

INSTRUCTIONS FOR COMPLETING STSSN STRANDING REPORT FORMS

Revised: 4 October 2021

OBSERVER'S NAME AND CONTACT INFORMATION: This is the person who documented the stranded sea turtle and who would be the best person to answer any questions about the stranding. Please provide an email address and phone number where you can be reached if we need to contact you for clarification of the reported data. Please also provide your institutional affiliation, as it will be associated with the stranding report.

STRANDING DATE: This is the date the stranded turtle was first reported or encountered. If you did not investigate it until a later date, please note that in the **Additional Comments** section at the bottom of the form. **Turtle number by day** is used to keep track of more than one turtle investigated on a single day by the same observer – your first turtle of the day is 001, your second of the same day is 002, etc. Please notify the state coordinator within 24 hours of any strandings you document and check the box describing how the state coordinators were notified.

STRANDING LOCATION: The accuracy of the stranding location is critical to the integrity of the data and the validity of the analytical products produced from them. Please provide as much detail as possible regarding the location of the stranding. **Latitude/Longitude** – if you have a GPS unit, navigation chart, or can pinpoint the location using Google Maps, please include the latitude/longitude of the stranding location. If you cannot provide accurate coordinates, please leave this space blank. Enter the county where the turtle was found (if known). Please use the comment box to provide as much detail as available about the stranding location, preferably using a street address or geographic references that can be located on a map. Good reference points are inlets, fishing piers, light houses, water tanks, etc.

SPECIES: If you are not positive of the species identification, check **Unidentified**, please do not guess.

PHOTOS: Please indicate if photos were taken. Complete photographic documentation of the stranded turtle, including any injuries or other anomalies, is the single-most important aspect of the stranding record. A complete set of photographs should accompany each stranding report. A complete photo series includes clear, focused, unobstructed views of the entire dorsal and ventral surfaces of the turtle and any injuries, entanglements, signs of disease, or other anomalies. Here, we note if there is basic photo documentation associated with the report. If **Yes** is selected for **Photos**, please indicate (by selecting the appropriate check boxes) if the dorsal and ventral aspects of the body are clearly visible in the photos. It's possible that photographs are available, but none clearly show the dorsal or ventral surface of the turtle (perhaps in the case of a floating turtle when the photographs were submitted by the public). In this case, check **Yes** for photos but do not check the boxes for either **Dorsal aspect visible** or **Ventral aspect visible**.

- Please submit photos at their original size or resolution. Do not resize photos before submitting the stranding report. Digital cameras and smartphones may have the ability to take photographs at reduced resolution. Smartphones may provide the option to or automatically reduce the size of photographs prior to their being attached to emails or text messages. Please ensure this does not occur. Consult your device's instructions to ensure high quality photos are captured.

CIRCUMSTANCES OF ENCOUNTER: We categorize strandings into various types and some of the types are then associated with a specific circumstance. Please select the appropriate **Circumstances of Encounter** corresponding to the following:

- **Traditional stranding.** This is when a dead, sick, or injured sea turtle is found washed ashore, floating, or underwater, and when it is not an incidental capture, a posthatchling, or a cold-stunning. Traditional strandings do not involve live, healthy, uninjured sea turtles.
- **Incidental capture.** This is when a sea turtle is captured directly incidental to an activity such as fishing (recreational or commercial), dredging, relocation trawling, research activities, or power plant operations.
- **Nesting related.** This is when an adult female sea turtle that has come ashore to nest becomes significantly disoriented (i.e., crawls off the beach or beyond nesting areas), trapped (and must be rescued), injured, or killed.
- **Posthatchling washback.** This is when a sea turtle is less than 10 cm curved carapace length (CCL, notch-tip; but ≥5 cm CCL). If the CCL is not measured but another carapace length measurement is taken, a posthatchling is selected as the type of encounter when any of those alternative measurements are less than 10 cm (and ≥5 cm).
- **Cold-stunning.** These turtles are usually healthy otherwise and tend to recover quickly (e.g., within days). This designation is primarily used for turtles found in areas of historic cold-stunning events (e.g., areas in and around St. Joseph Bay and areas in and around Mosquito Lagoon) and often in large groups (more than 10 individuals).

CONDITION: Record the initial condition of the stranded animal by selecting one of the following.

- **Alive.** The sea turtle was alive at the time of initial observation. Even if the turtle died after it was first reported or discovered, still select **Alive** as the Initial condition.

- **Fresh Dead or Mildly Decomposed.** In this case, you may initially question whether the turtle is alive. The carcass may have rigor mortis, but the eyes should be clear and there should be no smell of decomposition or evidence of bloating. If the carcass smells at all or is bloated, it is more than mildly decomposed (see below).
- **Moderately Decomposed.** In this case, there is a mild to moderate smell of decomposition and mild to moderate bloating and bulging eyes (if present). The soft tissue may feel spongy and the scutes and skin may be beginning to slough.
- **Severely Decomposed.** In this case, there is a foul smell and the carcass either is very distended by gas or has completely degassed (appears deflated). There is a mass of rotting flesh in areas of degassing and the scutes and skin are sloughing or missing. The limbs and carapace may be starting to disarticulate (especially upon handling) and there could be inundation by insect larvae (e.g., maggots).
- **Dried Carcass.** In this case, the carcass is completely desiccated with only dry skin and bones with little to no smell.
- **Skeletal.** In this case, the skeletal features are prominent and are disarticulating. Skin may still be present but large portions of the carcass are skeletonized.

EXAMINATION DETAILS:

- **Type of examination:** Here we document whether a stranded sea turtle was examined in-person by a trained STSSN participant or only evaluated from photos submitted by the public (or someone who was not a trained STSSN participant). Select the appropriate answer.
 - **In-person exam by STSSN participant.** A trained STSSN responder evaluated the stranded turtle in person.
 - **Evaluated from photos submitted by the public.** A trained STSSN responder did not evaluate the turtle in person, only through photographs of the stranded turtle.
- **Completeness of body (check all that apply).** Here we provide a general assessment of the completeness of the body of the stranded sea turtle.
 - **Complete.** Select if the head is not missing, none of the flippers are completely missing, and more than 50% of the shell (body) is present. If Complete is selected, none of the other three can be true (i.e., if any of the following are true, the body cannot be complete).
 - **Missing head.** Select if the entire head was missing.
 - **Missing all or most (>50%) of one or more flippers.** Select if one or more flippers were entirely or mostly (50% or more) missing.
 - **Missing 50% or more of shell (body).** Check if the carapace or plastron was entirely or mostly (50% or more) missing.
 - **Not determined.** Check if exam or photos are insufficient to determine the completeness of the body as described above.
- **Mouth checked.** Opening and carefully examining the stranded turtle's mouth (oral cavity) is an easy and useful addition to a standard external examination. For example, one or more hooks may be present in the mouth of a stranded turtle and this important finding may go undocumented if the oral cavity is not examined.
 - **Yes.** Select if the mouth was opened (or already opened) and the oral cavity was examined.
 - **No.** Select if the mouth was not opened (or already opened) and the oral cavity was not examined.
 - **Unknown.** Select if it is unknown whether the oral cavity was examined.

TAGS: All strandings should be thoroughly evaluated for the presence of external tags, tag scars, PIT tags, living tags, and tracking or transmitting equipment. Any stranded sea turtle with a tag should be considered for salvaging. Please consult your STSSN coordinator.

- **Flipper tags.** Three spaces are provided to enter tag numbers and the location of each tag (e.g., front left flipper). A close-up photograph in which the tag number is legible should be taken and submitted for each flipper tag.
- **PIT tags.** Ideally, all stranded turtles should be scanned for PIT tags. At the very least, any turtle with a flipper tag scar should be scanned. When entering a PIT tag ID, include any hyphens that are shown on the screen of the PIT tag scanner and note the location of the PIT tag. A close-up photograph in which the PIT tag ID is legible on the screen of the PIT tag scanner should also be taken and submitted.
- **Living tags.** Living tags are skin grafts from the lighter colored plastron to the darker colored carapace and vice versa. Living tags appear as circular or elliptical whitish spots on the carapace and as dark spots on the plastron. A turtle with a living tag on the carapace should have at least one on the plastron. Select **Yes** or **No** depending on whether this seems to be the case. It is important to note which scutes on the carapace and plastron have living tags on them. Living tags must be photographed. Contact your STSSN coordinator before disposing of a stranded turtle with a living tag.
- **Tracking gear.** Tracking gear includes satellite, sonic, or radio transmitters. Satellite and sonic transmitters are usually on the highest portion of the carapace, but sonic transmitters may be placed along the margin of the carapace. If found, describe the tracking gear and where it was located. If you find a stranded sea turtle with tracking gear, do not attempt to

remove the equipment from the turtle. Please consult your STSSN coordinator to determine whether the turtle should be salvaged.

MEASUREMENTS: Curved measurements follow the contours of the carapace while straight measurements are flat. Curved measurements are made with a nonmetal (vinyl), flexible tape measure while straight measurements are made with calipers. There are two carapace length measurements and one carapace width measurement. One of the carapace length measurements is made from the nuchal notch to the posterior marginal tip and the other is made from the nuchal notch to the posterior notch (see adjacent diagram on the reporting form). The carapace width measurement is made at the widest point of the carapace and is perpendicular to the midline of the carapace. Curved carapace measurements should be made on every stranded sea turtle with an adequately intact carapace. Straight carapace measurements are optional except in the case of a turtle with a flipper tag or a PIT tag, or with tracking gear. If the carapace measurements were estimated, please describe how the estimates were made. Be sure to note the unit of measurement (centimeter or inch).

WEIGHT: If the turtle was weighed using a scale, record the weight and the unit of measurement (kilogram or pound).

TAIL MEASUREMENT: Indicate whether the tail extended past the carapace by at least 5 cm (2 inches) in the case of a Kemp's ridley or olive ridley, at least 10 cm (4 inches) in the case of a loggerhead, green turtle, or hawksbill, or at least 15 cm (6 inches) in the case of a leatherback. If so, tail length should be measured from the posterior marginal tip of the carapace to the tip of the tail using a flexible measuring tape. Be sure to note the unit of measurement (centimeter or inch).

FATE OR FINAL DISPOSITION:

- If the turtle was alive, indicate whether the turtle was immediately released, unable to be recovered, or taken to a rehab facility. If the latter, provide the facility's name. If the turtle died prior to reaching the rehab facility, mark that check box.
- If the turtle was found dead or died prior to reaching the rehab facility, indicate whether the turtle was left where found; buried, rendered, or otherwise disposed of; or if the turtle was salvaged. If the turtle was left where found, indicate whether the turtle was marked and describe the mark. If the turtle was salvaged indicate where the remains were stored and whether this was done to conduct a necropsy or for another reason.

ANTHROPOGENIC MATERIAL: This section is used to document any man-made (i.e., anthropogenic) material that was found associated with the stranded turtle during the external examination, including anything found in the mouth (oral cavity). If there was an injury indicative of an interaction with anthropogenic material but that material was no longer present, do not document that in this section, document it in the section on **Injuries**. Anthropogenic material of interest in this section does not include research-related items that were purposely attached to the turtle as part of a study (e.g., satellite transmitter, flipper tag). Any anthropogenic material that was found should be documented by photographs. The photographs should clearly show all aspects of the material and include a scale marker (particularly in the case of fishing gear). If a turtle is found entangled in netting, stretch-out and photograph all aspects of the netting. All fishing gear found associated with a stranded turtle should be collected. Please consult your STSSN coordinator before disposing of any anthropogenic materials found associated with a stranded turtle. If no anthropogenic material as described was found, check **No** at the top of this section and skip to the next section (i.e., in this case, you do not need to check **No** for each question in this section). If anthropogenic material was found, please answer each question in this section and use the check boxes to note the location of any material. Refer to Figure 1 for body locations.

INJURIES: This section is used to specifically document external injuries of significance to sea turtle conservation and recovery based on potential association with the cause of stranding, indication of human interaction, or implication on health and fitness. This includes any healing or healed wounds that are identifiable as any of the injury types included in this section. All Injuries reported in this section should be photographically documented. The photographs should clearly show all injuries and include a scale marker. If no injuries of note were externally evident, check **No** at the top of this section and move to the next section. Also select **No** if an injury was only minor and nonspecific (e.g., notch in the webbing of a flipper, notch along the carapace margin, abrasions involving the shell) or if there were parts missing (e.g., head, flippers) that were attributable to scavenging. A common scenario is that the head or flippers were missing without clear evidence of shark bites or other significant injury defined herein. For this scenario, enter which parts were missing under **Completeness of Body** and select **No** for Injuries.

Select **Yes** if any injuries matching the following descriptions were found. Do not document the same injury in more than one place. For example, if you believe an injury was from a vessel-strike, only answer **Yes** to the question about **Definitive Vessel-Strike Injuries**, do not also answer **Yes** to the question about **Blunt Force Injuries** or Perforating or **Penetrating Wounds** to describe the same injury. Refer to Figure 1 for body locations.

