

otherwise in need of assistance in coastal areas under U.S. jurisdiction along the Atlantic Ocean, Gulf of America, and the U.S. Caribbean territorial sea. NMFS coordinates the Network. The stranding networks in Maine through Virginia are managed by a NMFS Regional Coordinator, who is located in the NMFS Greater Atlantic Regional Fisheries Office (GARFO). Federal, state, or territory marine resource agency staff serve as State Coordinators in North Carolina through Texas, and in the U.S. Caribbean. Entities seeking to participate in sea turtle stranding response and/or rehabilitation should contact the appropriate regional or state coordinator to discuss their interest in participating in the STSSN.

The NMFS Regional Coordinator and/or the relevant State Coordinators work with USFWS to determine if there is a geographic, temporal, or capacity need for stranding response or rehabilitation in a specified area. When a need is identified and the interested entity meets state and/or federal requirements to conduct stranding response and/or rehabilitation activities, USFWS and/or the state natural resource agency will provide the necessary authorizations/permits. Authorized stranding responders and rehabilitation facilities must comply with all requirements specified in their federal and/or state authorizations. Additionally, sea turtle rehabilitation facilities must comply with the USFWS Standard Conditions for Care and Maintenance of Captive Sea Turtles.

## 1.7 STSSN Support

The cost of stranding response operations and rehabilitation is the responsibility of the participating institutions using their own operating budgets, which may include funds received from Federal or non-federal grants, donations, etc. Some states have been awarded competitive [NMFS ESA Section 6 Species Recovery Grants](#)<sup>6</sup> to support their STSSN programs in the past. Pending availability of funds, NMFS sea turtle programs may provide some financial support for STSSN operations, specific stranding events (e.g., cold-stun events), or other STSSN priorities.

OPR and GARFO currently fund positions that support the STSSN. GARFO has one full time employee who serves as the GAR Regional Coordinator for the STSSN and the Sea Turtle Disentanglement Network. OPR funds (either through appropriated funding or other sources, such as Deepwater Horizon Oil Spill Sea Turtle Restoration Funds) the STSSN Coordination Team, composed of the National Sea Turtle Coordinator, National Veterinary Medical Officer, and STSSN Database Coordinator, as well as the State Coordinator role for Louisiana, Mississippi, and Alabama. Two OPR positions are funded through the Deepwater Horizon Natural Resource Damage Assessment (DWH NRDA) Restoration Program, as OPR is currently

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<sup>6</sup> More information on Section 6 Species Recovery Grants can be found on the NMFS website, at: <https://www.fisheries.noaa.gov/grant/species-recovery-grants-states>

implementing a large-scale project that supports Gulf of America-wide coordination of the STSSN and database development for at least 10-years (2017-2026).

SEFSC supported several STSSN positions through 2021. Currently, staff at some SEFSC labs and Northeast Fisheries Science Center (NEFSC) labs respond to strandings opportunistically in their local area, as part of the STSSN in their state. The NMFS Southeast Regional Office (SERO) does not regularly participate in the STSSN, but they do provide funding support to the Southeast state coordinating agencies, as funds are available.

In Federal Fiscal Years 2023 and 2024, approximately \$500,000 of funding was appropriated to NOAA each year to support organizations involved in stranding response and rehabilitation. The funds were distributed as competitive grants issued by the National Fish and Wildlife Foundation's Sea Turtle Program. Grants supported organizations nation-wide to increase capacity for response and rehabilitation of sea turtles. Future funding for this purpose is uncertain.

## 1.9 STSSN Roles and Responsibilities

The STSSN is a cooperative network of Federal, State, and local partners. The following sections define the explicit roles that together comprise the coordination of the STSSN.

### 1.9.1 National Coordination

#### *1) NMFS Sea Turtle Coordinator*

NMFS Sea Turtle Coordinator responsibilities:

- Coordinate with USFWS on issues of joint jurisdiction, interagency coordination, and permits.
- Facilitate national-level discussions within NMFS and with partners on issues related to the STSSN.
- Guide STSSN enhancements and program direction to ensure data collection efforts (and data collected) are meeting conservation and recovery needs.
- Identify/seek/provide funding for priority STSSN activities.
- Communicate regularly with State Coordinators and partners to ensure effective STSSN implementation.

#### *2) OPR STSSN Coordination Team*

NMFS OPR STSSN Coordination Team responsibilities:

- Provide protocols, including data collection methods, to ensure consistent data collection and reporting efforts throughout the STSSN.

- Regularly evaluate STSSN data access and summary needs for conservation management activities.
- Facilitate/coordinate response to mass/unusual stranding events.
- Assist the State Coordinators, Regional Coordinator, State Liaisons, and STSSN members, as needed.
- Communicate regularly with State Coordinators and partners to ensure effective STSSN implementation.
- Provide training resources.
- Monitor strandings for unusual events/occurrences and alert/coordinate with relevant entities.

