FIC Support of Coastal / Local Vessels

UNOLS
UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

Trends and Challenges

“Near Coastal” UNOLS Vessels on the East Coast

R/V HUGH R SHARP

R/V SAVANNAH

R/V FORT WALTON SMITH

UNIVERSITY OF DELAWARE
EARTH, OCEAN & ENVIRONMENT

Jon Swallow
Director, Marine Operations

Smaller UNOLS Vessels on the East Coast

HUGH R SHARP

SAVANNAH

F. WALTON SMITH

Designed to work in “Near Coastal” waters (within 200nm of shore)

Advantages of Smaller Vessels:

- Lower day rates
- Can work in estuaries and near shore
- Smaller Crews
- A lot of “bang for the buck”

High Capability in a Small Package

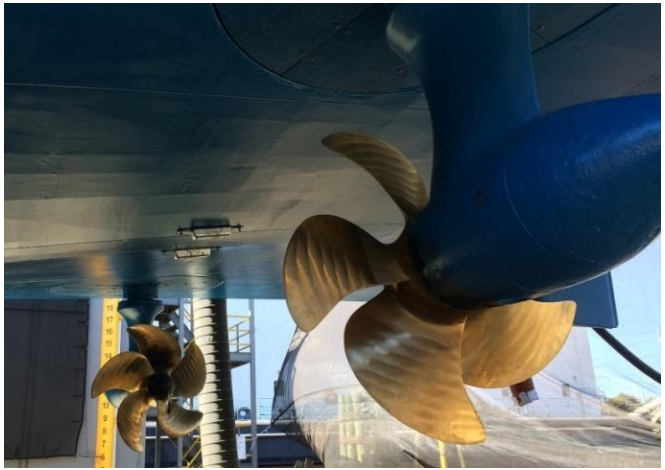
Provides flexibility and ability to outfit the ship for different kinds of missions