- **Definitive vessel-strike injury.** This is a discrete linear or curvilinear chop wound (Figs. 2-5). In stranded sea turtles, these wounds are almost always created by the propeller, skeg, or rudder. A typical example is a series of parallel chop wounds caused by a vessel propeller (although a single chop wound is also common). An important feature is that bone and other tissue are destroyed as the propeller or other sharp components pass through it, leaving a gap (sometimes this gap is very narrow). Alternately, parts of the head, appendages, or shell may be sheared away (sometimes the body can be cut in half).
- **Blunt force injuries.** These injuries can also result in fractures of the head, carapace, or plastron, and often involve large or discrete areas of the body, depressing (crushing) the fractured bone, lacerating (tearing) the skin, and/or resulting in exposure of organs or soft tissue (Figs. 6-8). Blunt force injuries often accompany definitive vessel strike injuries. For example, there may be extensive blunt force injuries with only some remnants of chop wounds noticeable beyond the extent of blunt force injuries. If any chop wounds are evident, select **Yes** for **definitive vessel-strike injuries** and **No** for **blunt force injuries** (even though these latter injuries might also be evident). Select **Yes** for **blunt force injuries** only if evident and no indication of a chop wound is seen.
- **Shark-bite injuries.** Shark-bite injuries are characterized by sharp incisions, typically observed as multiple adjacent wounds (Figs. 9 and 10). Common features include deep scoring of bone and soft tissue, amputation or removal of body parts, or wounds created in a semicircular pattern. Answer **Yes** to this question if these types of injuries are evident.
- **Amputation of unknown cause.** Answer **Yes** to this question if the sea turtle is missing 50% or more of at least one flipper and the site of amputation shows signs of healing or is healed. This section is used to document antemortem amputations (i.e., those in turtles found alive or with visible inflammation/healing response) that lack distinctive features that clearly indicate the cause. Loss of a flipper due (or possibly due) to decomposition should not be recorded as an amputation. If the amputation can be specifically attributable to a cause such as entanglement or a shark bite, and is noted elsewhere, do not note it here (answer **No** to this question).
- **Incised wound.** These are wounds inflicted by humans and may occur under circumstances such as malicious injury, postmortem specimen collection, or butchery of turtles for meat (Fig. 11). This category includes injuries that are cleanly incised as created by a knife or other sharp instrument. In general, these cuts tend to be longer and more continuous than those created by shark bites and the margins are cleanly cut (not tattered) compared to injuries caused by other scavengers. Common patterns include incisions made to remove the plastron, appendages, head, or specific parts of soft tissue, or inflicted across the neck.
- **Perforating or penetrating wound.** A perforating or penetrating wound is deeper than it is wide (Fig. 12). Penetrating wounds extend into tissues whereas perforating wounds pass all the way through the affected structure. In lay terms, these are often described as “holes” in a body part or tissues. Causes observed in sea turtles include wounds created by projectiles (firearms, spearguns), sharp manmade objects such as fishing hooks and gaffs, and objects from nature such as fish bones, stingray barbs, and sea urchin spines.
- **Entanglement wound.** This refers to depressions or wounds that partially or completely encircle the neck or appendages as caused when linear material becomes wrapped around part of the body (Fig. 13 and 14). In more severe, chronic (long-term) injuries to flippers, the area distal to the injury may be swollen or the skin and deeper tissues may be discolored or detaching. This wound category documents this injury only in cases where the causative material was no longer present (i.e., not documented in the **Anthropogenic Material** section).
- **Beak furrow.** This is a smooth, rounded indentation along the edge of the beak (usually on the upper beak near the jaw hinge) and can occur when the turtle ingests a linear foreign object such as fishing line and then pulls against it (Fig. 15). As with an entanglement wound, this wound category documents this injury only in cases where the causative material was no longer present (i.e., not documented in the **Anthropogenic Material** section).
- **Other injury.** Select **Yes** if there is any other injury that may have contributed to the cause of stranding, resulted from human interaction, or significantly compromised health and fitness, and that has not been previously captured in any other section. This includes major chronic or healed injuries (e.g., loss of large portions of the shell, skeletal fractures) of uncertain cause. Select **No** if this is only a minor, nonspecific injury such as a notch in the webbing of a flipper or along the carapace margin.

DISEASES AND LEECHES: This section is used to specifically document external evidence of disease or possible disease. This includes the presence of externally visible masses such as the tumors associated with fibropapillomatosis, skin lesions, and leeches or leech eggs. Anything reported in this section should be photographically documented. The photographs should clearly show all features noted and include a scale marker. If none of these indications of disease were evident, check **No** at the top of this section and skip to the next section. Check **Yes** if any of these indications of disease were found.

- **Fibropapilloma-like tumors.** These masses typically have a papillary or cauliflower-like (verrucous) surface attached to the skin by a broad or narrow base (Figs. 16 and 17). The surface also may appear smooth or ulcerated. These tumors exhibit various degrees of pigmentation, from pink to black and may be less than a cm to many cm in size. If present, note if any have a papillary texture or are evident on the eyes or in the mouth (Fig. 18).

- **Non-fibropapilloma-like tumors.** This includes any tumor-like growth involving the skin that does not have the features of a fibropapilloma-like tumor. This includes other types of tumors, which are rare in sea turtles, as well as abnormalities that likely are not true tumors (i.e., that are non-neoplastic), such as aberrant accumulations of scar tissue or inflammatory material (e.g., abscesses). A common feature of these apparent tumors is that their external appearance is one of a space-occupying mass that extends from or upheaves the skin but does not have the characteristics of a fibropapilloma-like tumor or is not obviously associated with an identifiable injury. These include masses where the overlying skin exhibits normal coloration and scales (Fig. 19).
- **Skin lesions.** Skin lesion is a general term for any abnormality of the skin. Here, we document abnormalities that manifest as inflammation or ulceration of the skin, which can occur as a result of trauma, due to organisms that live on the skin, or because of infections by bacteria, fungi, or viruses. Do not note skin lesions here that are associated with injuries, such as shark bites, that were noted in a previous section. **Superficial crusts** are recognizable as areas of the skin with a yellow- or tan-colored crust (Figs. 20 and 22). In lay terms, **deep lesions** could be described as open sores that expose tissue below the skin (Figs. 21 and 22).
- **Leeches.** Adult leeches attach to the skin of sea turtles and suck blood. They tend to be found in the corners of the mouth, around the cloaca, on the neck, and around the base of the flippers (Fig. 23). They are typically 1-2 cm in length and are pinkish in color. Their eggs are found as patches of brown, circular cocoons that adhere to the skin, especially on the plastron and the undersurfaces of the carapace and flippers (Figs. 23 and 24).

ADDITIONAL COMMENTS: Record any additional information that you have about the stranding here. You do not need to repeat any information that was entered elsewhere in the report.

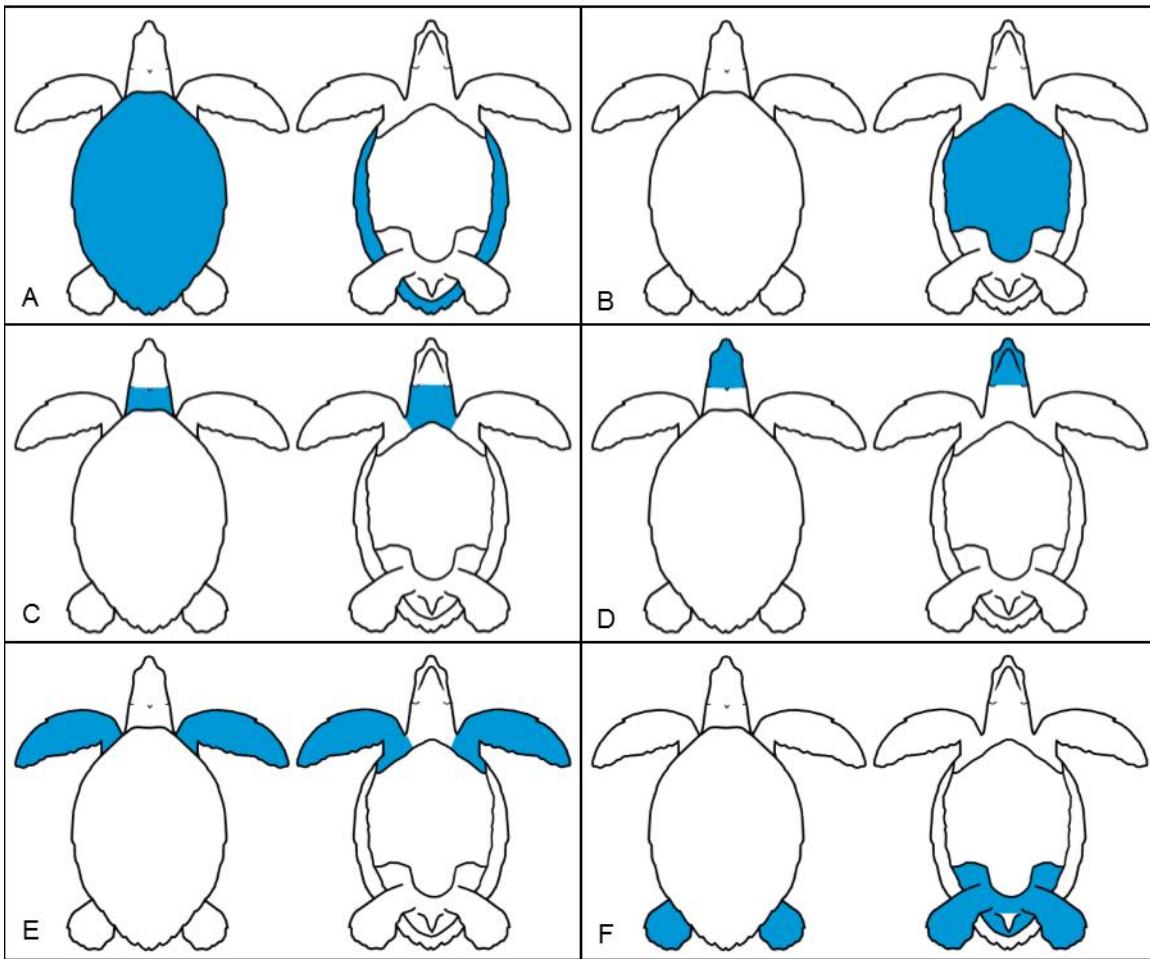


Figure 1. Body area categories used when describing the location of external anomalies. (A)*Carapace*- includes the ventral portion of the marginals. (B)*Plastron*. (C)*Neck*- includes the region between the carapace and the skull (dorsally) and the plastron and the skull (ventrally). (D)*Head*- includes all external surfaces over the skull. (E)*Front Flippers*- includes the shoulders and the axilla (armpits). (F)*Rear Flippers*- includes the prefemoral (inguinal) areas. Not shown here are the *Mouth* (the oral cavity; this is an internal surface but should be included in an external examination) and the *Tail*.

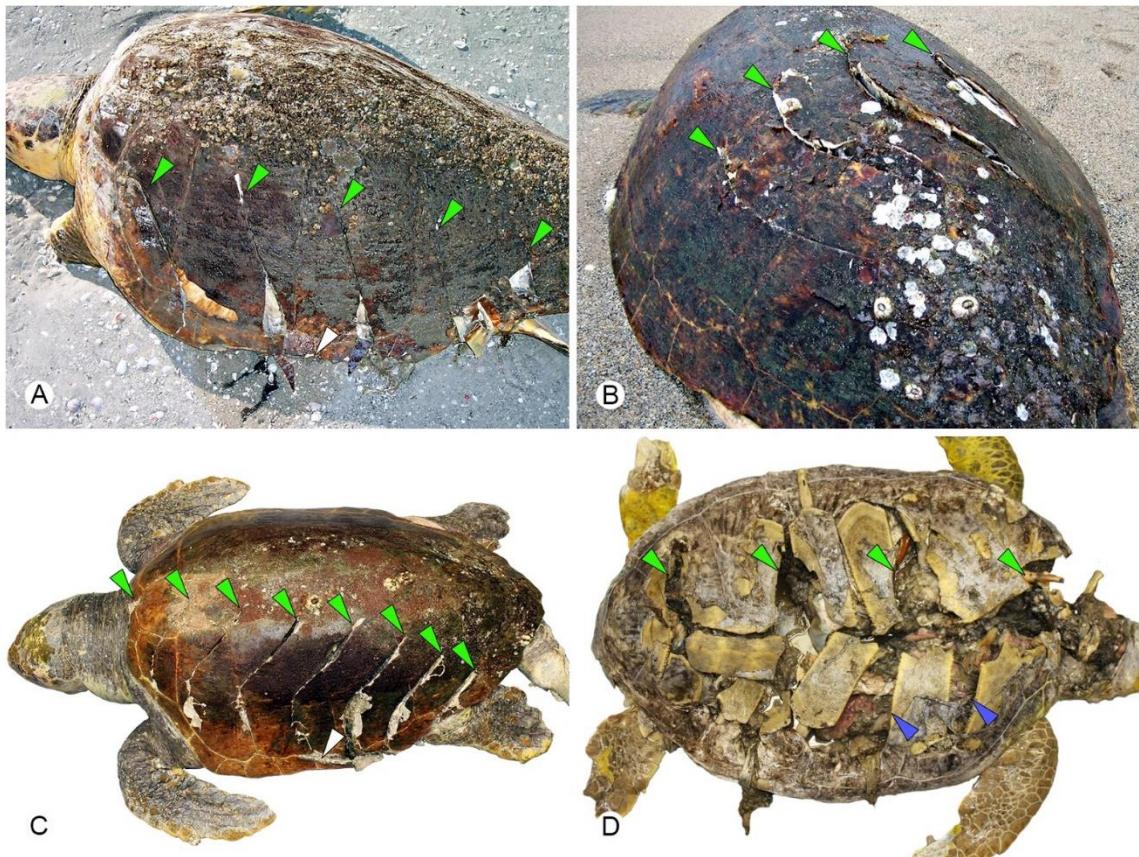


Figure 2. Examples of definitive vessel strike injuries. These examples show multiple parallel chop wounds caused by boat propellers. The depth and angle of penetration into the body and characteristics of the propeller influence whether the wounds are straight (A), curved (B), or sigmoidal (C). (D) Propeller wounds can be detected even if the carcass is coming apart due to fractures or decomposition. However, it is important to distinguish chop wounds (green arrowheads) from postmortem separation of shell bones (disarticulation) resulting from decomposition (blue arrowheads).

