

UNOLS Ships...the next generation?



SSV Corwith Cramer

LOA: 134'

Rig: Brigantine

Year built: 1987

Gross Tons: 158



SSV Robert C. Seamans

LOA: 134.5

Rig: Brigantine

Year Built: 2001

Gross Tons: 220



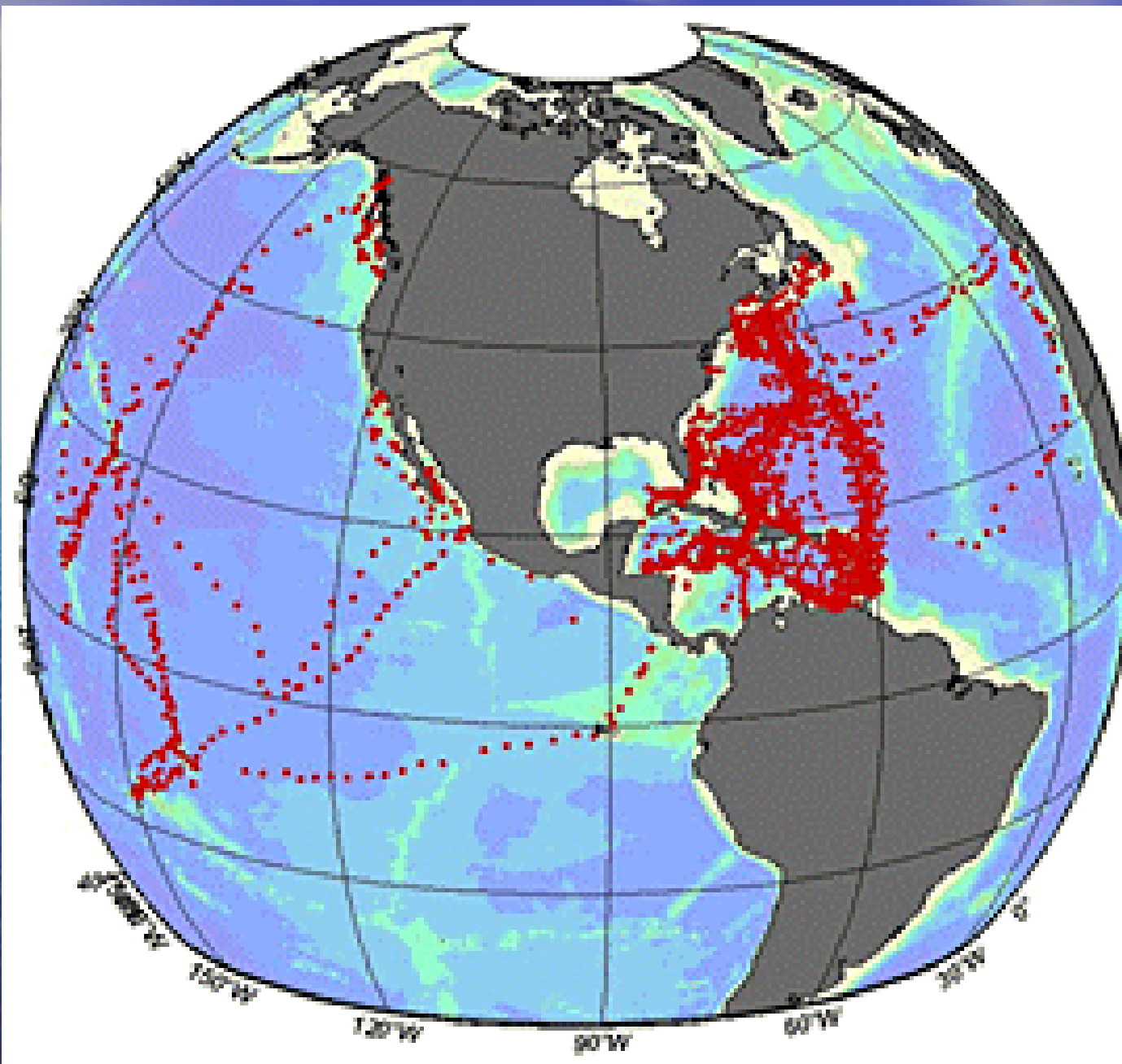
A grayscale photograph of a sailboat deck. The image shows the complex rigging of the mast and various pieces of equipment on the deck. A person is visible in the background, partially obscured by the rigging. The overall scene is a busy, technical environment on a vessel.

UNOLS goal:

“Support efforts for improving the processes for obtaining permits related to research cruises”

Suggestion: Develop an RVTEC web resource with information about acoustic instruments required for permit applications.