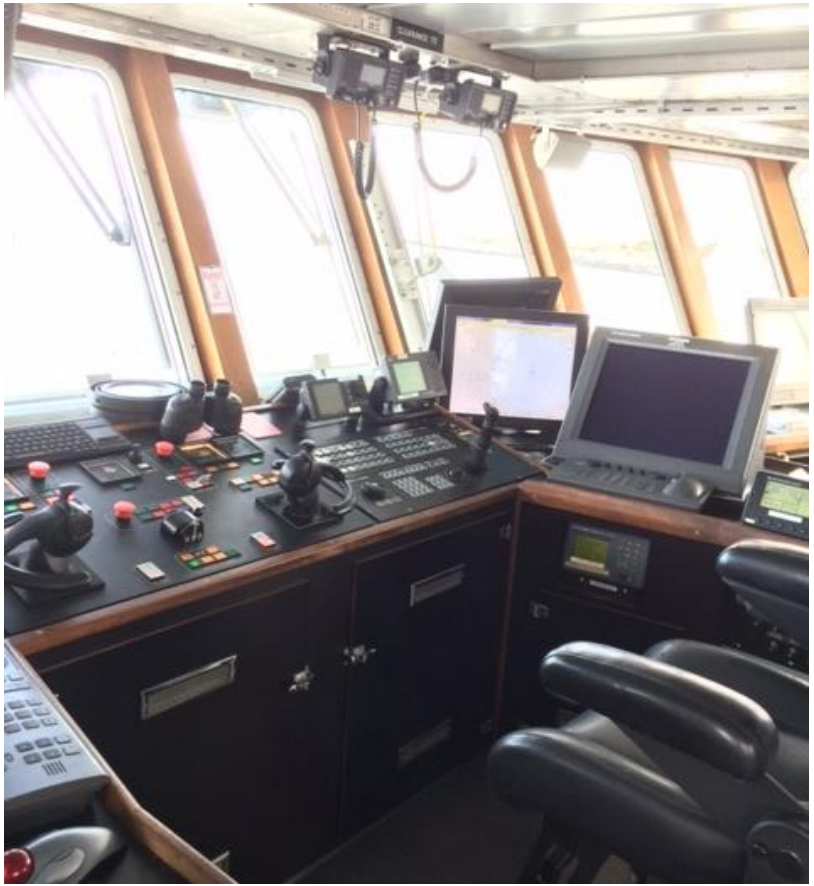
High Capability in Smaller Packages

Precision Navigation and Maneuverability

Azimuth Drive Propulsion

Dynamic Positioning System





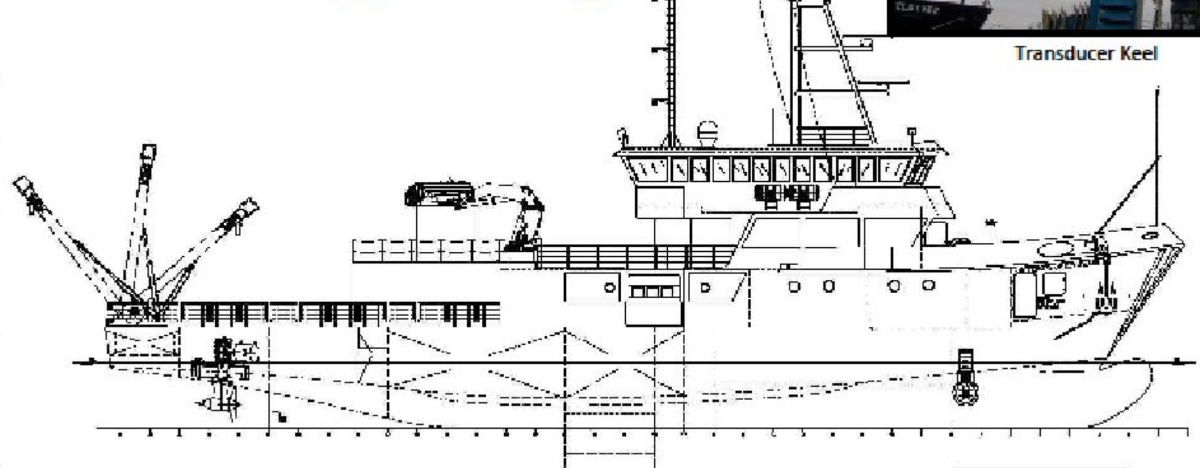
Science Transducer Locations

RESON 7125 Mount

Knudsen 320 BR 200/ 12 KHz

RDI ADCP 600 or 300 KHz

Transducer Keel



Spare Science Transducer Pod

R/V HUGH R. SHARP
Transducer Locations

SIZE N/A	FSCM NO	DWG NO 120321DRW-B	REV
SCALE		SHEET 1 OF 1	

DRAWN Bay Marine Inc

ISSUED Timothy W. Deering

R/V HUGH R SHARP Challenges

- Utilization trend is downward – A common issue for smaller UNOLS vessels
  - See chart on following slide.
  - Low utilization impacts revenue to cover costs for Crew, Maintenance, Repairs, Upgrades, and Outfitting.