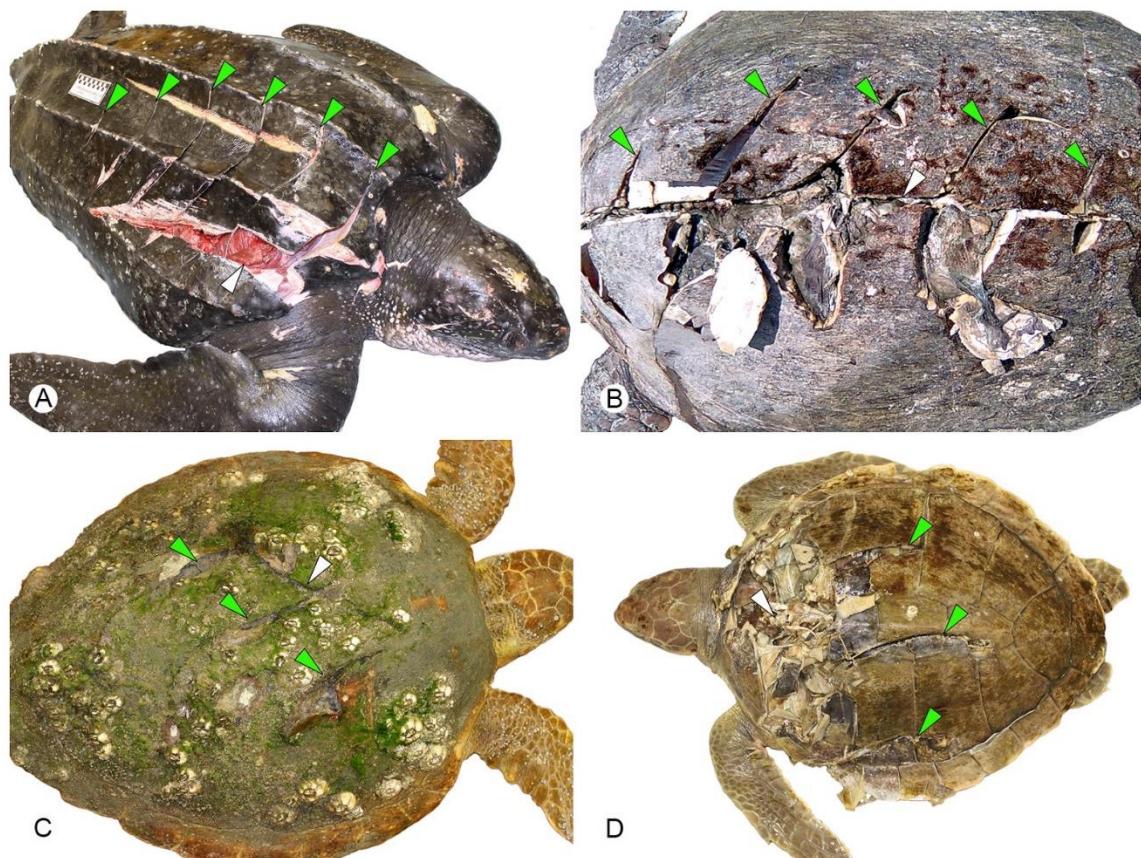


Figure 3. Examples of definitive vessel strike injuries. These examples show typical injuries caused by boat propellers and skegs or rudders. Boat propellers cause multiple parallel chop wounds (green arrowheads). Rudders or skegs produce linear sharp and blunt injuries (white arrowhead) that intersect or border those caused by the propeller. Skeg or rudder injuries may be offset from, as shown in (A–D), or centered on the propeller wounds (B).

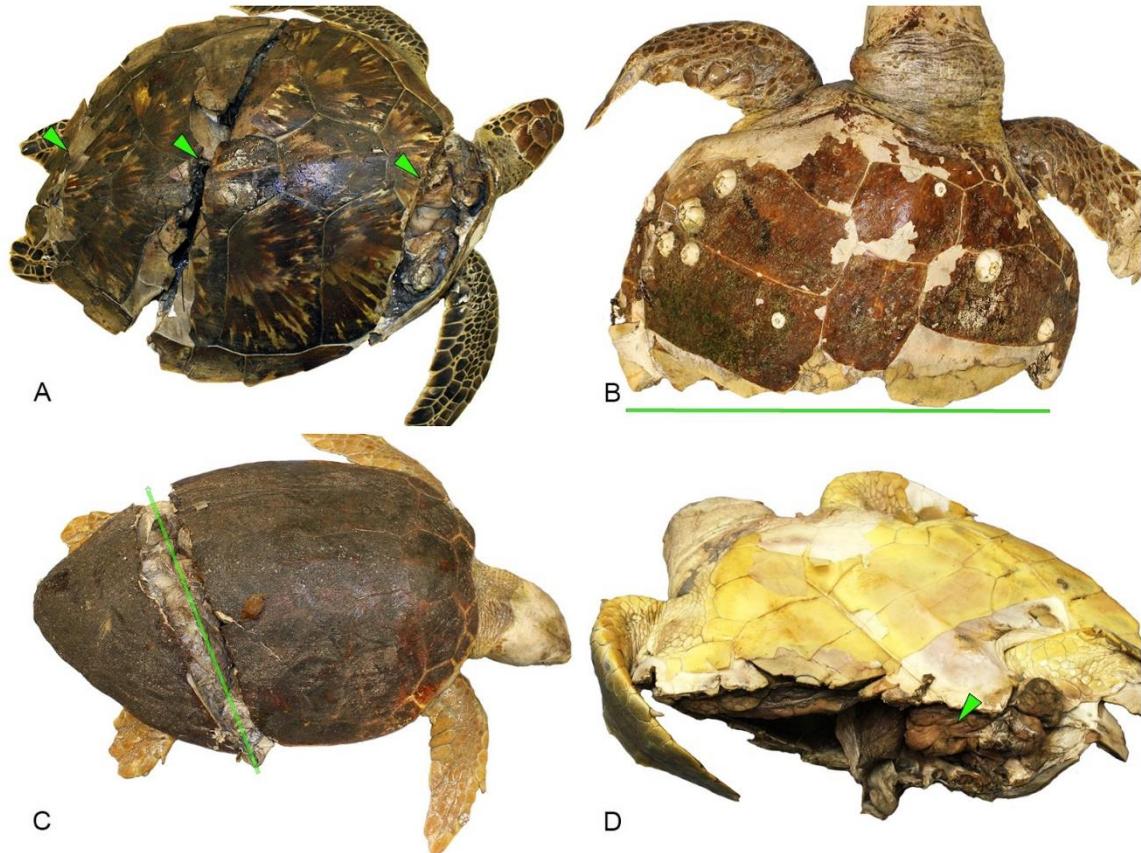


Figure 4. Examples of definitive vessel strike injuries. These are examples of wounds caused by large propellers. Large propellers can have greater distance between the strikes, as shown in (A), or may completely transect turtles as shown in (B–D). A key feature of single large propeller strikes shown here is the straight wound path (green line).

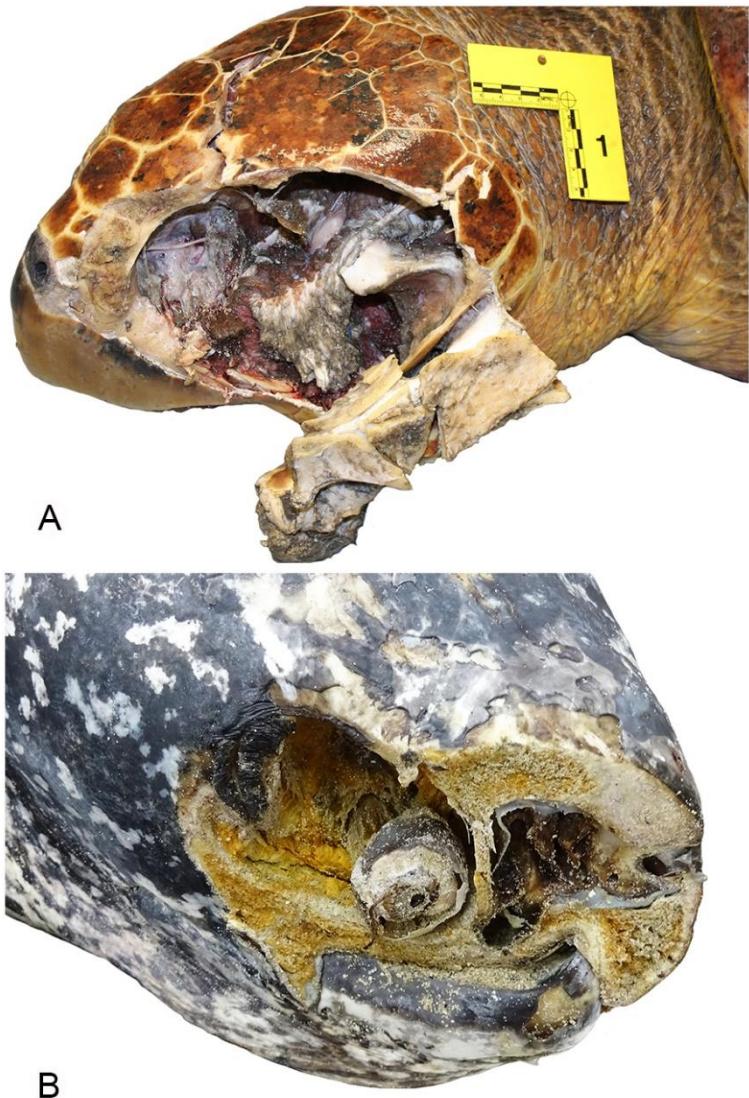


Figure 5. Examples of definitive vessel strike injuries. Single or oblique chop wounds can occur on the head without necessarily striking the body. Note how cleanly the bone is cleaved away in these injuries, like the shell wounds shown in earlier examples.

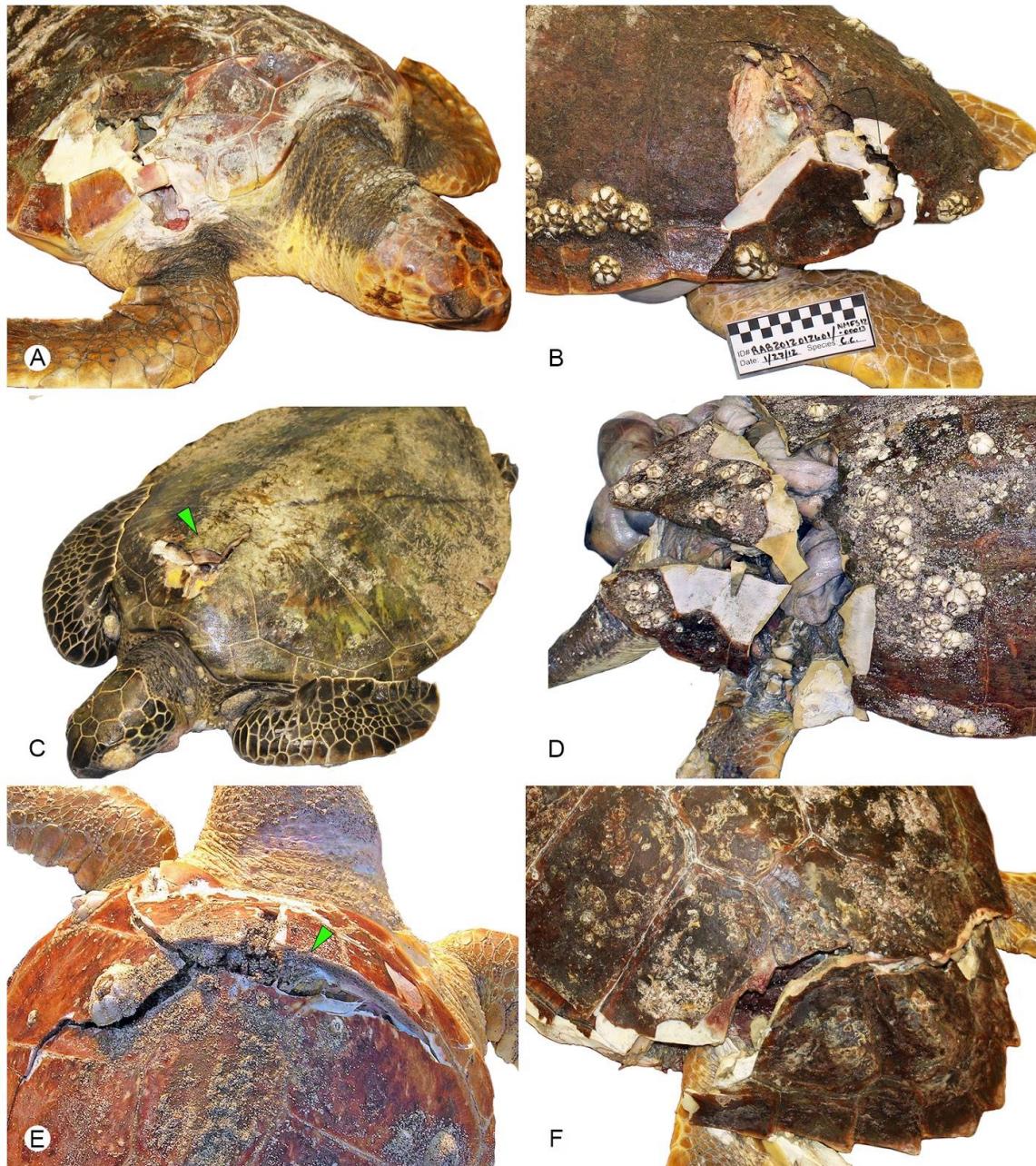


Figure 6. Examples of blunt force injuries. Blunt force injuries are defined in the STSSN database as fractures (often depressed) and associated tearing of the skin involving the large or discrete areas of the head or shell. These are mostly commonly attributable to being struck by blunt parts of vessels. Note that all these examples lack the discrete chop wounds caused by rotating propellers, skegs, or rudders.

