MONITORING SPECIFICATIONS FOR DREDGES

Part 1. - HOPPER DREDGES

I. EQUIPMENT SPECIFICATIONS

A. Baskets or screening

Baskets or screening must be installed over the hopper inflows with openings no smaller than 4 inches by 4 inches to provide 100% coverage of all dredged material and shall remain in place during all dredging operations. Baskets/screening will allow for better monitoring by observers of the dredged material intake for sea turtles, sturgeon and their remains. The baskets or screening must be safely accessible to the observer and designed for efficient cleaning.

B. Draghead

The draghead of the dredge shall remain on the bottom **at all times** during a pumping operation, except when:

1) the dredge is not in a pumping operation, and the suction pumps are turned completely off;
2) the dredge is being re-oriented to the next dredge line during borrow activities; and
3) the vessel's safety is at risk (i.e., the dragarm is trailing too far under the ship's hull).

At initiation of dredging, the draghead shall be placed on the bottom during priming of the suction pump. If the draghead and/or dragarm become clogged during dredging activity, the pump shall be shut down, the dragarms raised, whereby the draghead and/or dragarm can be flushed out by trailing the dragarm along side the ship. If plugging conditions persist, the draghead shall be placed on deck, whereby sufficient numbers of water ports can be opened on the draghead to prevent future plugging.

Upon completion of a dredge track line, the drag tender shall:

1) throttle back on the RPMs of the suction pump engine to an idling speed (e.g., generally less than 100 RPMs) **prior to** raising the draghead off the bottom, so that no flow of material is coming through the pipe into the dredge hopper. Before the draghead is raised, the vacuum gauge on the pipe should read zero, so that no suction exists both in the dragarm and draghead, and no suction force exists that can impinge a turtle on the draghead grate;
2) hold the draghead firmly on the bottom with no flow conditions for approximately 10 to 15 seconds before raising the draghead; then, raise the draghead quickly off the bottom and up to a mid-water column level, to further reduce the potential for any adverse interaction with nearby turtles;
3) re-orient the dredge quickly to the next dredge line; and
4) re-position the draghead firmly on the bottom prior to bringing the dredge pump to normal pumping speed, and re-starting dredging activity.

C. Floodlights

Floodlights must be installed to allow the NOAA Fisheries-approved observer to safely observe and monitor the baskets or screens.

D. Intervals between dredging

Sufficient time must be allotted between each dredging cycle for the NOAA Fisheries-approved observer to inspect and thoroughly clean the baskets and screens for sea turtles and/or turtle parts and document the findings. Between each dredging cycle, the NOAA Fisheries-approved observer should also examine and clean the dragheads and document the findings.

II. OBSERVER PROTOCOL

A. Basic Requirement

A NOAA Fisheries-approved observer with demonstrated ability to identify sea turtle and sturgeon species must be placed aboard the dredge(s) being used, starting immediately upon project commencement to monitor for the presence of listed species and/or parts being entrained or present in the vicinity of dredge operations.

B. Duty Cycle

Observers are required at times and locations outlined in the ITS. While onboard, the observer must work a shift schedule appropriate to allow for the observation of at least 50% of the dredge loads (e.g., 12 hours on, 12 hours off). The action agency shall require of the dredge operator that, when the observer is off watch, the cage shall not be opened unless it is clogged. The action agency shall also require that if it is necessary to clean the cage when the observer is off watch, any aquatic biological material is left in the cage for the observer to document and clear out when they return on duty. In addition, the observer shall be the only one allowed to clean off the overflow screen.

C. Inspection of Dredge Spoils

During the required inspection coverage, the trained NOAA Fisheries-approved observer shall inspect the galvanized screens and baskets at the completion of each loading cycle for evidence of sea turtles or shortnose sturgeon. The Endangered Species Observation Form shall be completed for each loading cycle, whether listed species are present or not. If any whole (alive or dead) or turtle parts are taken incidental to the project(s), NOAA Fisheries Protected Resources Division must be contacted by phone (978-281-9328) or e-mail (incidental.take@noaa.gov) within 24 hours of the take. The Take Report Form shall also be completed by the observer and sent via FAX (978) 281-9394 or e-mail (incidental.take@noaa.gov) within 24 hours of the take. Incident reports shall be completed for every take regardless of the state of decomposition. NOAA Fisheries will determine if the take should be attributed to the incidental take level, after the incident report is received. Every incidental take (alive or dead, decomposed or fresh) should be photographed, and photographs shall be sent to NOAA Fisheries either electronically (incidental.take@noaa.gov) or through the mail. Weekly reports, including all completed load sheets, photographs, and relevant incident reports, as well as a final report, shall be submitted to NOAA Fisheries GAR, Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930-2298.

