Operations and Dredging Endangered Species System (ODESS)
USACE Sea Turtle Deflector Checklist for Hopper Dredges for USACE and USACE/Army-Permitted Projects

1. Read the contract plans and specs and/or all applicable permits (Dept. of the Army Permit, State Permits) to determine the contract or permit requirements for the protection of endangered sea turtles. (Each District spec or permit may be different.)
2. Read the Biological Opinion and any USACE Protocol, if available.
3. Develop a list of inspection requirements:
    a. Deflector leading edge angle (90° or less).
    b. Approach angle or leading edge plowing depth (6" or more).
    c. Aft rigid attachment of the deflector to the draghead (hinged or trunnion).
    d. Forward deflector attachment point (adjustable pinned or cable/chain with stop).
    e. Opening between draghead and deflector (4" x 4" max).
    f. Dredged material screening requirement (yes/no).
    g. Screen type requirement (inflow, overflow, or both).
    h. Inflow basket screen openings (4" x 4" max) and dredged material screening (100%).
    i. Lighting of the inflow and overflow screens and proper access for cleaning (must meet EM 385-1-1).
    j. UXO (Unexploded Ordnance) screening in use (yes/no).
    k. Structural design of the deflector (per the approved deflector submittal).
    l. Dredge operational requirements (starting/stopping the dredge pump, draghead plugging, raising the draghead, turning the dredge).

m. Dredging Quality Management (DQM) dredging data recording requirement. Is dredging data recording (drag elevation, slurry density, and velocity) required by specs or permit? If so, is it being collected, is DQM turned on, and is data being submitted?

n. Turtle trawling requirement. Is turtle trawling required by specs or permit? If so, is it being performed?

o. Turtle observer requirements (12 or 24 hours).

p. A copy of the approved turtle deflector submittal is on board the vessel.

q. Copies of the contract plans and specs or the Dept. of the Army permit are on board the vessel.

4. Review the turtle deflector submittal. (Do not allow dredging to start until the submittal is approved.)

   a. Structural soundness.

   b. Deflector leading edge angle (90° or less).

   c. Approach angles submitted for the project's dredging depths.

   d. 4" x 4" opening between the deflector and the draghead.

   e. Aft rigid deflector attachment to draghead (hinged or trunnion).

   f. Forward deflector attachment point (adjustable pinned or cable/chain with stop).

5. Ensure that the Contractor Quality Control (CQC) performs a pre-dredging inspection. The CQC is required to review and inspect all items in section 3.

6. Ensure that the CQC performs a startup-dredging inspection:

   a. The CQC is required to check the turtle deflector to see if the deflector is installed and adjusted for the required dredge depth of the project in accordance with the approved deflector submittal.

   b. The CQC is required to ensure that the drag tenders are operating the dredge pump and draghead in accordance with the specs/permit.

   c. The CQC should perform a paint test to ensure that the deflector is plowing at least 6" into the dredge material while the dragtender is consistently maintaining the submitted and approved approach angle to a tolerance of +0 to -4°.

   d. The CQC should note the inspection results in the Quality Control (QC) Daily Report.

7. Quality Assurance (QA) should perform a dredging operation inspection soon after the dredge starts dredging:

   a. Review and inspect all items in section 3.

b. Inspect the turtle deflector to ensure that the deflector is installed and adjusted for the required dredge depth of the project in accordance with the approved deflector submittal.

c. Require the contractor to perform a paint test to ensure that the deflector is plowing at least 6" into the dredge material while the dragtender is consistently maintaining the submitted and approved approach angle to a tolerance of +0 to -4°. (While over-penetration of the deflector may reduce production and increase fuel consumption of the dredge, it is allowed.)

d. Ride the dredge through at least one dredging cycle (from dredging to the dump and then back to the dredge site).

e. Watch the dragtender to ensure that he/she is operating the dredging equipment in accordance with the plans and specs:

    i Starting the dredge pump only when the draghead is firmly on the bottom by watching the slurry specific gravity and swell compensator.

    ii Reducing the slurry velocity to the dredge pump idle speed velocity before raising the draghead off the bottom.

    iii Consistently maintaining the approach angle to a tolerance of +0 to -4° whenever the draghead is on the bottom and the dredge pump is operating

    iv Raising the draghead off the bottom due to draghead plugging or ship crabbing.

f. Ensure that the lockout tagout procedure for cleaning the inflow and overflow screens meets EM 385-1-1.

g. Talk to the turtle observers to ensure that they are aware of contract and permit requirements and that they are inspecting the screens and deflectors and reporting any required maintenance to the dredge personnel. Also ensure that correct turtle observer forms are being used and filled out properly.

h. Talk to the dredge Captain about maintaining the screens and deflectors.

i. Ensure that DQM data is being sent to the National Dredging Quality Management Program.

j. Note all pre-dredge/post-dredge and followup inspections in the QA and the QC Daily Reports.

Project Name: _____

Project Location: _____

Contract No.: _____

Dept. of the Army Permit No.: _____

Dredging Company Name: _____

Dredge Name: _____

Contractor CQC Inspector's Name: _____

USACE Inspector Name: _____

Office Symbol: _____ Date of Inspection: _____

Comments: _____