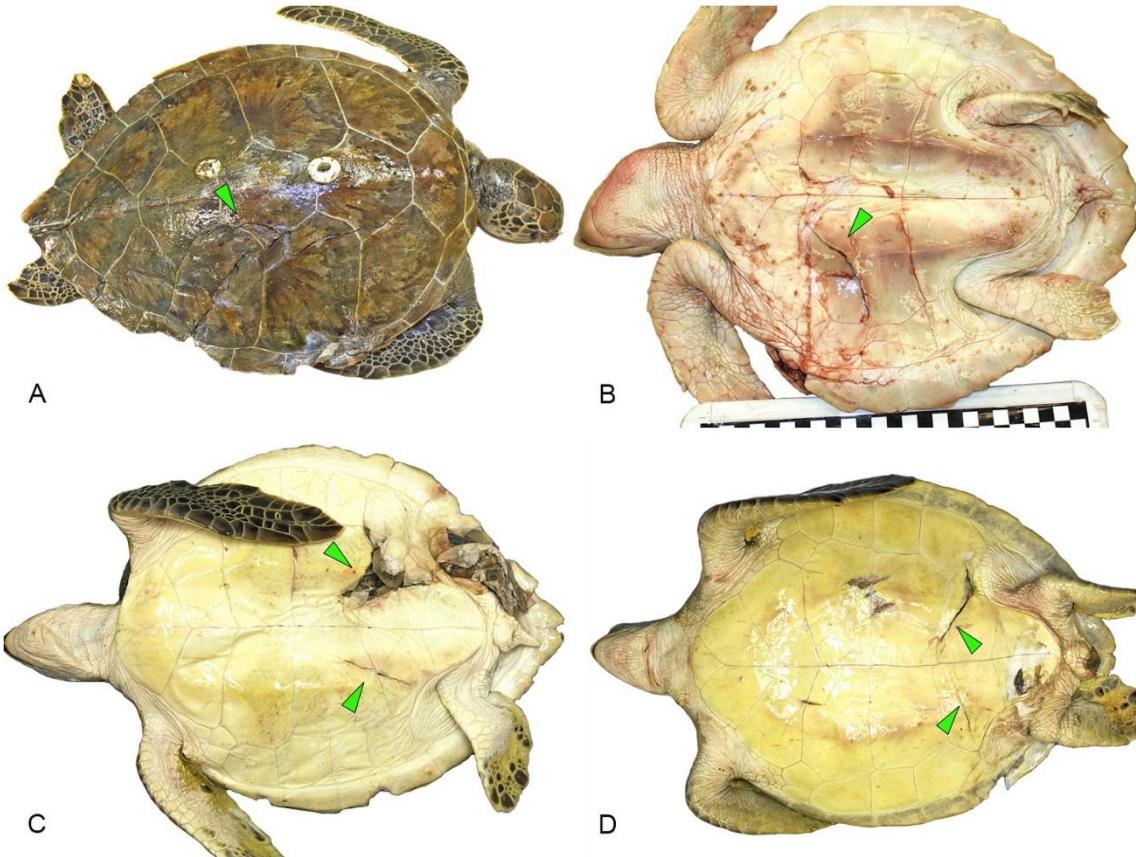


Figure 7. Examples of blunt force injuries. (A) Fractures of the shell may radiate out from the area of impact and can resemble curved chop wounds. However, note the absence of a clearly identifiable wound path as shown in examples of definitive vessel strike injuries. (B-D) Blunt trauma frequently results in fractures of the plastron bones.



A



B



C

Figure 8. Examples of blunt force injuries. These can occur on the head as well as the body. As in the previous examples, there are multiple fractures that tend to be depressed by the blow. The wounds generally appear messier or less defined than those shown for definitive vessel strike injuries.

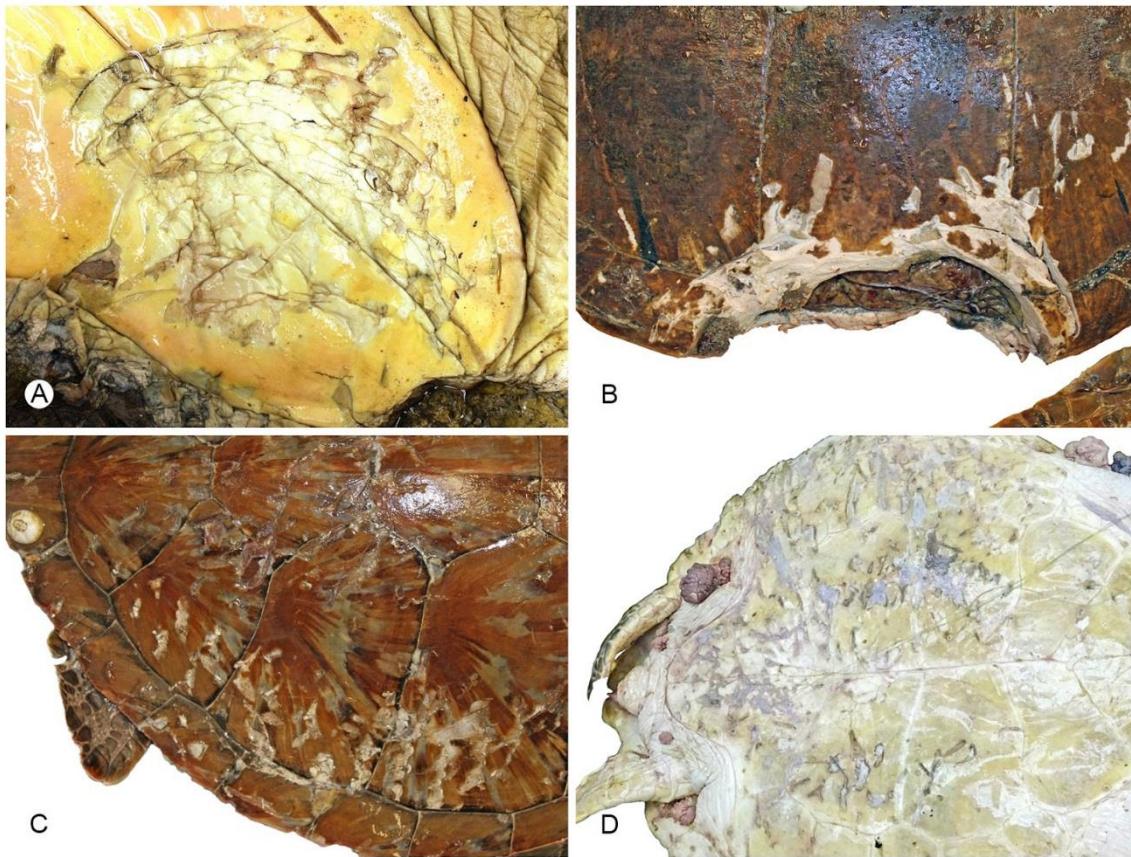


Figure 9. Examples of shark bite wounds on the body. (A) Shark teeth are very sharp and cleanly cut into the skin and soft tissue, causing multiple adjacent, often curved or semi-circular wounds. (B) Tissue may be removed in a typical semi-circular pattern. (C) The sharp teeth will shred the scutes of the shell and created grooves in the underlying bone. This is a typical example of a bite wound along the margin of the carapace. The corresponding other half of the bite wound may be on the lower shell (plastron) or the other side of carapace. (D) With older wounds, the same pattern may be recognizable despite healing, as in this example.

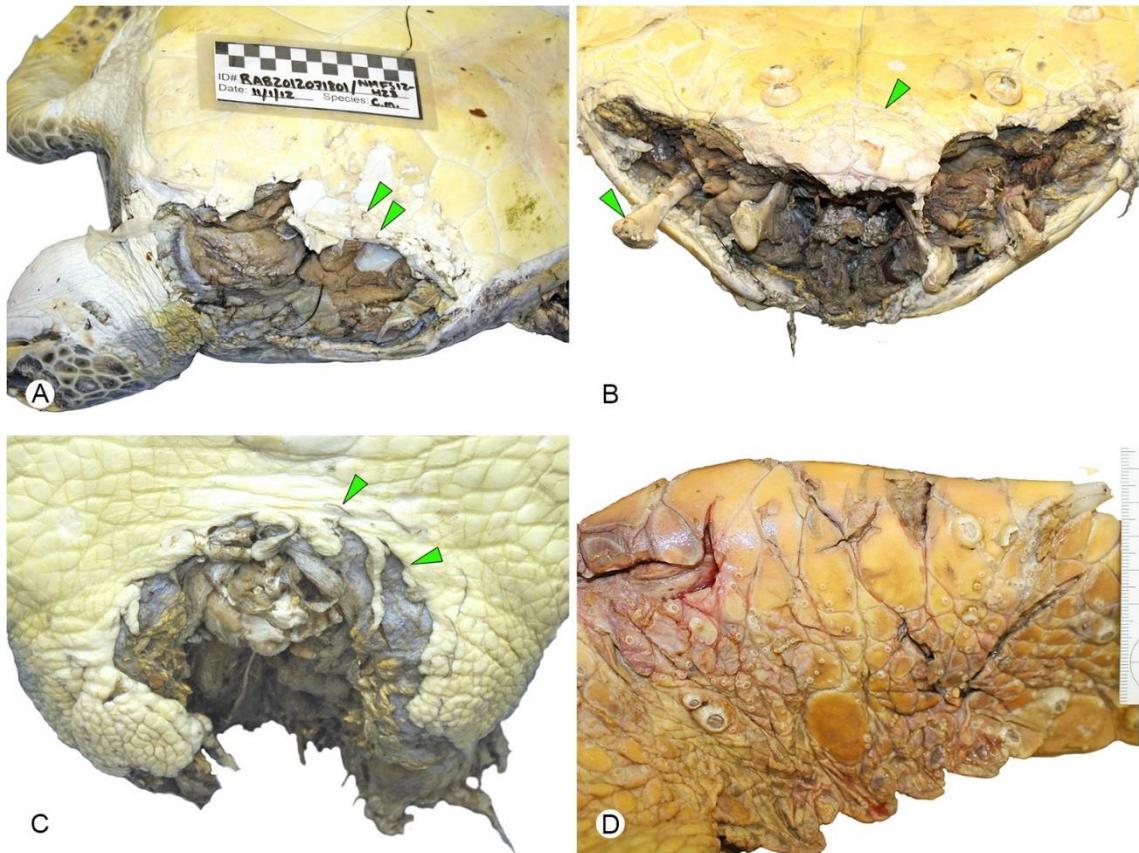


Figure 10. Examples of the shark bite wounds involving the head, neck, and appendages. (A) The sharp teeth cleanly remove limbs or tissue. Often individual tooth marks are visible at the margins (arrowheads). (B) Sharply incised teeth marks and cuts in exposed bone and on the skin (arrowheads) are telltale indications of shark bites. (C) Sharks may remove the entire head; note the shredded wound margins caused by sharp teeth. (D) Sharks may “sample” bite potential prey or bite multiple times to get a hold of a turtle or appendage; this can cause multiple overlapping wounds with different orientations. The key feature is series of multiple sharp wounds created by their teeth.

