

U.S. Army Corps of Engineers

Existing & Emerging Innovative
Technologies for Coastal Construction

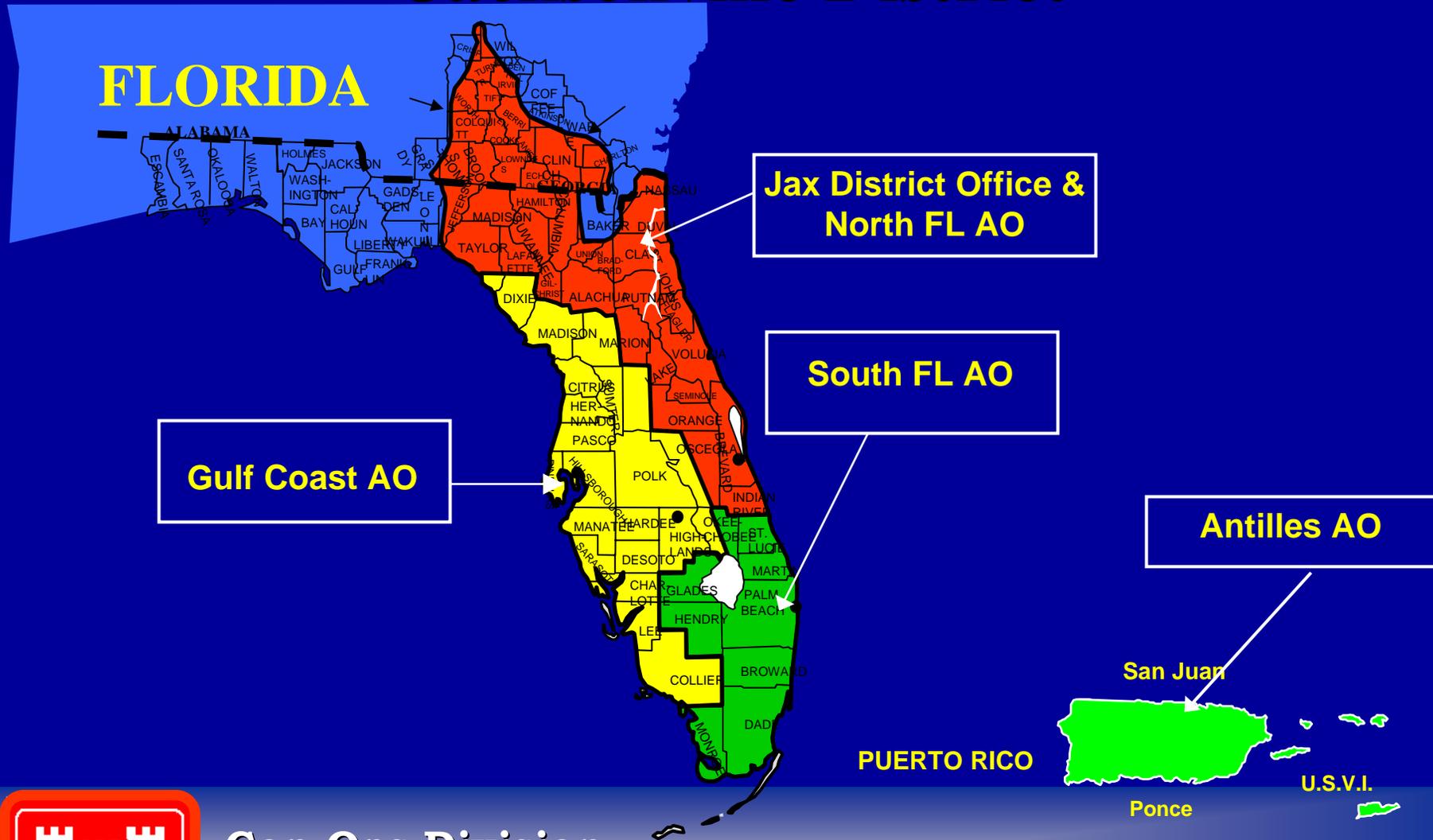
Silent Inspector Monitoring of Dredging
Equipment

by Phillip Bates



Con-Ops Division

U.S. Army Corps of Engineers Jacksonville District



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Type of Dredging Equipment

- Hopper Dredge
- Clamshell Dredge
- Cutterhead Dredge
- Excavator/Backhoe



HOPPER DREDGE



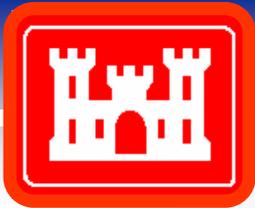
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CLAMSHELL DREDGE