SEA Annual Cruise Tracks



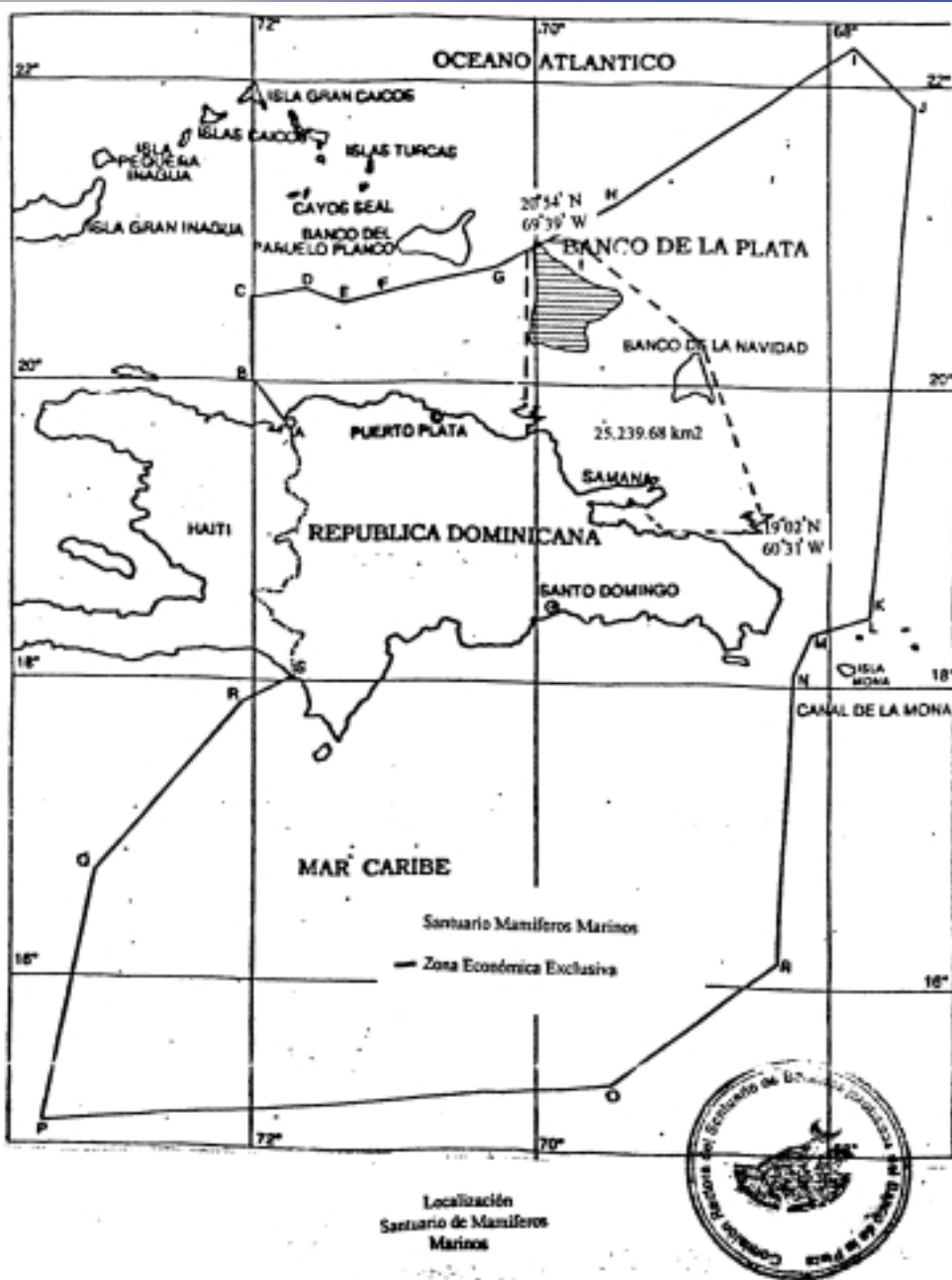


The Gully
MPA, CAN

Silver Bank,
MMS D.R.