### *3) NMFS STSSN Database Coordinator*

NMFS STSSN Database Coordinator responsibilities:

- Manage the NMFS STSSN Database and maintain user accounts for state data entry.
- Provide technical support to STSSN partners related to STSSN data management.
- Maintain technical documentation, instructional guidance, and training materials related to STSSN data management to ensure consistency in stranding documentation practices.
- Enter additional stranding data, not entered by states, into the STSSN Database.
- Respond to internal and external data requests in a timely manner and refer requests to the states as appropriate.
- Provide real-time updates and summaries across the STSSN.
- Develop and maintain stranding data access and summary tools that are useful for conservation management needs and for the public.
- Monitor strandings for unusual events/occurrences and alert/coordinate with relevant entities.
- Monitor data validation process and ensure historic data are compatible with the new system.

### *4) NMFS Sea Turtle Veterinary Medical Officer and Mortality Investigation Coordinator*

NMFS Veterinary Medical Officer responsibilities:

- Facilitate/coordinate collection of clinical and necropsy data/samples necessary to identify causes of strandings.
- Provide stranding response and necropsy instruction and training to STSSN members, as needed.
- Provide veterinary assistance to USFWS and other agencies/partners for any needs related to live stranded sea turtles, including animal welfare concerns and compliance with permit conditions to ensure effective investigation of any unusual or mass



stranding/mortality events through direct involvement, coordination of participating individuals/groups, and/or documentation/reporting of findings.

- Ensure data collection efforts are appropriate to inform mortality and morbidity investigations.
- Provide overarching STSSN guidance on how to investigate mortality events.
- Communicate regularly with State Coordinators and partners to ensure effective STSSN implementation.
- Ensure all relevant new information is incorporated into STSSN mortality investigations.
- Monitor for unusual events in real time and conduct outreach as near real time as possible to ensure data are not lost and ensure monitoring is increased if necessary.

#### *5) NMFS Greater Atlantic Region Stranding Coordinator*

NMFS GAR Stranding Coordinator responsibilities:

- Facilitate communication within GAR STSSN, and between response and rehabilitation organizations, USFWS, and NMFS, including organizing regular GAR STSSN meetings.
- Provide protocols and training (as needed) for stranding response and disentanglement.
- Assist with logistics during stranding events as needed, including organizing transports, working with municipal, state, and government partners, and responding to media.
- Identify/seek/provide funding to support the GAR STSSN.
- Complete data entry and data validation.
- Assist with analyses/interpretation of data and provide expertise to ensure proper data context.
- Respond to data requests for the GAR.
- Investigate unusual stranding trends, including engaging the NMFS Veterinary Medical Officer and investigating human activities in the area.
- Provide the OPR STSSN Coordination Team with timely notification of unusual or mass-stranding events.
- Coordinate rehabilitation activities, including inspecting new facilities, receiving euthanasia notifications, working with facilities to find appropriate release locations, and finding placement for turtles.
- Work with USFWS regarding permitting for telemetry, rehabilitation, and other topics.

#### *6) U.S. Fish and Wildlife Service*

USFWS serves as the Federal authorizing agency for STSSN response and is the lead agency for sea turtle rehabilitation. USFWS coordinates closely with STSSN Regional and State Coordinators for transport and release of live stranded sea turtles. USFWS responsibilities:

- Coordinate with NMFS on issues of joint jurisdiction and interagency coordination.

- Provide and ensure compliance with Standard Conditions (including transport, rehabilitation, and release conditions) for the Care and Maintenance of Captive Sea Turtles for permitted rehabilitation facilities.
- Assist in response to mass/unusual stranding events, as needed.
- Engage in regular communication with STSSN State Coordinators, State Liaisons and OPR STSSN Coordination Team on permitting and rehabilitation topics.
- Coordinate with the OPR STSSN Coordination Team, GARFO Regional Coordinator, STSSN State Coordinators, and State Liaisons on the location and timing of turtle release, as needed.
- Coordinate and ensure compliance related to the possession, handling, and disposition of sea turtle samples transferred for research, education, or tribal purposes.
- Permit the import and repatriation of some sea turtles that strand outside of the U.S. and coordinate with the OPR STSSN Coordination Team, GARFO Regional Coordinator, and State Coordinators as appropriate, on release locations.

### 1.9.2 State STSSN Coordination

#### *1) State Coordinator (SER and U.S. Caribbean Territories)*

In the SER states (North Carolina through Texas) and in the U.S. Caribbean Territories, the STSSN is coordinated by a state or federal natural resource agency employee within an established state or federal sea turtle conservation program. The role of STSSN State Coordinator includes the following responsibilities:

- Oversee and actively coordinate a state network of permitted individuals and organizations that participate as members of the STSSN.
- Facilitate a response to all reports of stranded sea turtles in their state unless logistically unfeasible or prohibited by weather or other safety and cultural considerations.
- Organize/provide training to STSSN responders to ensure adherence to STSSN protocols.
- Establish and maintain a reporting protocol, including the preferred methods of contact for their state responders.
- Ensure stranding data (electronic submission of the STSSN form), and photos are entered/uploaded into the NOAA STSSN Database weekly (i.e., within 7 days of the stranding event).
- Ensure stranding records are verified in the NOAA STSSN database in a timely manner and minimally, on a monthly basis.
- Immediately notify the OPR STSSN Coordination Team regarding unusual or mass-stranding events.
- Participate in scheduled conference calls, meetings, and/or training events and engage in regular communication with the OPR STSSN Coordination Team to ensure effective STSSN implementation.