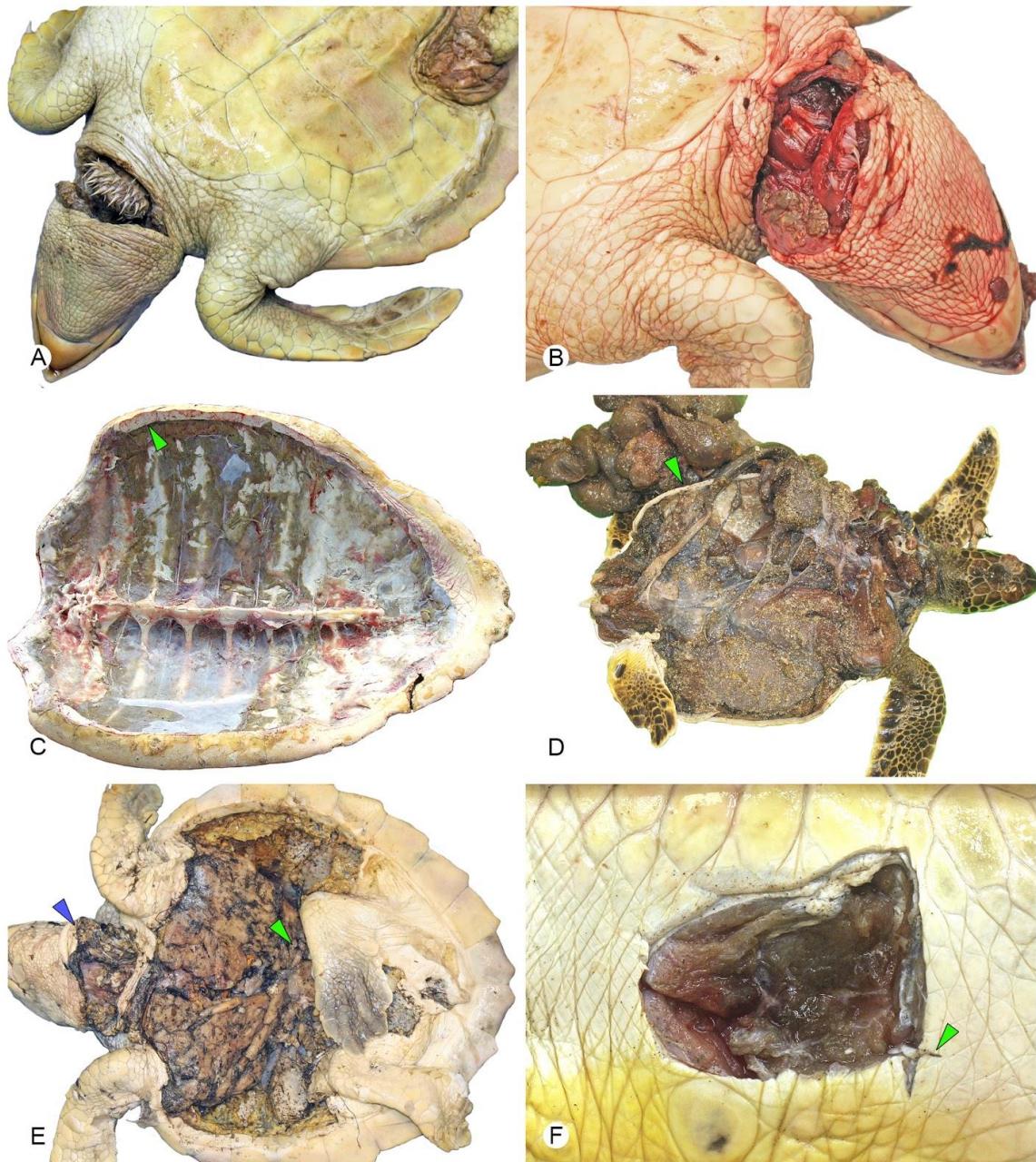


Figure 11. Examples of incised wounds and mutilation created with knives or other cutting instruments. (A, B) Sharply incised wound across the neck. Note the cleanly cut margins. (C) The carapace that has been separated from the body and much of the soft tissue has been removed. Note the cleanly cut surfaces where the plastron was cut away (arrowhead). (D) Example of remains after the carapace has been removed. Clean cuts (arrowhead) around the plastron are visible. (E) The plastron in this turtle has been cleanly cut away (green arrowhead). Note another suspicious incised wound across the neck, like those seen in (A) and (B). (F) Skin and muscle cut away from the flipper. Note the intersection of cuts (green arrowhead), which can be indicators of an intentional human-caused wound.

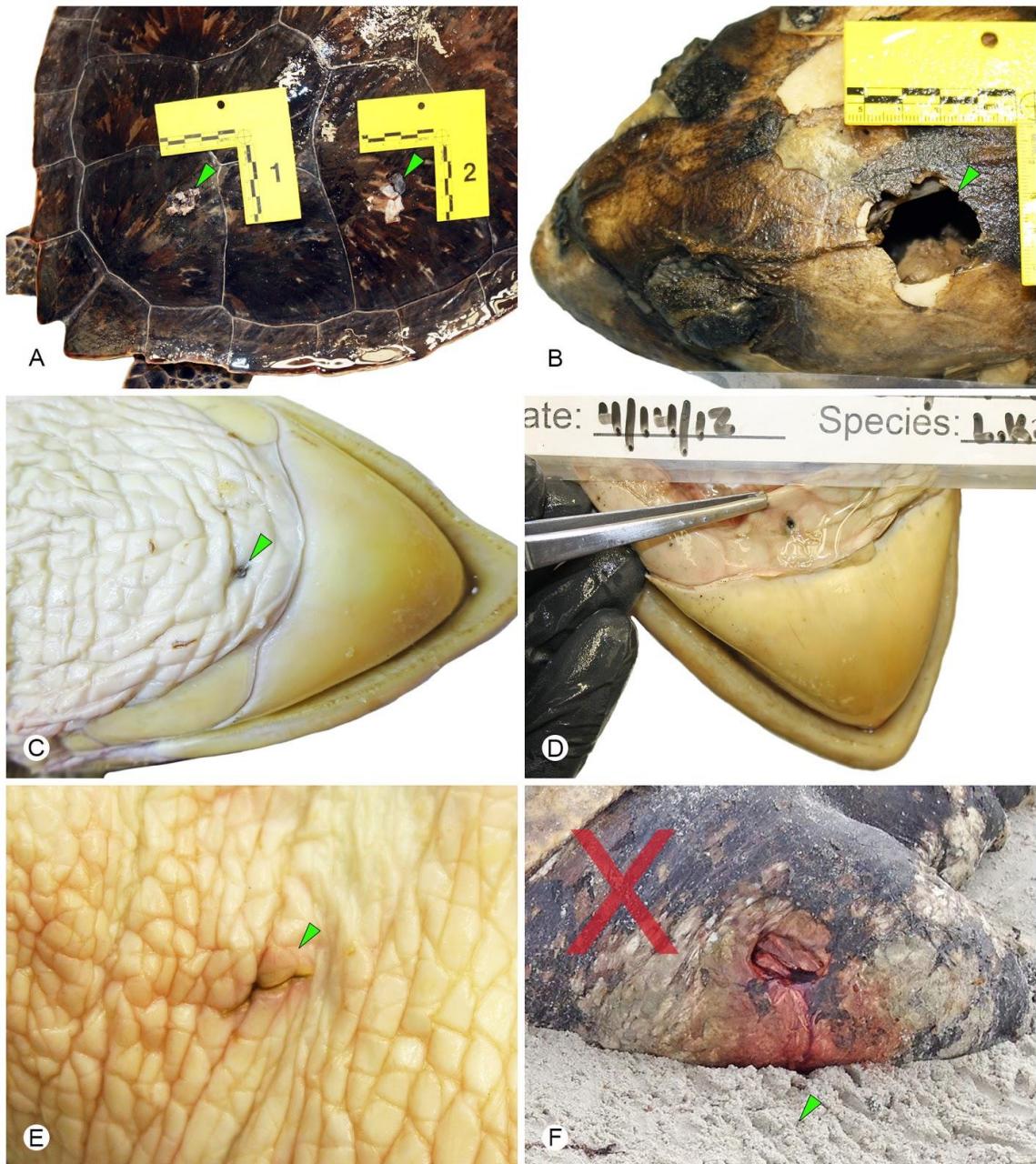


Figure 12. Examples of penetrating and perforating injuries. Penetrating and perforating injuries are deeper than their diameter. Perforating wounds pass through a structure whereas penetrating wounds do not exit the affected anatomy. (A) Two penetrating wounds in the carapace. (B) Penetrating wound in the head. (C, D) penetrating wounds in the lower jaw area. (E) Close-up of another penetrating wound. (F) Do not document injuries that are suspected or known to have been caused by scavengers as determined by field observations or necropsy. Note the bird tracks (arrowhead) in this example.

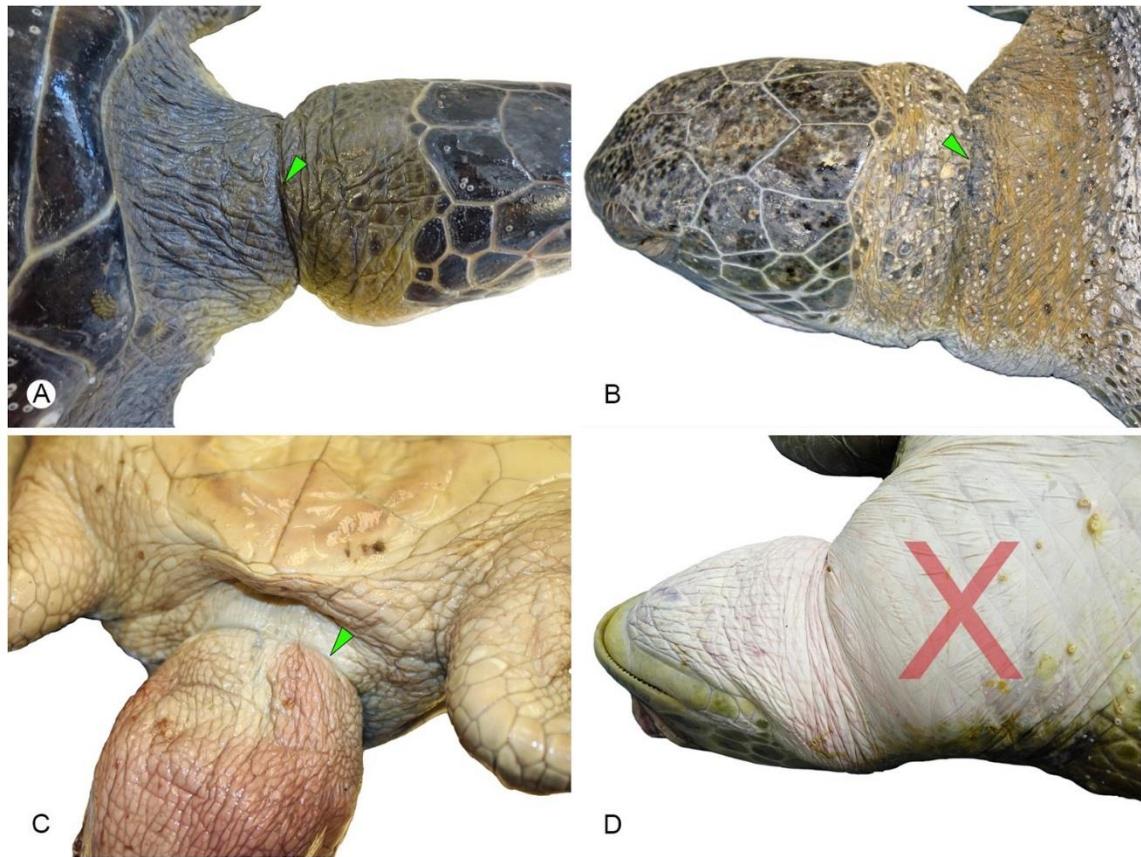


Figure 13. A-C. Circumferential depressions around the neck caused by entangling material. The thickness, characteristics, tightness, and duration of the entangling material influence the appearance of the wound. (A) and (C) are examples of wound from finer material, such as fishing line. Thicker material may cause a depression as shown in (B). (D) Do not confuse creases in the skin created by position of the carcass or bloating. Only document an entanglement type injury if a mark or wound are clearly visible.

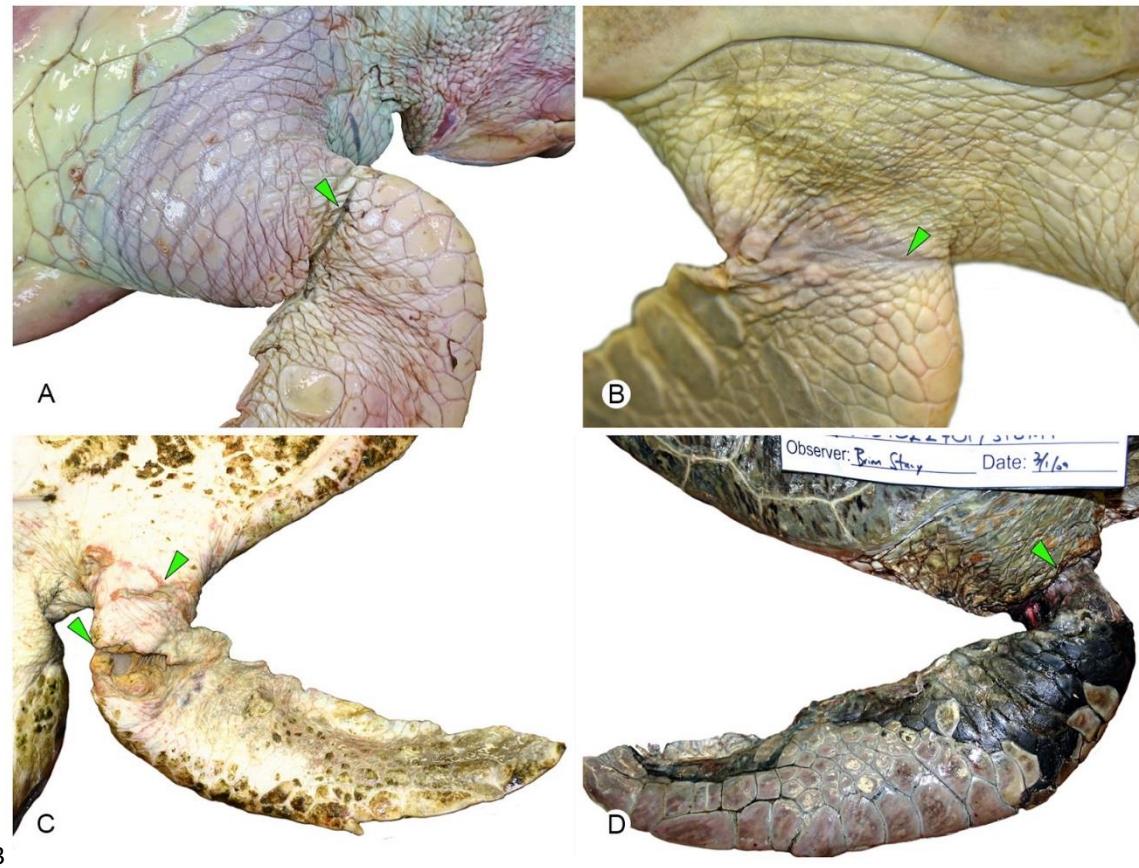


Figure 14. A-D. Circumferential depressions and wounds around flippers caused by entangling material. The thickness, characteristics, tightness, and duration of the entangling material influence the appearance of the wound. (A) and (B) are examples of more recent wounds or without further damage to the skin or compromised circulation. (C) The material cut into the skin and muscle, exposing bone. (D) In this example, blood flow was cut off or reduced, causing death of tissues distal to the constriction. Note how the skin is darkly discolored and detaching compared to the skin above the ligature (arrowhead).

