Deepwater Archaeology and Cultural Resource Management: Working with Industry to Protect our Heritage

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MMS

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Return to session directory
Legal Framework

• National Historic Preservation Act of 1966
  - Establishes National Register of Historic Places
  - Requires federal agencies to implement historic preservation programs
  - Requires federal agencies to consider effects of activities on properties that meet NRHP criteria (Section 106).

• National Environmental Policy Act of 1969
  - Requires federal agencies to consider effects of proposed federal actions on the environment so the nation may (among other things) preserve important historic, cultural and natural aspects of the nation’s national heritage.
Other Preservation Laws: Abandoned Shipwreck Act

- Asserts Federal title on abandoned shipwrecks on state submerged land.
- Only applies to State waters.
- Does not apply to the Contiguous Zone (CZ) 12-24 nm offshore or Exclusive Economic Zone (EEZ) 12-200 nm offshore.
Other Preservation Laws: Archaeological Resources Protection Act

- Protects archaeological resources 100 years of age on public (i.e., federal) lands.
- Regulates research through permit system
- Requires artifacts remain federal property
- Establishes civil and criminal penalties.
- Does not apply to CZ or EEZ because ARPA expressly excludes the OCS.
MMS Regulations & Guidelines

- 30 CFR 250.194 - Drilling plans
- 30 CFR 250.1009 (C)(4) – ROW pipelines
- NTL 2002-G01
  - Establishes where and how archaeological surveys are to be conducted.
  - Establishes standards for submittal of archaeological reports.
Penalties

- 30 CFR 250.1403 – The maximum civil penalty is $30,000 per day per violation.
- 16 U.S.C. 470h-2(k) – Each Federal Agency shall ensure that the Agency will not grant a loan, a loan guarantee, a permit, license, or other assistance to an applicant who, with the intent to avoid the requirements of section 106 of this Act, has intentionally adversely affected a historic property to which the grant would relate, or having legal power to prevent it, allowed such significant adverse effect to occur, unless the agency, after consultation with the Council, determines the circumstances justify granting such assistance despite the adverse effect created or permitted by the applicant.
Shipwreck Locations
High Probability Areas

Shipwreck Blocks
Prehistoric Blocks
Deepwater Wrecks

• Since February 2001, seven historic shipwrecks have been identified in deep water (>1,000’).

• Three of these wrecks have been threatened or damaged by industry actions as a result of the lack of advanced knowledge of their location.
"Mica Wreck"

What:
- Unidentified historic shipwreck with copper sheathing over wooden hull
- Early 19th century shipwreck

When:
- Reported to MMS February 16, 2001

Where:
- Mississippi Canyon Area
- Water Depth: 2,650 feet
“Mica Wreck”

How It Was Discovered:
- Shipwreck discovered during post-lay ROV video survey of pipeline route
- Operator notified MMS immediately upon discovery
- Pre-lay high-resolution side-scan sonar survey showed no evidence of shipwreck

Impact:
- Operator inadvertently laid a pipeline directly across the shipwreck
- Pipeline has been left in-place across the ship’s hull

Result:
- Operator funded data recovery operation by Texas A&M using U.S. Navy nuclear submarine NR-1.
“Mica Wreck”
“Mica Wreck”

**Why Impact Occurred:**
- Required overlap of side-scan sonar survey lines was insufficient to provide 100% coverage of the sea bottom in 2,650 feet of water.

**What MMS has Done to Prevent Recurrence of this Situation:**
- MMS has revised requirements for side-scan sonar survey lines to overlap sufficiently to ensure detection of similar wrecks in the future.
S.S. Gulfstag

What:
• 552-foot long T-2 Oil Tanker
• Constructed in 1944
• Formerly the Fort Schuyler on lend/lease to the Dutch during WWII
• Renamed the Gulfstag and modified in 1958 to increase carrying capacity
• In 1966 the Gulfstag capsized after an explosion and fire while carrying cargo of gasoline, diesel oil and solvent
• The ship was towed to location and sunk by Coast Guard.

When:
• Reported to MMS March 26, 2004
S.S. Gulfstag

Where:

- Green Canyon Area
- Within 1,000 feet of exploratory well
- Water Depth: 950 feet

How It Was Discovered:

- Only survey prior to drilling well was 3-D seismic survey, which did not detect the tanker
- Subsequent high-resolution pipeline survey in March 2004 detected tanker on side-scan sonar data and possible anchor damage from drilling well.
- Subsequent ROV video fly-by identified tanker as the S.S. Gulfstag
Sonar image of S.S. *Gulfstag* and possible anchor scar
S.S. Gulfstag

Impact:
• Exploratory well was drilled within 1,000 feet of the tanker.
• Operator possibly snagged an anchor on the tanker after completion of drilling. Anchor scar may also have originated from adjacent well in another block.
• The extent of the impact to the tanker and the amount of hazardous cargo that remains onboard has not yet been determined.

Mitigation:
• National Register evaluation of the ship is conducted.
Why impact occurred:
• MMS allowed the lessee to complete their shallow hazards evaluation submitted with their EP using 3-D seismic data, which does not have sufficient resolution to locate seafloor hazards such as the 552-foot tanker.
Deepwater Discoveries
The Western Empire

• Built 1862 in Quebec
• Owned by G. Cairns, London
• Sunk 18 Sept. 1876 with cargo of lumber, 10 men lost
• Sailing ship measuring 190’x38’x22’
• Discovered in 1,400’ of water, MC Area
• Investigated by Texas A&M University and Deep Marine Technology
The Western Empire
"The Green Canyon Wreck"

- Investigated by C&C Technology for GulfTerra Pipeline in 3,000’ of water.
- Wreck is 65-ft long, wooden-hulled sailing vessel
- Clad in copper or Muntz-metal sheathing
- Probably dates from mid-19th century
- Possibly Spanish
- Likely eligible for National Register of Historic Places
“The Green Canyon Wreck”
“The Green Canyon Wreck”
“The Green Canyon Wreck”
Conclusions

- The potential for deepwater shipwrecks is higher than anticipated.
- Survey techniques must be adjusted to find historic shipwrecks in deepwater.
- The cooperation of industry, academia, and government is essential to discovering and investigating our nation’s submerged cultural heritage.
Questions?