- Assist with analyses/interpretation of data and provide expertise to ensure proper data context.
- Provide STSSN data in response to data requests in a timely manner.
- Coordinate with the USFWS on rehabilitation and release.

## *2) State Liaisons (GAR states)*

In the GAR states (Maine through Virginia), stranding response is coordinated by the NMFS GAR Regional Stranding Coordinator and conducted by organizations and facilities that specialize in the care of sick or injured wildlife (e.g., aquariums, state resource agencies, wildlife organizations). Some states may have multiple Liaisons. The State Liaison's role includes the following responsibilities:

- Facilitate a response to reports of stranded sea turtles in their state unless logistically unfeasible or prohibited by weather or other safety or cultural considerations.
- Organize/provide training to STSSN responders under their organization's authority to ensure adherence to STSSN protocols.
- Establish and maintain a reporting protocol, including the preferred methods of contact for their state responders.
- Enter all basic stranding data and upload photos into the NOAA STSSN Database weekly (i.e., within 7 days of the stranding event).
- Provide real-time notification/alert to GAR Stranding Coordinator regarding unusual or mass stranding events.
- Participate in scheduled conference calls, meetings, and/or training events and engage in regular communication with OPR STSSN Coordination Team to ensure effective STSSN implementation.
- Assist with analyses/interpretation of data and provide expertise to ensure proper data context.

## *Stranding Responders*

Stranding responders include federal and state resource agency staff, those affiliated with non-governmental organizations and private entities, and members of the public that have fulfilled and maintain STSSN training requirements and are authorized to conduct stranding response activities by the relevant permit authority for their state. The Stranding Responder's role includes the following responsibilities:

- Document all strandings in accordance with standard STSSN procedures, including the STSSN reporting form and digital photographs.

- Report all basic stranding information (date, species, lat/long, condition, injuries) to the State Coordinator, or directly into the database, within 48 hours of the stranding event, as feasible.
- Provide real-time notification/alert to State Coordinator regarding unusual or mass stranding events.
- Regularly communicate with State Coordinator and participate in scheduled training events and/or call or meetings to ensure effective STSSN implementation.
- Maintain STSSN training requirements, as required by the State Coordinator
- Collect samples and salvage carcasses if requested and permitted.
- Assist with transport of live and dead animals, if requested and feasible.

## 2. STSSN Contact Information

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### 2.1 NOAA STSSN Staff

Name	Role	Contact Information	Topic Area Expertise
STSSN Coordination Team	STSSN Coordination Team	<a href="mailto:nmfs.opr.stssn@noaa.gov">nmfs.opr.stssn@noaa.gov</a>	Preferred email address for any general STSSN inquiries or needs. Emails are currently forwarded to Stacy Hargrove, Brian Stacy, and Robert Hardy.
Stacy Hargrove	NMFS Sea Turtle Coordinator; OPR STSSN Coordination Team	(305) 814-8871	NMFS Sea Turtle Coordinator; General STSSN Coordination, Operational Issues, Emergency Response, General Sea Turtle Topics
Dr. Brian Stacy	Veterinary Medical Officer; OPR STSSN Coordination Team	(352) 294-4098	Mortality Investigation, Unusual Strandings, Enforcement Issues, Necropsies, Emergency Response
Robert Hardy	STSSN Database Coordinator; OPR STSSN Coordination Team	(727) 490-9384	Database Needs, Training, Questions

Kate Sampson	GARFO STSSN Regional Coordinator	(978) 282-8470	GARFO STSSN coordination
Lyndsey Howell	Sea Turtle Mortality Investigation Biologist; Alabama, Mississippi, & Louisiana STSSN State Coordinator	(601) 568-2406	Mortality Investigation; Strandings in LA, MS, and AL

## 2.2 Stranding Hotline Numbers, STSSN State Coordinators, and STSSN State Liaisons

Each state and territory along the Gulf of America, Atlantic coast, and U.S. Caribbean has a stranding hotline to report dead, sick, or injured sea turtles. All hotline numbers and contact information for the State Coordinators and State Liaisons are listed on the [NOAA website](#)<sup>7</sup>.

## 3. Process for Establishing a State Coordinator

Through its role coordinating the STSSN, NMFS OPR has developed the following procedures related to the selection and replacement of State Coordinators who serve with the approval of their host agency.

### 3.1 STSSN State Coordinator Selection Criteria

Each STSSN State Coordinator serves in the role voluntarily. The State Coordinator host agency must be a federal natural resource agency or a state natural resource agency with an ESA Section 6 agreement and the designated State Coordinator must meet the following criteria:

1. A state or federal natural resource agency employee within an established state or federal sea turtle conservation program,
2. Understanding and willingness to follow all STSSN protocols and procedures,

<sup>7</sup> Stranding Hotline Numbers, State Coordinators, and State Liaisons are available here: <https://www.fisheries.noaa.gov/marine-life-distress/state-coordinators-and-state-liaisons-sea-turtle-stranding-and-salvage-network>

3. Sea turtle stranding expertise, and
4. Experience with coordinating individuals and groups.

### 3.2 Replacement of a STSSN State Coordinator

If a current STSSN State Coordinator is no longer able or willing to fulfill the State Coordinator role for any reason (e.g., retirement, leaving their agency, workload concerns, etc.), NMFS OPR, as the STSSN Coordination entity, will work with the host agency to follow the procedure below to appoint a new State Coordinator.