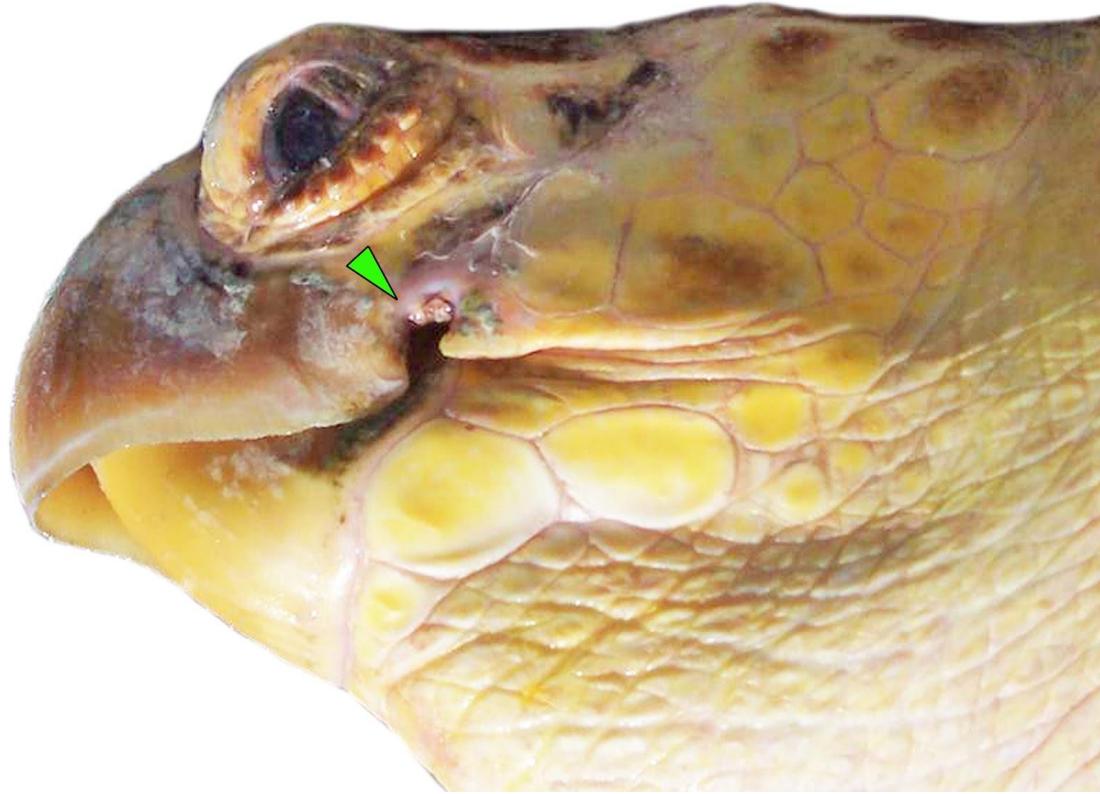


Figure 15. A furrow at the corner of the mouth due to ingested trailing line or other linear foreign material.

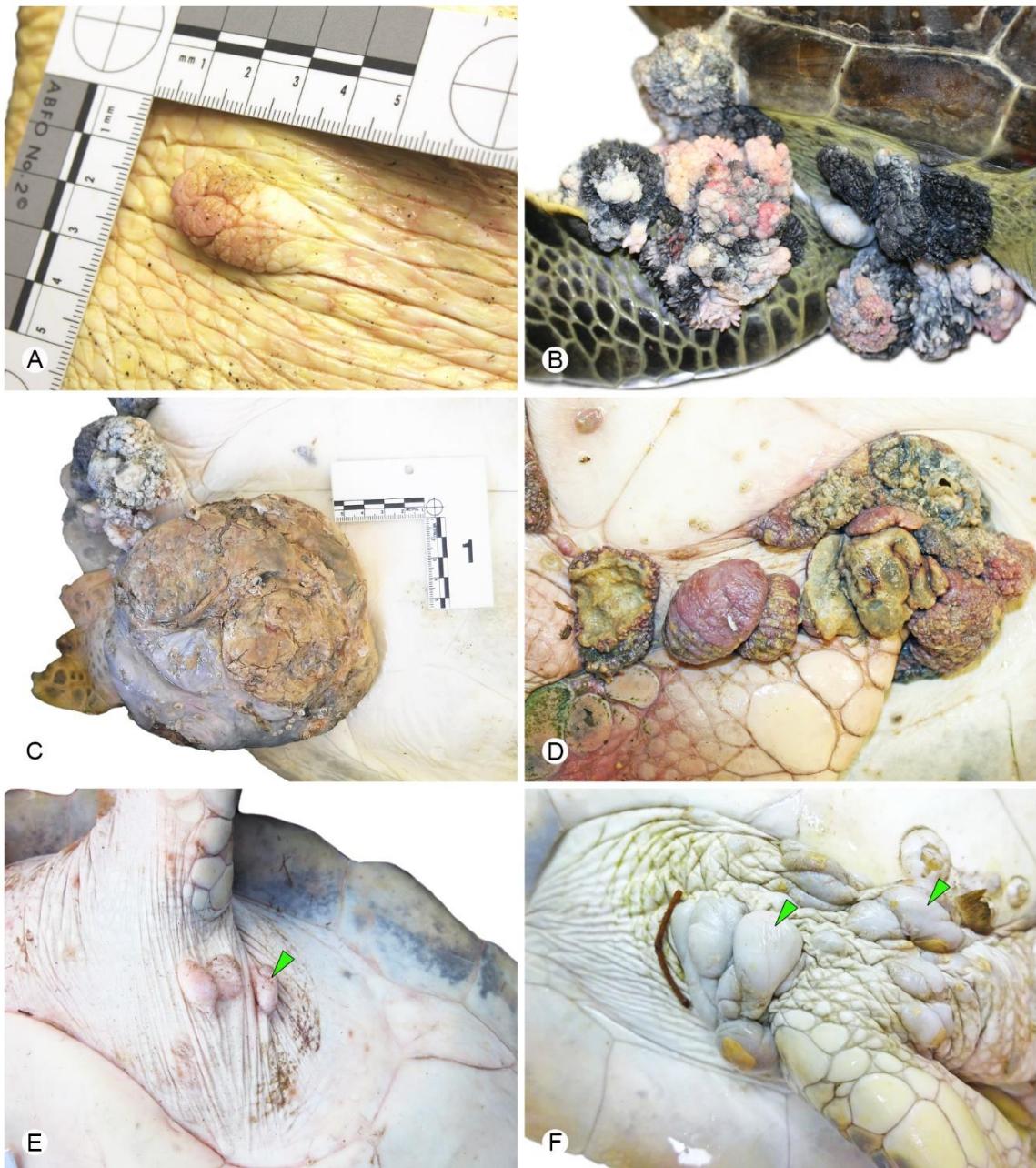


Figure 16. Examples of fibropapillomas in sea turtles recorded in the STSSN database as “fibropapilloma-like tumors.” (A) Single tumor with a verrucous (cauliflower-like) surface and broad base. (B) Multiple tumors showing variation in coloration, including non-pigmented (white) tumors and darkly pigmented (black) tumors. (C) Tumors vary in size and can be ulcerated. Shown is a large tumor (and multiple adjacent smaller tumors). (D-F) Tumors also may have a smoother surface as shown in these three examples. If the surface lacks the normal scale pattern of the skin, as shown here, it is recorded as fibropapilloma-like tumors. If the skin overlying a mass has scales and is very similar to the surrounding skin, it is recorded as a “non-fibropapilloma-like tumor.”

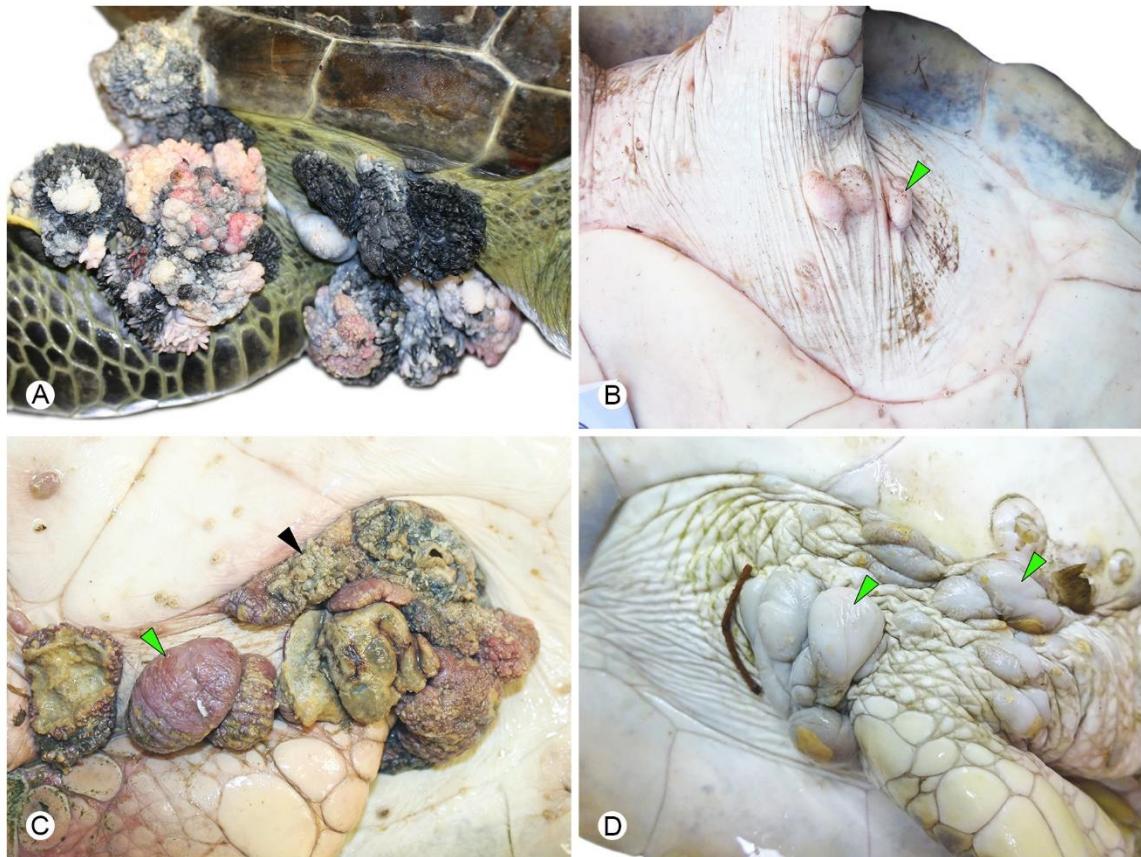


Figure 17. Examples of surface texture of fibropapilloma (FP) tumors. In general, most FP tumors will have a papillary texture. (A) An example of multiple tumors with a papillary texture. (B) In this example, the surfaces of these FP tumors are more rounded, but you can still see some irregularity. (C) There are FP tumors with both smooth (green arrowhead) and papillary (black arrowhead) surfaces. (D) All of the FP tumors clearly have a smooth surface (none with a papillary texture).