D. Information to be Collected

For each sighting of any endangered or threatened marine species (including whales as well as sea turtles), record the following information on the Observer Form:

1) Date, time, coordinates of vessel
2) Visibility, weather, sea state
3) Vector of sighting (distance, bearing)
4) Duration of sighting
5) Species and number of animals
6) Observed behaviors (feeding, diving, breaching, etc.)
7) Description of interaction with the operation

E. Disposition of Parts

If any whole turtles or sturgeon (alive or dead, decomposed or fresh) or turtle or shortnose sturgeon parts are taken incidental to the project(s), NOAA Fisheries Protected Resources must be contacted within 24 hours of the take (phone: 978-281-9328 or e-mail (incidental.take@noaa.gov). All whole dead sea turtles or sturgeon, or turtle or shortnose sturgeon parts, must be photographed and described in detail on the Incident Report of Sea Turtle Mortality (Appendix E). The photographs and reports should be submitted by email (incidental.take@noaa.gov) or mail (Attn: Section 7 Coordinator, NOAA Fisheries, Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930-2298). After NOAA Fisheries is notified of the take, it may instruct the observer to save the animal for future analysis if there is freezer space.
Disposition of dead sea turtles/ sturgeon will be determined by NOAA Fisheries at the time of the take notification. If the species is unidentifiable or if there are entrails that may have come from a turtle, the subject should be photographed, placed in plastic bags, labeled with location, load number, date and time taken, and placed in cold storage.

Live turtles (both injured and uninjured) should be held onboard the dredge until transported as soon as possible to the appropriate stranding network personnel for rehabilitation. No live turtles should be released back into the water without first being checked by a qualified veterinarian or a rehabilitation facility. The NOAA Fisheries Stranding Network Coordinator ((978) 282- 8470) should also be contacted immediately for any marine mammal injuries or mortalities.

III. OBSERVER REQUIREMENTS

Submission of resumes of endangered species observer candidates to NOAA Fisheries for final approval ensures that the observers placed onboard the dredges are qualified to document takes of endangered and threatened species, to confirm that incidental take levels are not exceeded, and to provide expert advice on ways to avoid impacting endangered and threatened species. NOAA Fisheries does not offer certificates of approval for observers, but approves observers on a case-by-case basis.

A. Qualifications

Observers must be able to:

1) differentiate between leatherback (*Dermochelys coriacea*), loggerhead *Caretta caretta*), Kemp's ridley *(Lepidochelys kempii*), green (*Chelonia mydas*), and hawksbill

(Eretmochelys imbricata) turtles and their parts, and shortnose (*Acipenser brevirostrum*) and Atlantic (*Acipenser oxyrinchus oxyrinchus*) sturgeon and their parts;

2) handle live sea turtles and sturgeon and resuscitate and release them according accepted procedures;

3) correctly measure the total length and width of live and whole dead sea turtle and sturgeon species;

4) observe and advise on the appropriate screening of the dredge's overflow, skimmer funnels, and dragheads; and

5) identify marine mammal species and behaviors.

B. Training

Ideally, the applicant will have educational background in marine biology, general experience aboard dredges, and hands-on field experience with the species of concern. For observer candidates who do not have sufficient experience or educational background to gain immediate approval as endangered species observers, the below observer training is necessary to be considered admissible by NOAA Fisheries. We can assist the action agency by identifying groups or individuals capable of providing acceptable observer training. Therefore, at a minimum, observer training must include:

1) instruction on how to identify sea turtles and sturgeon and their parts;

2) instruction on appropriate screening on hopper dredges for the monitoring of sea turtles and sturgeon (whole or parts);

3) demonstration of the proper handling of live sea turtles and sturgeon incidentally captured during project operations. Observers may be required to resuscitate sea turtles according to accepted procedures prior to release;

4) instruction on standardized measurement methods for sea turtle and sturgeon lengths and widths; and

5) instruction on how to identify marine mammals; and

6) instruction on dredging operations and procedures, including safety precautions onboard a vessel.