If the host agency wishes to continue hosting the State Coordinator role, NOAA/OPR will consult with the host agency when transitioning to a new staff member. If the host agency does not wish to continue hosting the State Coordinator role, OPR will assume the role of interim State Coordinator, to the extent funding is available, until a permanent qualified replacement is identified.

### 3.3 Corrective Action

If a current STSSN State Coordinator is not sufficiently meeting the responsibilities outlined in this document, NMFS OPR, as the STSSN Coordination entity, will follow the procedure below to notify the host agency of OPR's concerns and seek corrective actions.

1. OPR will notify the host agency in writing that the responsibilities of the role are not being adequately fulfilled.
2. OPR will work with the host agency to determine necessary steps for the existing State Coordinator to meet the requirements and/or determine if the State Coordinator responsibilities will transfer to OPR as an interim step.
3. If, after 6 months, the State Coordinator is not able to fulfill their requirements, OPR will notify the host agency that OPR will assume the role of interim State Coordinator until a permanent qualified replacement is identified.

### 3.4 Formal Agreement

Once this Operating Procedures document is finalized, the NMFS OPR STSSN Coordination Team will issue formal letters to each current State Coordinator and host agency, requesting signature agreement to the responsibilities and requirements outlined in this document.

## 4. Process for Selecting State Liaisons

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Through its role coordinating the STSSN, NMFS OPR has developed the following procedures related to the selection of State Liaisons, who serve with the approval of their host organization. In the GAR, most states do not have a state or federal natural resource agency designated as the State Coordinator; therefore, the GAR STSSN Regional Coordinator may select one or more State Liaisons to assist with the operation of the STSSN in that state. Each STSSN State Liaison serves in the role voluntarily.

#### 4.1 STSSN State Liaison Selection Criteria

State Liaisons must have:

1. Understanding and willingness to follow all STSSN protocols and procedures,
2. Sea turtle stranding expertise, and
3. Experience coordinating individuals and groups.

#### 4.2 Replacement of a STSSN State Liaison

If a current STSSN State Liaison is no longer able or willing to fulfill the role for any reason (e.g., retirement, leaving their agency, workload concerns, etc.), the GAR Regional Coordinator, in consultation with the NMFS OPR STSSN Coordination Team, will work with the host organization to designate a new State Liaison. If the host organization does not wish to continue hosting the State Liaison role, the Regional Coordinator will determine if a replacement host organization is necessary.

#### 4.3 Corrective Action

If a current STSSN State Liaison is not sufficiently meeting the responsibilities outlined in this document, the GAR Regional Coordinator, in consultation with the OPR STSSN Coordination Team, will follow the procedures below.

1. The Regional Coordinator will notify the host agency in writing that the responsibilities of the role are not being fulfilled.
2. The Regional Coordinator will work with the host agency to determine necessary steps for the existing State Liaison to meet the requirements.
3. If, after 6 months, the State Liaison is not able to fulfill their requirements, the Regional Coordinator will consult with the NMFS OPR STSSN Coordination Team and determine if the role will transfer to the Regional Coordinator as an interim step.

#### 4.4 Formal Agreement

Once this Operating Procedures document is finalized, the NMFS OPR STSSN Coordination Team will issue formal letters to each current State Liaison and host agency, requesting signature agreement to the responsibilities and requirements outlined in this document.





## 5. Stranding Response

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NMFS serves as the Federal agency coordinator of the STSSN. This authority comes from Section 4(f) of the ESA (16 U.S.C. 1533(f)), which provides for the creation of Recovery Plans for endangered and threatened species and provides NMFS and USFWS with authority “to procure the services of appropriate public and private agencies and institutions and other qualified persons” in order to implement those plans. Further, the 2015 MOU between NMFS and USFWS states that NMFS shall serve as the lead for and coordinator of the STSSN. Coordination may include coordinating placement of stranded turtles at permitted rehabilitation facilities. The MOU also states that FWS shall provide assistance to the STSSN, including within the National Wildlife Refuge system.

In January 2022, OPR specifically assumed the lead coordination role and formed the STSSN Coordination Team. This section provides protocols, forms, and guidance on the implementation of the STSSN.

### 5.1 STSSN Training

As part of NMFS OPR’s role in coordinating the STSSN, OPR develops and makes training materials available to the STSSN State Coordinators/Liaisons to facilitate standardized data collection across the network. Training materials may be written protocols, videos, or other appropriate formats. NMFS’ publicly available training materials can be found on the [NMFS STSSN Website](#)<sup>8</sup>.

Each State Coordinator and State Liaison provides training to their volunteers and partner organizations. Training materials may be written protocols, videos, or other appropriate formats. The State Coordinators maintain a list of authorized, trained, and active participants within their state.