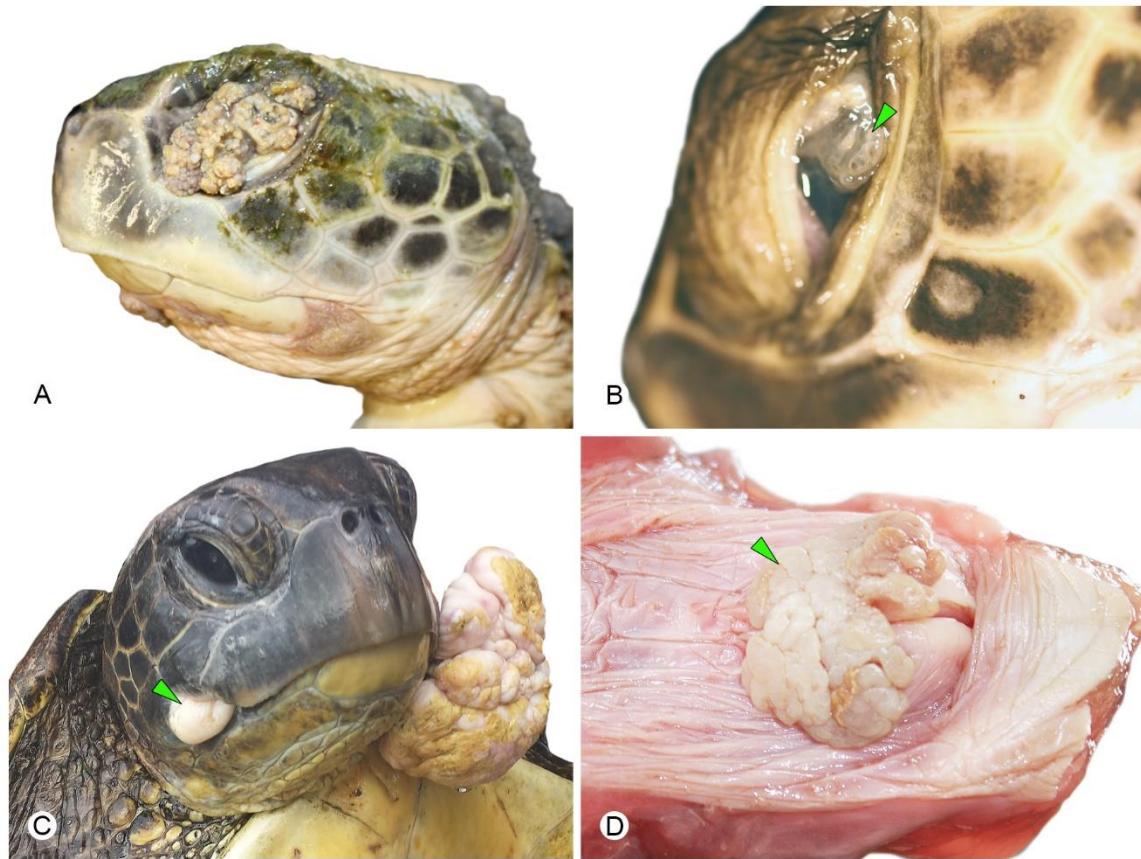


Figure 18. Examples of Fibropapilloma tumors involving the eyes and mouth. (A) FP tumor growth completely obscures the eye. (B) A smaller growth arises from the margin of eye. This is a common location where tumors begin to form. Any tumors that clearly arise from or otherwise prevent the eye from being seen are considered as being ocular tumors regardless of size or extent. (C) Oral tumors protruding from the sides of the mouth. (D) The exposed tongue and glottis showing a tumor (green arrowhead). Any tumor protruding from or visible within the mouth is an oral tumor.

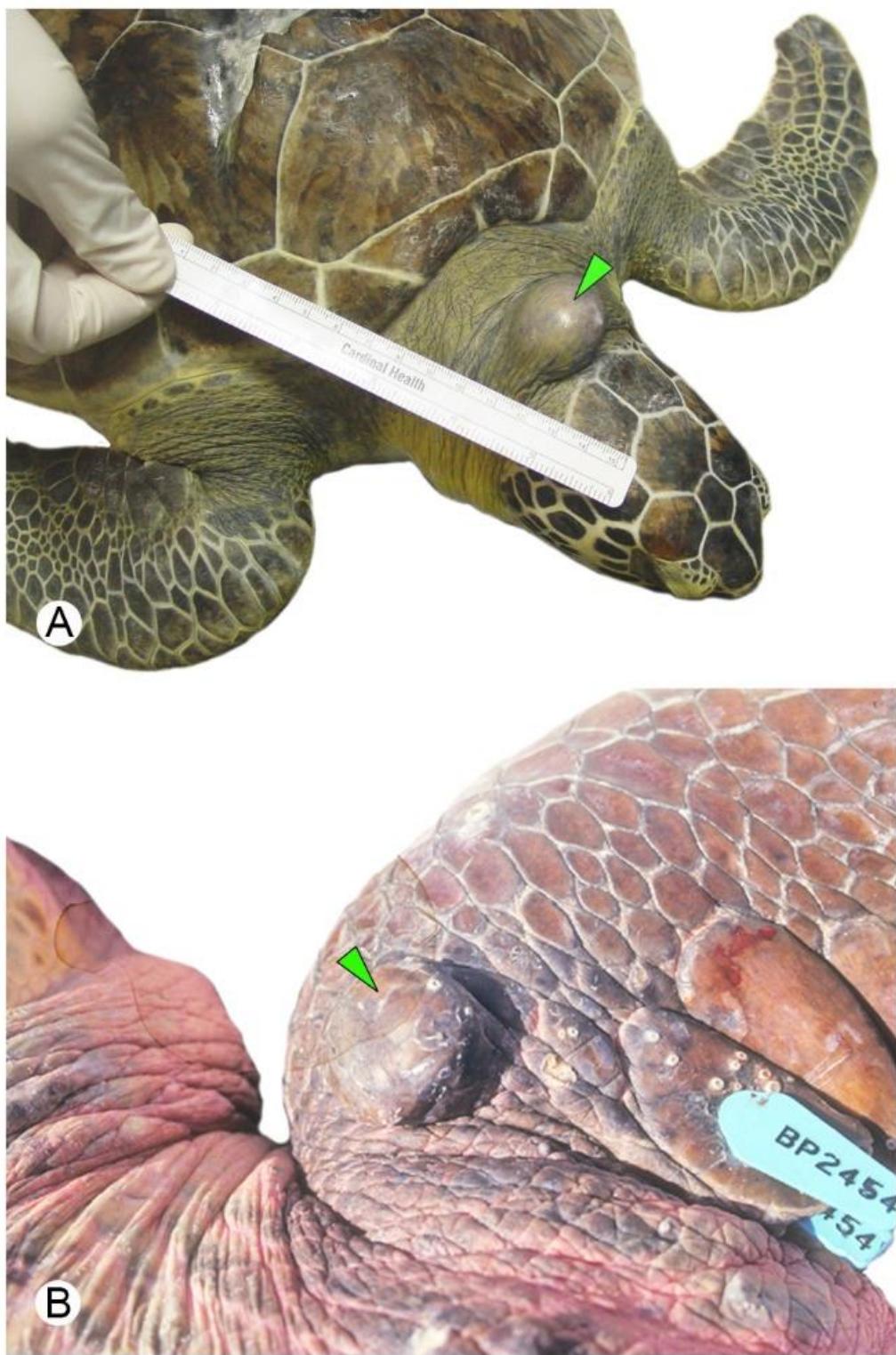


Figure 19. Examples of tumors that are recorded as “non-fibropapilloma-like tumors.” Note that these tumors are well-defined space-occupying masses that elevate the skin, are not associated with any apparent injuries, and are covered by skin that still has a recognizable scale or skin pattern like the surrounding skin.

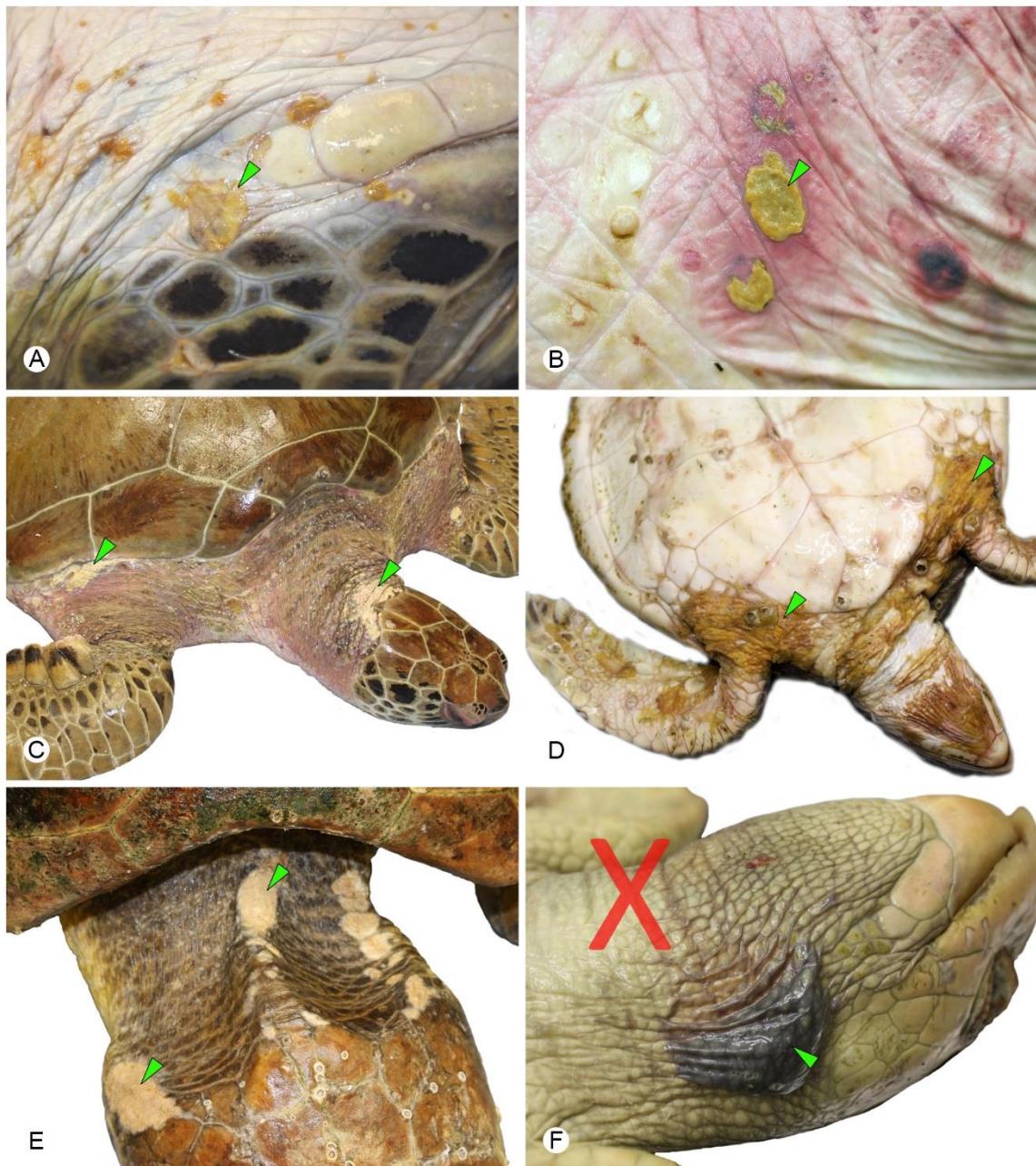


Figure 20. Examples of superficial crusts on the skin surface. (A-E) All of the examples are characterized by the formation of yellow or tan crusts. The lesions are neither depressed nor is deeper tissue exposed. (F) Detachment of the outer layers of the skin occurs postmortem and should not be confused with a skin lesion (or injury).