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CUTTERHEAD DREDGE



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EXCAVATOR/BACKHOE



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SILENT INSPECTOR (SI) MONITORING OF DREDGING EQUIPMENT

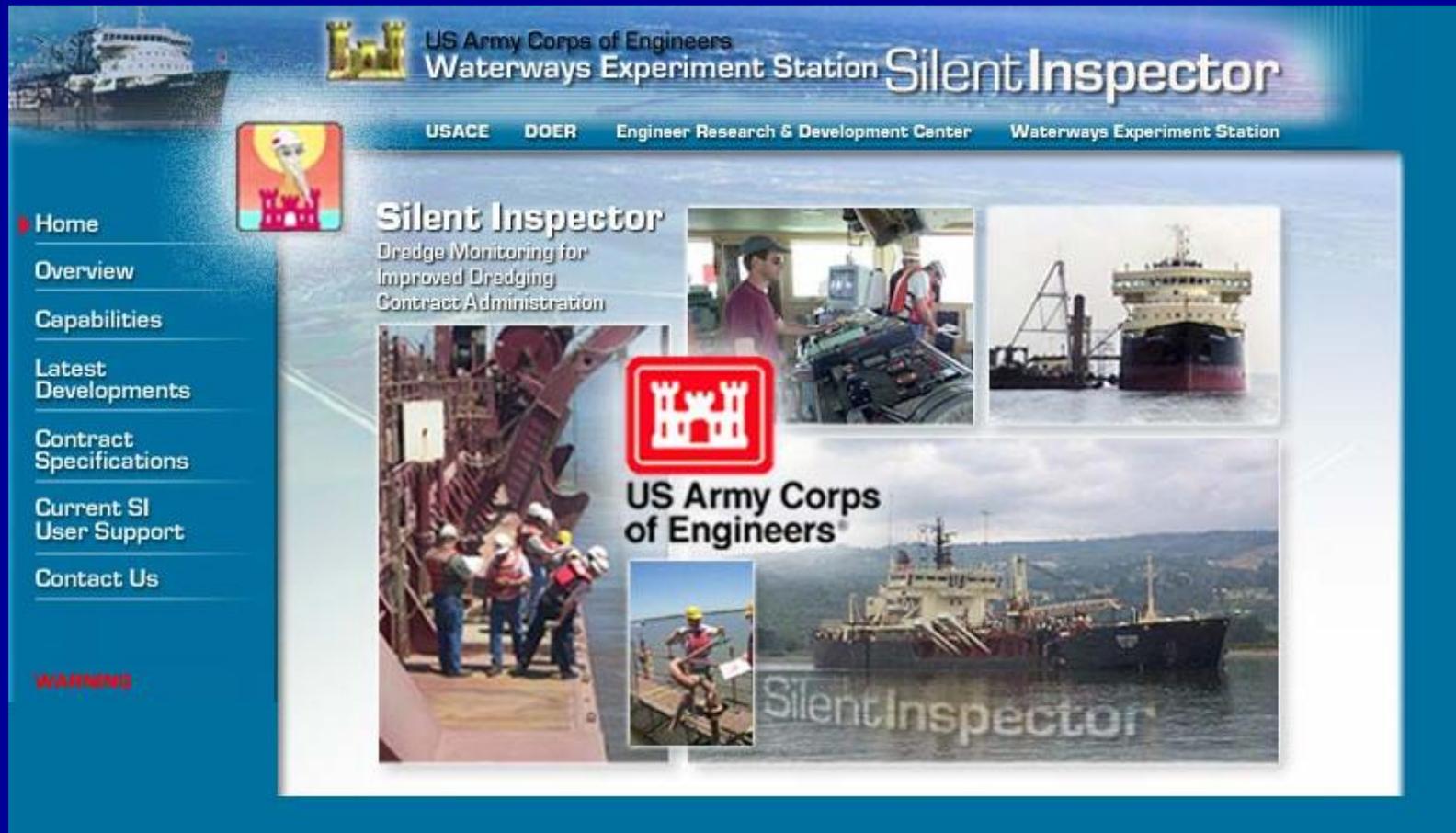
- **SI is required on O&M dredging Projects**
- **SI is required on Department of the Army Permitted Projects**
- **Provides automated quality assurance monitoring**
- **Monitors dredge position and characteristics**
- **SI WEB site <http://si.wes.army.mil>**
- **SI POC Gary Howell, ERDC, 601-634-2006**



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SILENT INSPECTOR

WEB SITE <http://si.wes.army.mil>



The screenshot shows the Silent Inspector website interface. At the top, it features the US Army Corps of Engineers logo and the text "US Army Corps of Engineers Waterways Experiment Station Silent Inspector". Below this is a navigation bar with links for "USACE", "DOER", "Engineer Research & Development Center", and "Waterways Experiment Station". On the left side, there is a vertical menu with the following items: "Home", "Overview", "Capabilities", "Latest Developments", "Contract Specifications", "Current SI User Support", and "Contact Us". The main content area is titled "Silent Inspector" and includes the subtext "Dredge Monitoring for Improved Dredging Contract Administration". This area contains several images: a worker operating a control panel, a large dredger ship, a group of workers on a barge, and a worker on a small boat. A large red logo with a white castle icon is prominently displayed in the center of the main content area. Below the logo, the text "US Army Corps of Engineers" is visible. At the bottom of the main content area, the words "Silent Inspector" are written in a large, stylized font.



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TYPES OF DREDGING PROJECTS SILENT INSPECTOR IS USED ON

- 1. O & M Maintenance Dredging**
- 2. New Construction Dredging**
- 3. Shore Protection Projects**



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SHORE PROTECTION PROJECT



BEACH RENOURISHMENT



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PROJECTS

- **Key West Dredging**
- **Dade County Shore Protection Project**
- **Jax Harbor Deepening**
- **Dredge Rental Projects**
- **Endanger Species WEB <http://el.erdc.usace.army.mil/seaturtles/>**
- **Borrow Site Monitoring**



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DESIGN OF OFFSHORE BORROW SITE FOR HOPPER DREDGES

- Pump distance 10 miles or more
- 40 to 60 feet of water
- 2 miles square
- More sand than you need
- No trenching
- Dredge in any direction
- Spend more on the design and much less on dredging
- Less dredging delays and shorter cycle time



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THE END



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