### 5.2 STSSN Forms

The collection of STSSN Forms and Instruction documents described below are available in Appendix D of this document.

*STSSN Stranding Report Form* (required): This is a standardized form, used by all states to document strandings. The form is tailored for each state with relevant contact information specific to the state. The STSSN Stranding Report was updated in 2020 to enhance the collection and standardization of management-relevant data to the extent practicable. This enhanced data

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<sup>8</sup> STSSN training materials are available here: <https://www.fisheries.noaa.gov/national/marine-life-distress/sea-turtle-stranding-and-salvage-network#information-for-network-members>

collection and standardization effort focuses on key injuries, anthropogenic interactions, and other anomalies. Detailed instructions for filling out the STSSN Stranding Report are available to responders to ensure strandings are evaluated similarly and data are collected consistently across all responders. Timely submission of this form into the STSSN database is included in the list of responsibilities of responders, State Coordinators, and State Liaisons.

*STSSN Stranding Report Form Cold Stun Event Form and Cold Stunning Data Collection Batch Form* (recommended): A modified and simplified version of the STSSN Report Form is available for use during large-scale cold stun events when large numbers of animals are triaged in a short period of time. The cold stun form allows for critical information to be collected on individual animals and the batch form allows for groups of turtles to be processed and documented together.

*Gear Identification Guide and Form*: The STSSN Gear Characterization Guide (recommended and requested) is used to guide the characterization of fishing gear recovered from sea turtles documented by the STSSN and to identify gear that requires subsequent examination by fishery gear experts. The objective is the consistent characterization of fishing materials to inform threat identification and monitoring. The guide includes data collection forms that should be used in coordination with the guide and specific criteria for the collection and referral of gear for expert review. The guide and forms are intended to assist the STSSN in documenting a wide range of gear types, including recreational hook/line, commercial longline, pot/trap, and gillnet.

*Sea Turtle Hook and Line Incidental Capture Form* (recommended and requested): The sea turtle hook and line incidental capture form is intended to be filled out by an STSSN responder when a sea turtle is hooked by a recreational angler from a shore-based location. The form seeks to collect information on all aspects of the hooking incident, including fishing practices (bait used, fishing location, time of day, etc.), injuries and impacts to the turtle, as well as the treatment and disposition of the turtle.

*Greater Atlantic Region Sea Turtle Entanglement Form* (recommended and requested): The sea turtle entanglement form is intended to be filled out by a GAR STSSN or Sea Turtle Disentanglement Network member to document sea turtle entanglements in vertical lines or other gear in-water.

Forms related to necropsy and mortality investigation are described in section 7.3, below.

### 5.3 Carcass Collection and Biological Sampling Guidance

NMFS OPR staff provide guidance on carcass collection (i.e., salvage) for necropsy in consultation with State and Regional Coordinators based on conservation and management needs, regional and localized characteristics of sea turtle strandings, recognized knowledge gaps, mass or unusual events, postmortem condition, and logistical considerations. In addition, NMFS

provides guidance on biological sampling from stranded turtles for the purposes of health and mortality investigation and facilitates other authorized biological sampling (e.g., for research purposes) as needed and to the extent practicable.

## 5.4 Carcass Disposal

Methods for disposal of sea turtle carcasses include natural decomposition above ground or at sea, burial in landfills or in individual or mass graves, composting, rendering, incineration, and chemical digestion with secondary consideration for toxicity to scavengers from euthanized turtles. Each facility that responds to strandings or takes in rescued sea turtles should have a plan for carcass disposal that is compliant with local, state, and federal laws and best management practices.

There are two states where NMFS OPR staff regularly conduct necropsies and dispose of carcasses; Mississippi and Florida. NMFS OPR staff follow local, state, and federal laws and best practices in each state. The University of Florida, College of Veterinary Medicine uses chemical digestion for carcass disposal, the Mississippi Department of Environmental Quality recommends carcasses be placed in a plastic bag and buried at a licensed landfill.

## 5.5 USFWS Protocols

USFWS has developed protocols for the stranding activities (i.e. transport, rehabilitation, and release) that fall under its jurisdiction. The USFWS requires the use of the live animal transport protocols for all permitted entities transporting sea turtles. All rehabilitation facilities are required to ensure compliance with the [USFWS' Standard Conditions for Care and Maintenance of Captive Sea Turtles](#)<sup>9</sup>. The release of sea turtles from rehabilitation facilities falls under USFWS jurisdiction. NMFS STSSN staff, STSSN State Coordinators, and USFWS routinely coordinate on release locations.

## 5.6 Outreach Materials

STSSN partners are not required to seek NMFS approval for their organization's outreach materials. NMFS OPR often develops outreach materials for specific events and purposes that are distributed to the STSSN partners for use. This helps create consistent messaging, particularly for unusual or mass stranding events. NMFS has many helpful materials that may be

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<sup>9</sup> USFWS. 2019. U.S. Fish and Wildlife Service's Standard Conditions for Care and Maintenance of Captive Sea Turtles are available at: <https://www.fws.gov/media/standard-conditions-care-and-maintenance-captive-sea-turtles>

used by STSSN partners, such as [guidelines for boaters and recreational fisherman](#)<sup>10</sup> (e.g. [Go Slow, Sea Turtles Below](#)<sup>11</sup>).

