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Subject: [CTURTLE] PIT Tag Application Procedures- from the 2012 SOP for French Frigate Shoals

in the Hawaiian Islands

To: <CTURTLE@lists.ufl.edu>

Excerpt on PIT tagging technique contributed to Cturtle for historical purposes from the following document archived at www.GeorgeHBalazs.com

<u>Bogardus and Nurzia-Humburg (2012) SOP- Standard Operating Procedures Manual for the East Island FFS Turtle Camp.</u>

"PIT tag application procedures: Passive Integrated Transponder (PIT) tags are internal, magnetically encoded tags which allow individual animals to be identified using a special scanner. Tags used at French Frigate Shoals (Hawaiian Islands) are factory loaded in a large gauge needle and come in sterile packages. The tags are injected subcutaneously using an applicator supplied with the tags. PIT tags may be applied while a turtle is crawling, body pitting, patty-caking, or back-filling. We have found it easier if the turtle has finished laying eggs and is either patty-caking or back-filling. The turtle goes into a "trance-like" state during this time and has very little reaction to the needle. Turtles should not be tagged while digging an egg chamber or nesting since this may cause a nest to be abandoned.

Materials needed: PIT tags PIT tag applicator Small squirt bottle of alcohol (50%) Sharps container (small size) Procedures: a) Approach the turtle from behind with a small penlight or muted flashlight. If you choose not to wear a headlamp, holding a penlight between your teeth frees both hands for tagging, b) Assemble the needle and applicator. Remove the needle from its sterile package. Notice that the tip of the needle is beveled. When properly assembled, the bevel (or open side) of the needle will be facing up when being inserted into the flipper. This allows the PIT tag to be supported by the bottom of the needle and reduces the risk of the tag falling out of the needle before it is in the turtle. Slide the white piece on top of the applicator back to expose the needle chamber. Slide the rectangular end of the tag into the exposed chamber of the pit tag gun, with the bevel of the needle facing up. The rectangular end of the needle should be flush with the top of the 20 applicator when properly seated. Lock the needle in place by pushing the white slide forward to completely cover the rectangular needle end. c) Hind flipper tags should be injected 2-3 scutes above (proximal to) the hind flipper claw and about 1/3 flipper width in (medial) from the outside flipper edge. If necessary, palpating the flipper will help in determining a suitable location. Tags should be placed between the 2nd and 3rd bones medial to the outside edge. The objective is to place the tag in a fleshy part of the flipper but away from any bones. The needle will be inserted between two flipper scutes in this general area. d) Clean the insertion area using a 50% solution of alcohol. A small squirt bottle can be used to direct a stream of alcohol to this area with enough force to remove sand grains. At this is time you might want to put on gloves (at least on the hand that will hold the turtle"s flipper and in areas with sharp substrate) since this lowers the chance of hurting yourself and provides you with a stronger grip, allowing for quicker action. e) Insert the needle subcutaneously into the soft area between the flipper scutes. Insertion should be one smooth forceful motion where the needle breaks the skin and is inserted up to the collar on the needle. Keep the needle parallel to the flipper so it goes just under the skin and not into the muscle. The turtle will often pull the flipper towards her body when the needle is inserted into her flipper. If the flipper is at an angle to the turtle"s body, it should be repositioned so that it is in line with the body. Otherwise, when the turtle pulls its flipper in, the needle is pulled sideways and will either

rip out of the turtle or break the applicator. f) Inject the PIT tag by pushing the white sliding pin on top of the applicator forward. This pushes a rubber plunger against the PIT tag, injecting it into the flipper. A slight forward pressure should be kept on the needle to keep it from backing out while the tag is injected. If the needle starts to back out while the tag is being injected, reposition the needle slightly and try again. In some cases the needle may have to be removed and relocated to a different part of the flipper where it can be injected without obstruction. g) Remove the needle and place the protective cover back on. Used needles should be disposed of as medical waste in an approved sharps container. A small, sealable container can be use as a temporary waste container while on a turtle walk. Record the PIT tag number and the flipper it was inserted into in the field notebook using the provided sticker and write the turtle"s mototool number and flipper on the outside of the envelope with a Sharpie. Four labels are supplied on the PIT tag package. One can be placed in the field notebook, one on the ID data sheet, and the other two will remain on the envelope. Save lost and misapplied tags, make a list of them, and send them to GeorgeBalazs at the end of the season. Keep ALL pit tag envelopes for tagged turtles; file them in order of mototool number LHF first, then right and return to George Balazs, PIFSC/NMFS.

Safety Precautions: Make sure the first aid kit on East Island (French Frigate Shoals) is well stocked with gauze pads and bandages. Lacerations and puncture wounds are the most likely types of accidents to occur from PIT tags. All turtle personnel should know how to treat these types of wounds. Accidents should be reported to the Tern Island manager. The needle used to insert the PIT tag into a turtle is extremely sharp. It should be kept covered with its plastic safety cap until you are ready to insert the needle and should be re-covered immediately after the needle is removed from the flipper. Keep the exposed needle pointed away from your body at all times. Turtles occasionally have violent reactions to a needle being inserted into their flipper. The turtle may crawl away quickly and violently. Let go of the applicator in these situations and slightly back away from the turtle. Trying to hold onto the applicator can cause the needle to be pulled from the applicator by the force of the turtle, breaking the applicator and causing an exposed needle to be lost in the sand or flung toward you. A turtle that is reacting strongly to your presence can usually be PIT tagged in two steps. First, quickly insert the needle into the flipper in one smooth thrust, then let go of the applicator as the turtle moves away. Usually, the needle will stay in the flipper on its own. Once she has stopped moving, re-approach the turtle and push the plunger forward thereby inserting the PIT tag into the flipper. 7. Tag Verification: Newly applied PIT tags should be verified any time a turtle is seen again after ~10 days from the tagging event. This is to ensure that tags are still in place. However, if the encounter is likely to be the last one of the season, tags can be verified as soon as one day after insertion. Once a PIT tag has been verified, write the 10 digit number in the field notebook with that turtles sighting and ID information from that night. When transferring data from the field notebook to data sheets write the 10 digit number next to the sightings information and crossreference with that turtles PIT tag sticker number. If no tag is found upon verification a second tag should be applied and appropriate notes made on data sheets."

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