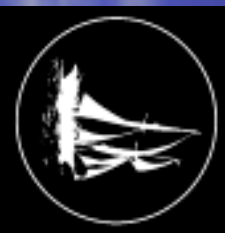
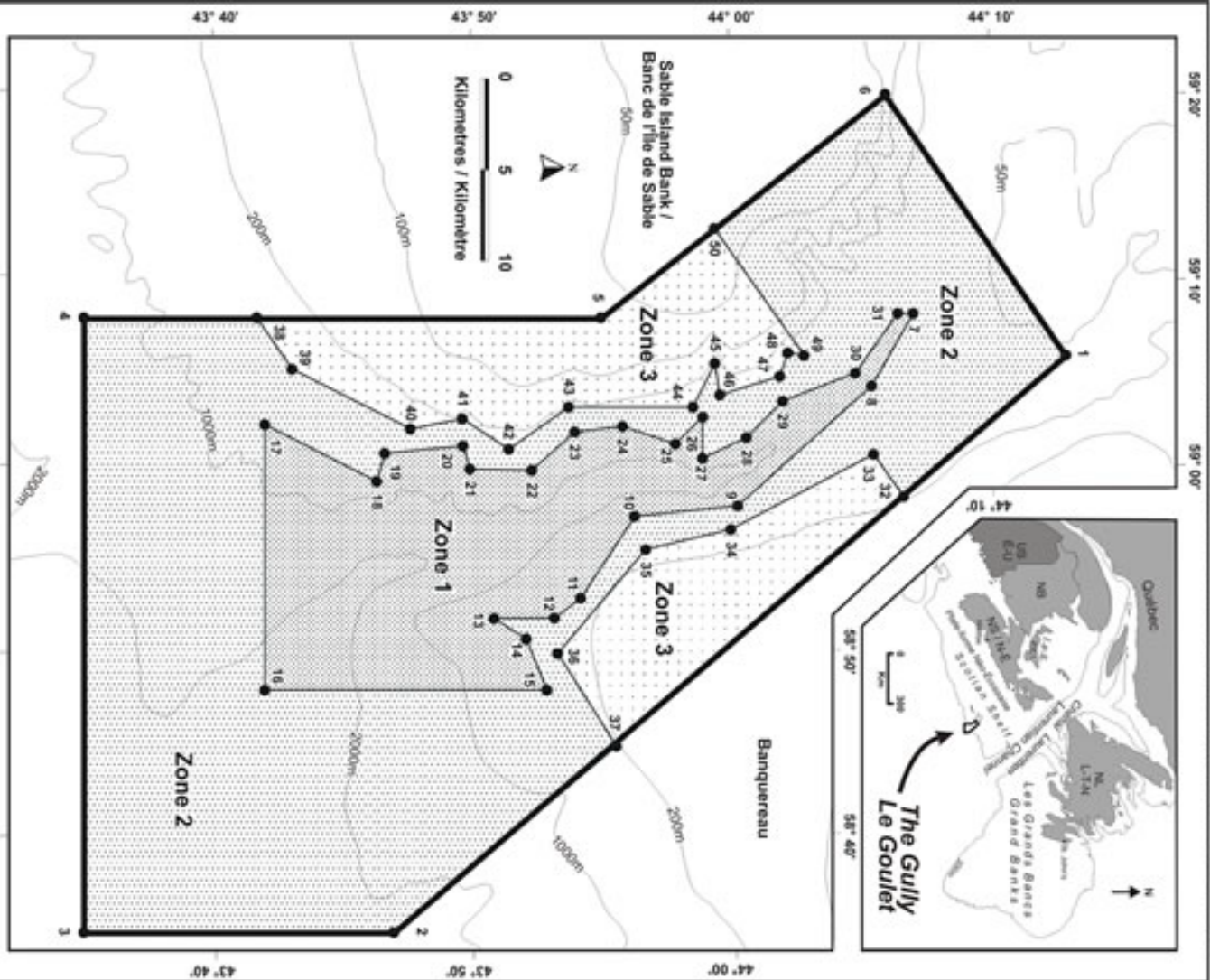
DR Silver Bank MMS; humpbacks breeding



CAN Gully MPA; bottlenose whale feeding

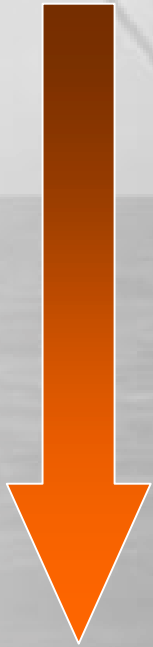


GULLY MARINE PROTECTED AREA / ZONE DE PROTECTION MARINE DU GULLY



"softer" acoustic instrumentation

decreasing impact?



- Chirp Multi-frequency Sub-bottom Profiler
- 12 kHz Pinger
- ADCP 75 kHz
- Fathometer?
- Doppler Speed Log?

Important acoustic criteria:

- 1) Frequency range
- 2) Sound level in water
- 3) Beam angle
- 4) Pulse duration*
- 5) Pulse repetition rate*

*together determine duty cycle or time fraction the water column is being ensonified.

- 6) Duration of profiling

Our Chirp sound level in the water:

~161 dB

Vs.

Marine mammal sound level:

10-230 dB

Photo© Whitehead Lab, Dalhousie University

Requirements for success

- MPA application/review*
- Carry an observer
- Sightings report
- Collaboration and data sharing

*information not easily available

CAN WE DO SOMETHING ABOUT THIS?