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<sup>10</sup> Fishing Tips to Protect Sea Turtles and Marine Mammals are available here:

<https://www.fisheries.noaa.gov/national/resources-fishing/fishing-tips-protect-sea-turtles-and-marine-mammals>

<sup>11</sup> Go Slow, Sea Turtles Below videos are available here: <https://www.fisheries.noaa.gov/video/go-slow-sea-turtles-below>

## 6. Data Management

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### 6.1 STSSN Database History

A central repository for sea turtle stranding data was established in the early 1980s by NMFS SEFSC in collaboration with the existing southeast state stranding networks. The SEFSC database initially relied on NMFS staff entering all STSSN data. In later years, the states began entering basic stranding information directly into the SEFSC database with NMFS staff completing the data entry, performing basic QA/QC routines, and either assigning or confirming codes for findings associated with each stranding. However, as stranding numbers increased over time, the burden of data entry and coding relevant findings exceeded available staff time, delaying data validation and resulting in challenges for state partners and other NMFS staff to easily query and access the data. Over the years, multiple databases were developed by STSSN partners, which complicated data standardization, data access, and data quality assurance and control.

As part of the Deepwater Horizon Sea Turtle Early Restoration Project's enhancement of the STSSN in the Gulf of America, OPR developed a new STSSN data application to improve data quality, data entry efficiency, and data access for management purposes. The new data application was implemented in the Gulf of America in 2020, in the northeast states in 2021, and in the southeast states in 2022. Full transition of all data from the SEFSC database to the new data application was completed in 2023, and the SEFSC database was archived. OPR is responsible for supporting and maintaining the new STSSN data application for STSSN use into the future.

### 6.2 STSSN Data Access and Data Release Process

This data access and data release process will guide NMFS' use of STSSN data, release of data by NMFS to external individuals or groups, and notification of the appropriate STSSN Regional Coordinator, State Coordinator, and/or State Liaison when STSSN data are requested from NMFS.

#### 6.2.1 NMFS Data Requests and Use for Management Purposes

- 1) NMFS reserves the right to access the STSSN data for sea turtle management purposes.
- 2) NMFS will provide the appropriate State Coordinators/Liaison with an opportunity to review draft manuscripts, including NOAA Technical Reports or Technical Memoranda, that use STSSN data.
- 3) Any publication or use of these data by NMFS will credit the appropriate state STSSN.

### 6.2.2 Public Data Requests

- 1) When NMFS receives a request for STSSN data, NMFS will, within one week, notify the relevant State Coordinators/Liaisons that a data request has been received and is being responded to in accordance with this data access and release process and all applicable Freedom of Information Act (FOIA) requirements.
- 2) NMFS will provide a standard statement whenever data are released to the public in email, web based, or other electronic or written formats, including in response to FOIA requests. State Coordinators/Liaisons are encouraged to use this or similar language when releasing data or fulfilling data requests, taking into account relevant state laws. The statement is as follows:  
*“Any publication or use of these data should credit the appropriate state STSSN. Users with the intent to publicly present or publish these data should consult and/or collaborate with contributing STSSN entities and network coordinators to understand data caveats, complexities, and nuances.”*
- 3) If data/information being released are considered preliminary, the following statement will be included:  
*“Preliminary data are subject to change and are not recommended for use in publications/analyses.”*
- 4) The State Coordinator/Liaison may request, from NMFS, a copy of a data request and/or a copy of the information provided in response to a data request.
- 5) When NMFS receives a FOIA request for STSSN data, NMFS will, within one week, notify the relevant State Coordinators/Liaisons that a FOIA request has been received and is being responded to in accordance with FOIA requirements and established procedures.
- 6) The State Coordinator/Liaison may request, from NMFS, a copy of the FOIA request and/or a copy of the information provided in response to the FOIA request.

### 6.3 Data Entry and Verification

The Data Entry and Verification Guide (see Appendix C) describes the data entry and verification processes used in the STSSN database to ensure consistent data collection. Data collection and verification are a two-step process. A responder documents a stranded sea turtle according to STSSN training and begins the data entry process. This information is subsequently reviewed by a trained, experienced verifier who 1) evaluates the information to ensure accuracy, and 2) applies specific standards and criteria to record additional details that are pertinent to management, such as observations related to life history, human interaction, and health. A key feature of this system is that photographic verification is required to evaluate and verify most cases. In addition, the application includes numerous integrated tools that facilitate data entry and provide quality assurance.

## 7. Mortality Investigation

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### 7.1 Overarching Purpose and Description of Activity

Mortality investigation encompasses efforts undertaken in association with the STSSN to identify and characterize causes of sea turtle stranding and mortality. These activities include, but are not limited to, postmortem examination (necropsy); collection of anthropogenic, biological, or environmental materials or samples; clinical evaluation of live stranded sea turtles; and any analyses (e.g., diagnostic, forensic, oceanographic, biologic) pertinent to investigative objectives.