Part 2. MECHANICAL DREDGES

I. EQUIPMENT SPECIFICATIONS

A. Floodlights

Should dredging occur at night or in poor lighting conditions, floodlights must be installed to allow the NOAA Fisheries-approved observer to safely observe and monitor dredge bucket and scow.

B. Intervals between dredging

Sufficient time must be allotted between each dredging cycle for the NOAA Fisheries-approved observer to inspect the dredge bucket and scow for shortnose sturgeon and/or sturgeon parts and document the findings.

II. OBSERVER PROTOCOL

A. Basic Requirement

A NOAA Fisheries-approved observer with demonstrated ability to identify shortnose sturgeon must be placed aboard the dredge(s) being used; starting immediately upon project commencement to monitor for the presence of listed species and/or parts being taken or present in the vicinity of dredge operations.

B. Duty Cycle

A NOAA Fisheries-approved observer must be onboard during dredging until the project is completed. While onboard, observers shall provide the required inspection coverage to provide 100% coverage of all dredge-cycles.

C. Inspection of Dredge Spoils

During the required inspection coverage, the NOAA Fisheries-approved observer shall observe the bucket as it comes out of the water and as the load is deposited into the scow during each dredge cycle for evidence of shortnose sturgeon. If any whole sturgeon (alive or dead) or sturgeon parts are taken incidental to the project(s), NOAA Fisheries must be contacted **within 24 hours** of the take (phone: 978-281-9328 or email (incidental.take@noaa.gov). An incident report for sturgeon take shall also be completed by the observer and sent to NOAA Fisheries via FAX (978) 281-9394 or e-mail (incidental.take@noaa.gov) within 24 hours of the take. Incident reports shall be completed for every take regardless of the state of decomposition. Every incidental take (alive or dead, decomposed or fresh) must be photographed. A final report including all completed load sheets, photographs, and relevant incident reports are to be submitted to the attention of the Section 7 Coordinator, NOAA Fisheries Protected Resources Division, 55 Great Republic Drive, Gloucester, MA 01930.

D. Inspection of Disposal

The NOAA Fisheries-approved observer shall observe all disposal operations to inspect for any whole sturgeon or sturgeon parts that may have been missed when the load was deposited into the scow. If any whole sturgeon (alive or dead) or sturgeon parts are observed during disposal operation, the procedure for notification and documentation outlined above should be completed.

E. Disposition of Parts

As required above, NOAA Fisheries must be contacted as soon as possible following a take. Any dead sturgeon should be refrigerated or frozen until disposition can be discussed with NOAA Fisheries. Under no circumstances should dead sturgeon be disposed of without confirmation of disposition details with NOAA Fisheries.

III. OBSERVER REQUIREMENTS

Submission of resumes of endangered species observer candidates to NOAA Fisheries for final approval ensures that the observers placed onboard the dredges are qualified to document takes of endangered and threatened species, to confirm that incidental take levels are not exceeded, and to provide expert advice on ways to avoid impacting endangered and threatened species. NOAA

Fisheries does not offer certificates of approval for observers, but approves observers on a case-by-case basis.

A. Qualifications

Observers must be able to:

1) differentiate between shortnose (*Acipenser brevirostrum*) and Atlantic (*Acipenser oxyrinchus oxyrinchus*) sturgeon and their parts;
2) handle live sturgeon;
3) correctly measure the total length and width of live and whole dead sturgeon species;

B. Training

Ideally, the applicant will have educational background in biology, general experience aboard dredges, and hands-on field experience with the species of concern. For observer candidates who do not have sufficient experience or educational background to gain immediate approval as endangered species observers, we note below the observer training necessary to be considered admissible by NOAA Fisheries. We can assist the action agency by identifying groups or individuals capable of providing acceptable observer training. Therefore, at a minimum, observer training must include:

1) instruction on how to identify sturgeon and their parts;
2) instruction on appropriate screening on hopper dredges for the monitoring of sturgeon(whole or parts);
3) demonstration of the proper handling of live sturgeon incidentally captured during project operations;
4) instruction on standardized measurement methods for sturgeon lengths and widths; and
5) instruction on dredging operations and procedures, including safety precautions onboard.