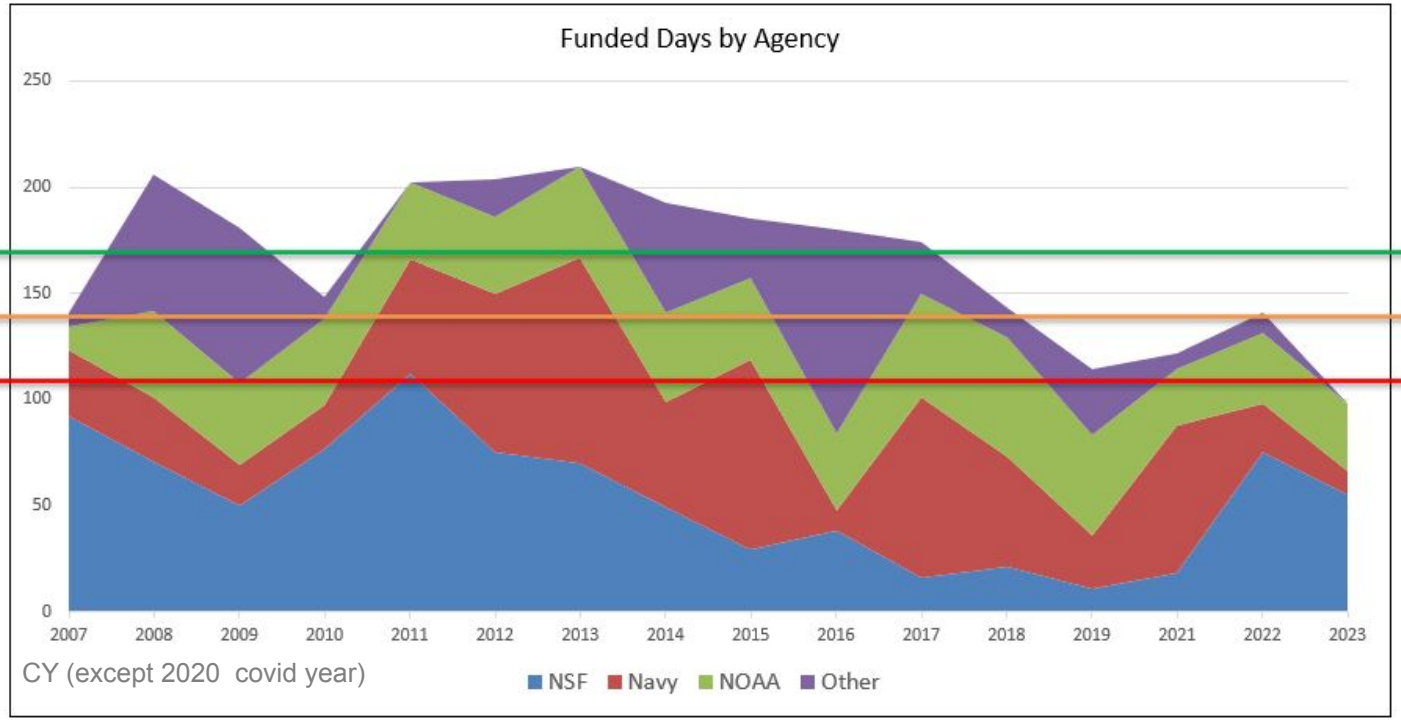
- Aging of the ship - Though well maintained and many upgrades completed, the SHARP is entering its 18th season of service.
  - Vessel Condition Survey and Mid-Life Planning Study due.
  - UD and SHARP User Requirements Study needed.
  - Increased cost and shortage of service support and parts for complex ship systems.

- Workforce Dynamics
  - Aging and Retiring Crew – Includes Captain and senior Engineers.
  - Shortage of Licensed Mariners (particularly Engineers) to fill vacancies.