### 7.2 Procedures

The NMFS OPR Veterinary Medical Officer oversees these efforts nationally. Within the STSSN, the appropriate State Coordinator or State Liaison manages the day-to-day necropsy and sampling of stranded turtles under periods of regular stranding activity (i.e., when the occurrence of sea turtle strandings and related observations are consistent with historical patterns and trends). The Veterinary Medical Officer may assume the primary coordination (in consultation with a State Coordinator or State Liaison) under the following circumstances: unusual or mass events; strandings suspected to be or attributed to commercial fisheries; strandings involving state or federal law enforcement; and any instance where coordination is requested by a STSSN coordinator, state, or federal agency.

Within the GOA, a Sea Turtle Mortality Investigation Biologist assists with the coordination of mortality investigation in AL, MS, and LA, and provides assistance in FL and TX, as needed. The Sea Turtle Mortality Investigation Biologist's main functions include: 1) provide training and guidance regarding salvage of stranded turtles for necropsy; 2) manage freezers where carcasses are stored; 3) coordinate necropsies, including completion of data forms and sampling; 4) manage requests for samples (under valid state and federal permits); and 5) ensure disposal of carcasses in a manner compliant with applicable local and state regulations.

Sea turtle necropsies are conducted by (or under the direct oversight of) veterinarians and biologists with demonstrated training and experience with sea turtle anatomy, basic pathology (recognition of common abnormalities), and frequent presentations of anthropogenic interaction(s). Additional specific qualifications, such as a veterinary degree, board certification in veterinary pathology, or resource agency affiliation, may be required by OPRs Veterinary Medical Officer or NOAA Office of Law Enforcement for medico-legal cases or those related to priority management or conservation issues or NRDA.

### 7.3 Forms

Standardized gross necropsy forms have been developed by the STSSN for necropsy of sea turtles. These forms are formatted and worded such that they are complementary to the STSSN Stranding Report in order to facilitate standardized collection of information necessary to inform sea turtle conservation management. Two versions of the form exist, a 4-page format and an abbreviated 2-page format, and are available in Appendix D. Users may select the form most suitable based on the postmortem condition of the turtle, and the specific needs and circumstances of a given case. The shorter version is used most frequently. Use of these specific forms is not required. Users may also use other necropsy forms, such as those developed by facilities or organizations to which they are affiliated, as long as similar data fields are clearly included.

### 7.4 Sample Request Process

Requests for samples from sea turtles necropsied by STSSN participants are managed by the State or Regional Coordinator(s) and must be covered by the applicable permitting process (varies by state). Researchers requesting samples must contact the OPR STSSN Coordination Team or the appropriate State or Regional Coordinator(s) for all states or regions of interest. The State or Regional Coordinator will then advise the preferred means of communicating requests to relevant network participants.

Samples from sea turtles that died or were euthanized during the course of rehabilitation, whole carcasses, and samples requested for educational or tribal purposes are managed by the USFWS.

Samples required for veterinary diagnosis, NMFS-led mortality investigation, NRDA, and from cases of interest to state or federal law enforcement are prioritized over samples requested for research purposes; however, all requests are met whenever feasible.

In the event that concurrent research sampling requests cannot be accommodated, OPRs Veterinary Medical Officer will work with requesting parties to seek a resolution and will ultimately determine the collection and disposition of samples.



## 7.5 Training Materials/Videos

ORPs Veterinary Medical Officer will provide training in sea turtle necropsy and sampling for the STSSN upon request by State or Regional Coordinators. In addition, a [series of instructional videos](#)<sup>12</sup> on methods for sea turtle necropsy are available from the NMFS/OPR.

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<sup>12</sup> Necropsy instructional videos are available here: <https://www.fisheries.noaa.gov/national/marine-life-distress/online-sea-turtle-necropsy-lecture-series>

## 8. Emergency Events

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Most sea turtle strandings involve a single animal, but periodically, large-scale sea turtle stranding events occur and require coordination between federal and state agencies, non-governmental organizations, academic institutions, and the public for a safe and organized response. Emergency events for sea turtles may be caused by anthropogenic factors such as oil spills, chemical spills, and illegal/irresponsible fishing practices, or they may be caused by natural factors such as extreme weather, disease, or harmful algal blooms. During these emergency events, NOAA, USFWS, state agencies, STSSN State Coordinators and partners, and the public work together to rescue and recover stranded sea turtles, with the goal of maximizing the survival rate of live stranded sea turtles while ensuring human safety and animal welfare. The following sections describe some of the most common large-scale sea turtle stranding events.