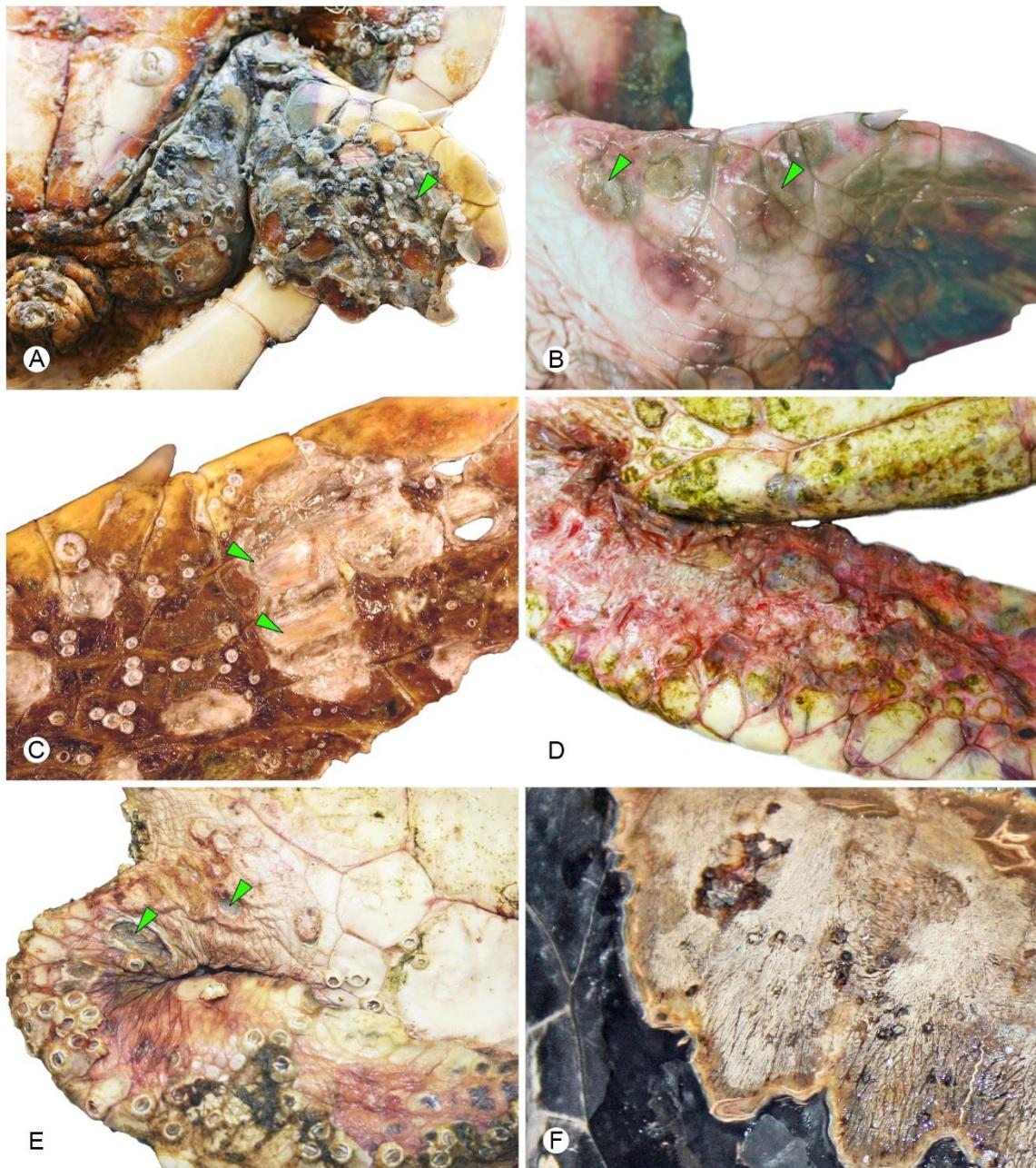


Figure 21. Examples of deep skin lesions. (A) In this example, areas of the skin are discolored and falling away (sloughing). Note the deep ulcer (green arrowhead). (B) Shown is a different stage of a deep lesion – well-defined areas of the skin are discolored (arrowheads). This is a sign of death of the tissue and/or inflammation. (C) Deep ulceration exposing the bones of the flippers. (D) Deep ulceration recognized in this case by loss of scales and bleeding. (E) Multiple deep, depressed ulcers affecting the base of the flipper. (F) Deep ulceration exposing a large area of carapace bone.

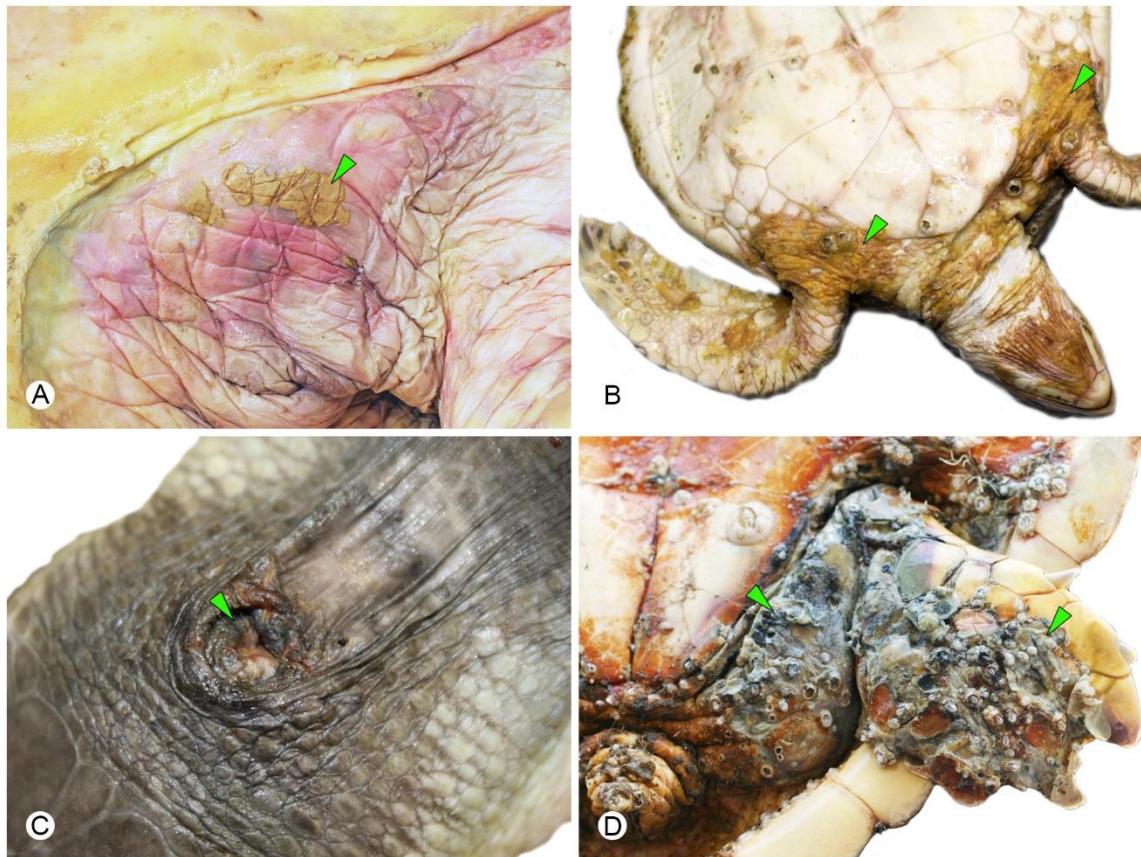


Figure 22. Examples of the extent of skin lesions as documented in the STSSN database. (A) Single or small isolated areas of superficial crusts. (B) Crusts affecting large areas. (C) A single isolated deep lesion. (D) Deep lesions affecting large areas.

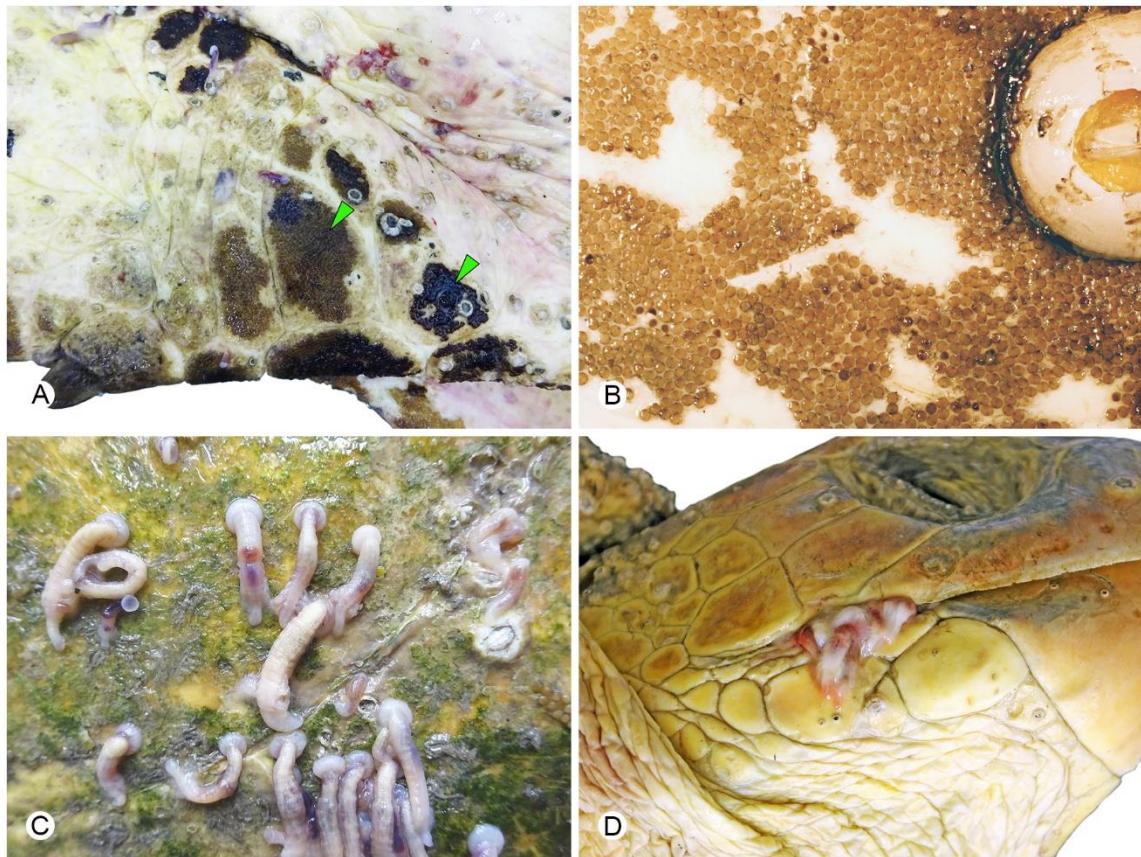


Figure 23. Examples of leeches found on sea turtles. (A, B) Patches of brown leech eggs. The individual eggs are less than a millimeter in diameter and are deposited in groups. The egg patches tend to be most visible on the underside of turtles. (C, D) Adult leeches range from a few millimeters to a couple of centimeters in length and are recognized by their distinct oral sucker. They often are found in the corners of the mouth or around the base of the flippers.

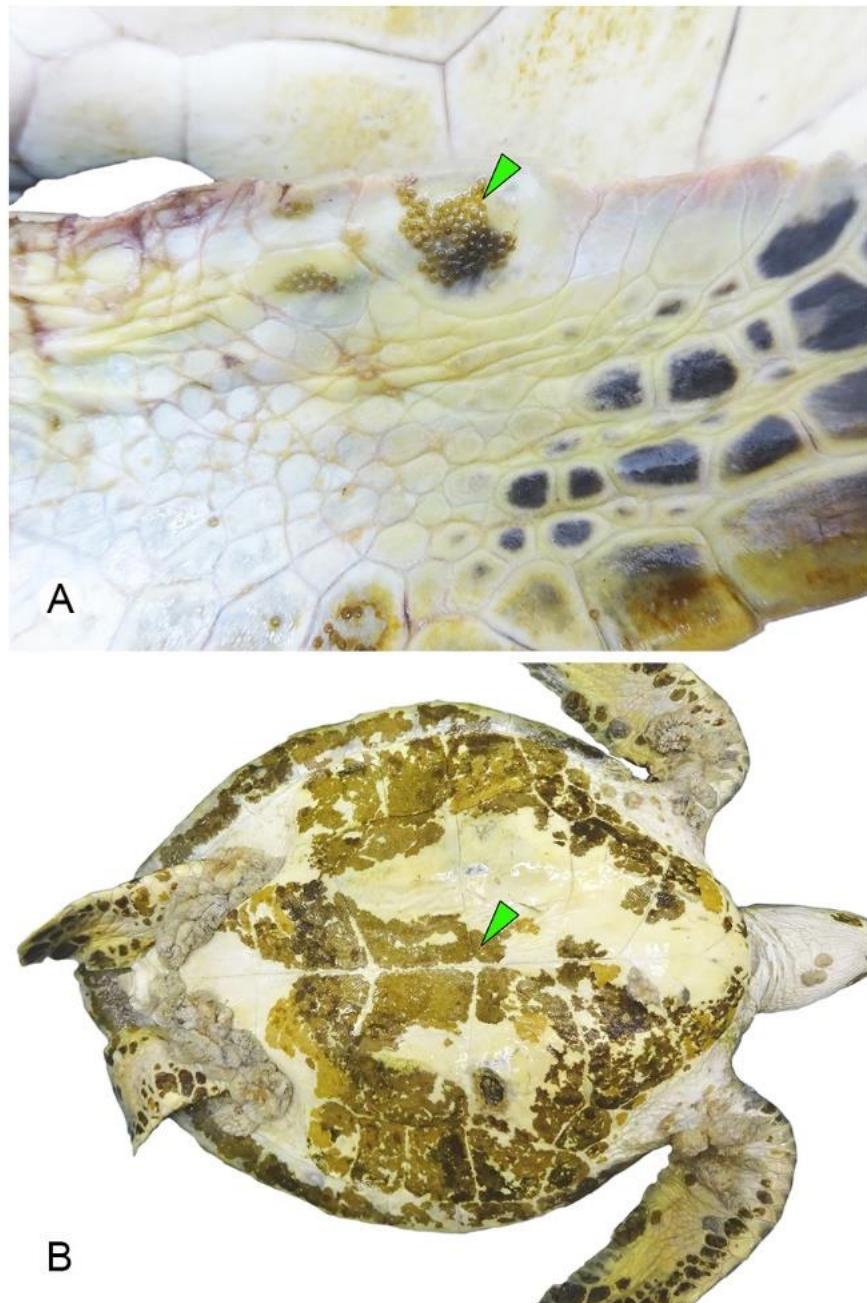


Figure 24. The STSSN database asks about the relative numbers of adult leeches or eggs. (A) In this example of a small isolated egg patch, note that much of skin is uncovered. Single or small clusters of leeches (estimated in the tens or less) or eggs are documented “small isolated egg patches or few adults.” (B) Large egg patches cover much of the ventral side of the turtle. Such accumulation over larger areas of skin or numerous (hundreds or more) adults are documented in the database as “large egg patches or many adults.”