R/V SHARP Utilization Trend

The Primary Foundation:
ONR = Red
NSF = Blue

Enables Other Research:
Other = Purple
NOAA = Green



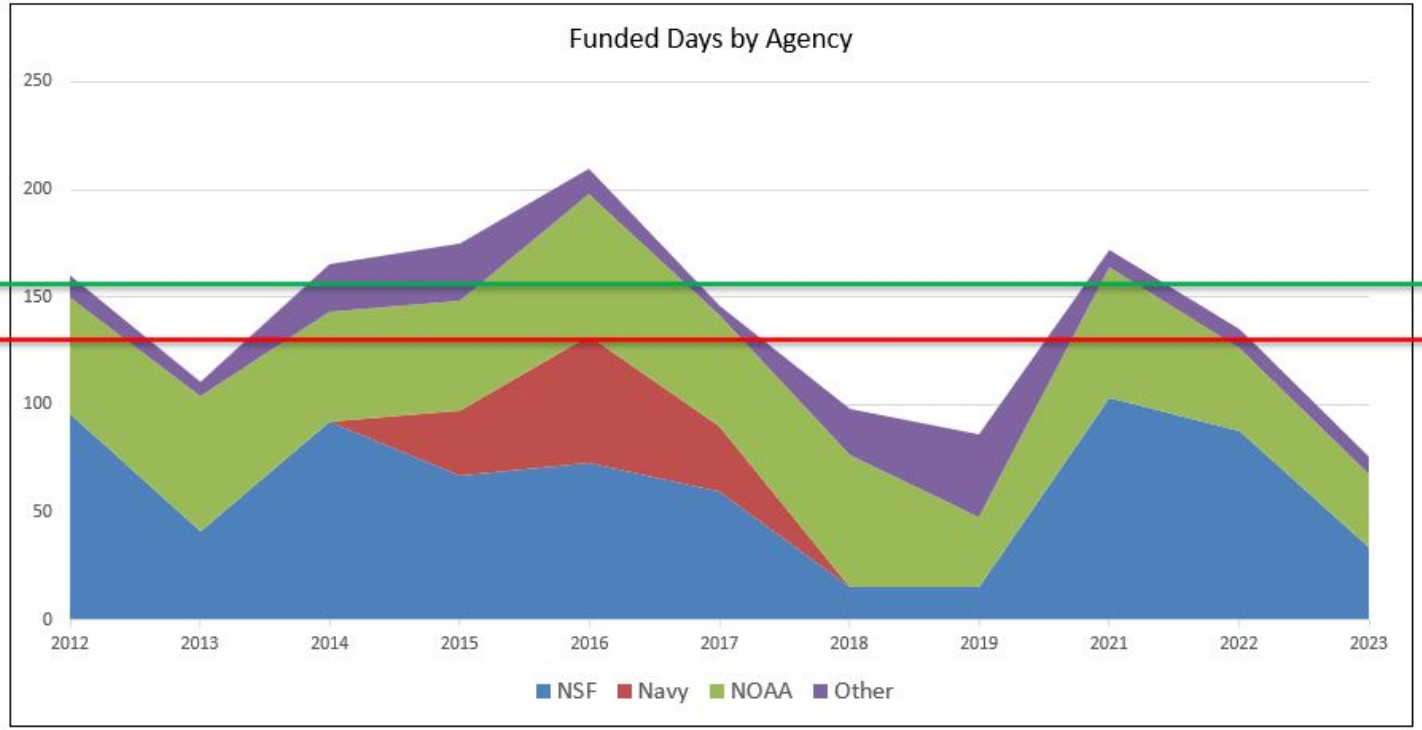
170 days at Sea	Fully utilized; efficient, fully staffed, reasonable day rates. (150-160 days ideal).
140 days at Sea	Sustainably Utilized w/out significant cost cutting (Crew, etc.); rates not competetive commercially.
110 days at Sea	Sustainable only with major cost cutting and/or high % day rate and MOSA rate increases.

Note: Funded days at sea shown; funded home port days begun in CY2019 are not shown.

R/V SAVANNAH Utilization Trend

The Primary Foundation:
ONR = Red
NSF = Blue

Enables Other Research:
Other = Purple
NOAA = Green



155 days at Sea — Fully utilized; efficient, fully staffed, reasonable day rates.