### 8.1 Cold Stunning

Cold stunning is a phenomenon that occurs when water temperatures fall below 50F/10C where sea turtles are present. Sea turtles become lethargic due to hypothermia and float at the surface. They may be washed ashore due to winds and tides, and if they are not rescued and temperatures remain low, they may develop secondary health problems, become vulnerable to predators, or die. Thousands of turtles at a time may be affected by cold-stunning events. Cold stunning is most likely to occur in shallow bays and lagoons, which are susceptible to rapid changes in water temperatures and where access to warmer water is limited or obstructed by the surrounding land. Locations of repeated and historical cold stunning events within the U.S. include Long Island Sound (New York), Cape Cod Bay (Massachusetts), Albemarle-Pamlico Estuarine System (North Carolina), Indian River/Banana River/Mosquito Lagoon complex (Florida), St. Joseph Bay (Florida), and multiple bays and lagoons in Texas. Weather forecasts and water temperatures are monitored for conditions that are likely to result in cold stunning. STSSN responders search from land and water to rescue and recover cold-stunned turtles whenever possible. Response to sea turtle cold stunning events is organized by STSSN State Coordinators in the Southeast and the NMFS GAR Stranding Coordinator in the Northeast following protocols and procedures developed for each state. NOAA staff may assist during large events or if requested by state coordinators and undertake any role necessary.

### 8.2 Oil Spill Response

The USCG or the Environmental Protection Agency serves as the Federal On-Scene Coordinator (FOSC) to oversee response to oil spills in U.S. waters. Oil spill response activities follow the Incident Command System structure specified by the National Incident Management System, modified for oil spill response by the National Response Teams; all response activities are coordinated by the Unified Command. Funding for response activities is provided through a

Pollution Removal Funding Authorization from the Oil Spill Liability Trust Fund, which is administered by the USCG's National Pollution Funds Center.

If an oil spill occurs in an area where sea turtles are known to inhabit, the FOSC requests NOAA NMFS OPR (typically through the NOAA Scientific Support Coordinator) and USFWS Ecological Services to participate in wildlife response.

### 8.2.2 Response Role

Under the Oil Pollution Act (OPA), agencies with jurisdictional authority for natural resources, which include NOAA and agencies under DOI, have three key roles as outlined in the National Oil and Hazardous Substances Pollution Contingency Plan (NCP, 40 CFR § 300.145):

- 1) Serve as scientific advisors to the FOSC, with duties including oil trajectory predictions, overflight observations of oil on water, identification of high value or sensitive habitats or resources, and shoreline surveys of oil to determine clean-up priorities;
- 2) Represent the interests of their respective Departments in oil spill response planning and decision-making through National Response Teams and Regional Response Teams. Through this process, resource agencies are involved in the development of oil spill response planning documents, including Area Contingency Plans and Wildlife Response Plans (including sea turtle and marine mammal response considerations), at both regional and area levels; and
- 3) Serve as natural resource Trustees for impacted resources and, as appropriate, conduct a Natural Resource Damage Assessment (NRDA), jointly with other Trustees (i.e., state resource agencies, tribal nations), with the goal of restoring resources and their services harmed by the spill.

### 8.2.3 Natural Resource Damage Assessment Role

Under OPA, responsibility for acting on behalf of the public lies with designated federal, state, tribal, and foreign natural resource Trustees. These Trustees are authorized to assess and restore natural resource injuries resulting from a discharge of oil, or the substantial threat of such a discharge (e.g., vessel groundings), and associated response activities. Under the National Contingency Plan, the Department of Commerce and the Department of Interior are designated as Federal Trustees for a wide variety of coastal resources, including fisheries, migratory birds, protected species, and habitats (e.g., wetlands, mangroves, mudflats, beaches, and reefs). Federal and state resource agencies serve as Co-trustees for sea turtles.

Within NOAA, NRDA is conducted by the Damage Assessment, Remediation, and Restoration Program, composed of the Office of Response and Restoration's Assessment and Restoration Division, NMFS Restoration Center, and the Natural Resources Section of the NOAA General Counsel's Office.

NMFS published [Guidelines for Oil Spill Response and Natural Resource Damage Assessment: Sea Turtles](#)<sup>13</sup> in 2019, and it provides considerations related to oil spill response activities that may impact sea turtles, including engagement of the STSSN.

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<sup>13</sup> *Guidelines for Oil Spill Response and Natural Resource Damage Assessment: Sea Turtles* are available for download here: <https://www.fisheries.noaa.gov/resource/document/guidelines-oil-spill-response-and-natural-resource-damage-assessment-sea-turtles>

## **Appendix A: 2015 Memorandum of Understanding (MOU) between NMFS and USFWS**

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See Appendix A document (6 pages) on the NMFS website, at:  
<https://www.fisheries.noaa.gov/national/marine-life-distress/sea-turtle-stranding-and-salvage-network>

## **Appendix B: USFWS Standard Conditions for Care and Maintenance of Captive Sea Turtles**

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See separate Appendix B document (22 pages) on the NMFS website, at:  
<https://www.fisheries.noaa.gov/national/marine-life-distress/sea-turtle-stranding-and-salvage-network>

## Appendix C: STSSN Application Data Entry and Verification Guide

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See separate Appendix C document (192 pages) on the NMFS website, at:  
<https://www.fisheries.noaa.gov/national/marine-life-distress/sea-turtle-stranding-and-salvage-network>

## Appendix D: STSSN Forms and Instructions

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See separate Appendix D document (74 pages) on the NMFS website, at:  
<https://www.fisheries.noaa.gov/national/marine-life-distress/sea-turtle-stranding-and-salvage-network>