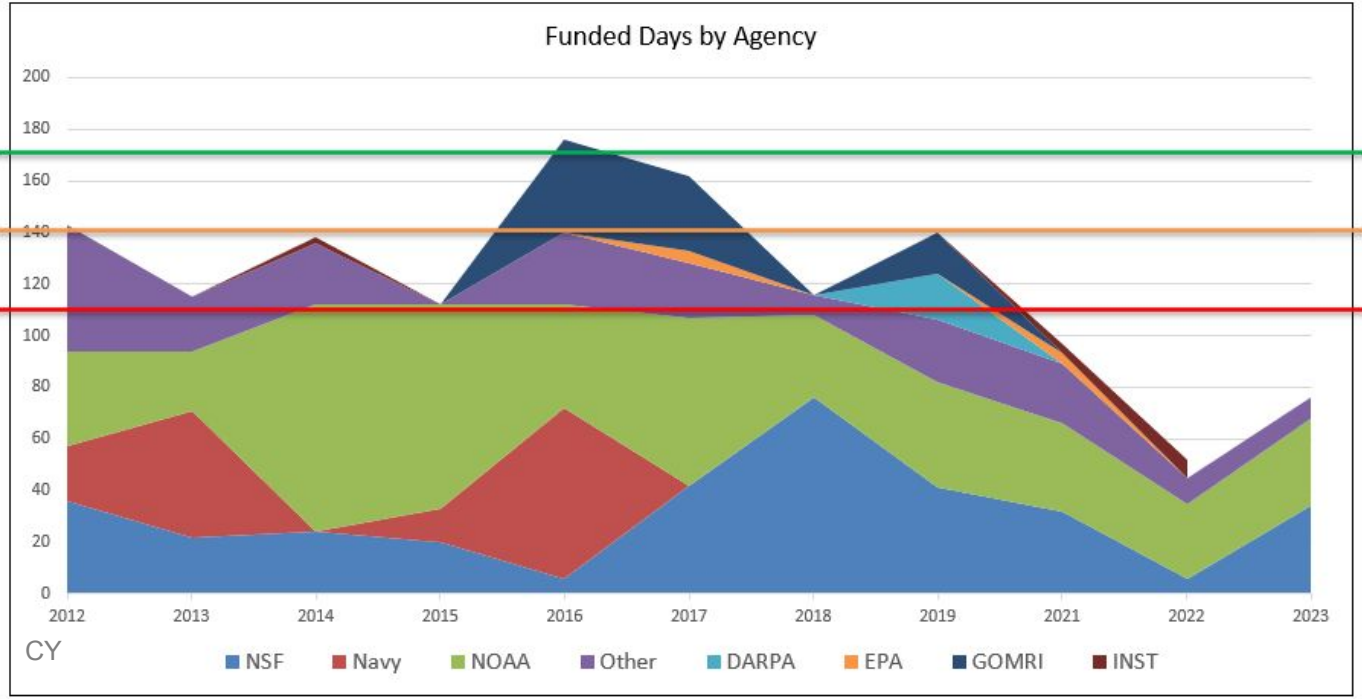
135 days at Sea — Sustainable only with major cost cutting and/or high % day rate and MOSA rate increases.

Note: Funded days at sea shown; funded home port days begun in CY2019 are not shown.

R/V Fort Walton Smith Utilization Trend

Notes:

- 2022 low due to alongside for engines replacement.
- 2020 not included due to covid pandemic



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Impacts of inconsistent Federal Agency Usage

- "**Seesaw funding**" and downward utilization trend =
  - Revenue to cover fixed costs is downward.
  - "Survival Mode" Management most of each year impacts the ability to focus on the long term.
  - Increases difficulty of hiring new crew (can't guarantee consistent work / income)
  - Minimally staffed on the ship and in the office.
  - Significant effort is spent trying to fill gaps in the schedule with commercial research. Day rate competition is stiff with less capable commercial vessels.

- Difficult to plan for future investments in a ship when it is not consistently fully utilized.

Questions and Opportunities to Explore

- Are less ship days being requested for smaller vessels? Why?
- Are there unknown or unmet near-coastal vessel science needs?
- Are there ways to better balance demand between larger and smaller vessels on the east coast?
- Are there capabilities that need to be added to the smaller vessels?
- Is there a way for Agencies to commit to a minimum number of operational days to ensure Fleet sustainability and capacity?
- Opportunities:
    - Fund more STEMSEAS or Early Career Scientist cruises on small vessels?
        - Inspires students to seek careers in oceanographic research at a reasonable cost.
        - Adds Agency funded days to vessels during low Agency utilization years
        - State or Institutional funded education cruises
    - Seek commercial research to fill gaps (i.e. Offshore Wind).

STEMSEAS students on SHARP during 2022 cruise