

# 2011 Days *R/V Hugh R. Sharp*

## Agency Funded

NAVY 54

NOAA 36

NSF 112

OTHER 0

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Total 202



*Debrief process to solicit feedback on Sharp and design recommendations for future Regional Class Research Vessels*

# New Investigators

- D. Benjamin Reeder/ONR, Mar 02-18, ONR, Geo-acoustics
- Elizabeth Canuel/VIMS, Mar 27-Apr 2; Aug 3-9, NSF, Delaware Est.
- Dajun Tang/UW\_APL, Apr 3-May 2, ONR, sediment acoustics, Gulf Mexico
- Matthew Johnson/WHOI, May 4-9, Oct 16-21, NSF, *M. rubra* ecology
- James Pierson/UMD\_CES, May 24-Jun 1; Jul 19-26, Sep 21-29, NSF, Hypoxia & copepods
- Byron Crump/UMD\_CES, Jul 5-13, NSF, Life in Dead Zone
- Elizabeth North/UMD\_CES, Jul 14-18, NSF, Larval transport
- Joseph Katz/JHU, Aug 11-24, NSF, BBL Turbulence
- Glen Gawarkiewicz/WHOI, Sep 8-14, ONR, Acoustics of fish

# Repeat Investigators

- Sommerfield; Byrne; Kirchman; Luther

# Debrief Questions –Responses

## Size:

J. Katz found the size of the vessel an improvement over previous vessels used (e.g., R/V *Cape Henlopen* and R/V *Cape Hatteras*). His main comments on this related to the deck space and ability to fit vans on back deck.

M. Johnson felt the size of the *Sharp* was ideal for research objectives in Chesapeake Bay. He had a science crew of 11, and did not feel like they were in each other's way. They were able to access far up tributaries as well as sample the coastal ocean and open Bay. The *Sharp* has adequate space for dry and wet lab research, as well as on-deck incubations and vans.

For D. Tang's cruise the ship was full. They felt that it would be good if the *Sharp* were a little bigger, but they realized that they had previously done basically the same kind of work on the *Seward Johnson*. Overall the size was adequate.

# Debrief Q2

- Over the Side Handling System:
- J. Katz used the CTD system in an ancillary capacity. Near bottom measurements were adequately conducted to  $< 2$  m from bottom. Since this was not a critical element of the science Prof. Katz did not evaluate the docking head and motion control winch system.
- M. Johnson reported the hands free CTD system worked smoothly and was convenient for accessing samples when it was raining. No negative impacts.
- Tang's group really loved this feature. They said all they had to do was ask the tech to do a CTD and the tech was able to do it all by himself. The science party was free to do other things while the CTD was being done.

# Debrief Q3

- Retractable Centerboard with mounted acoustic transducers:
- This was not specifically commented on in by M. Johnson.
- J. Katz did comment on the utility of the ship's mapping system for target selection and obstacle avoidance.
- D. Tang also loved this feature. They mounted equipment on the centerboard and it was no big deal. It saved a lot of time over alternate deployment methods.
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# Debrief Q4

- Acoustically Quiet:
- M. Johnson commented the Sharp is very quiet with hardly any vibration. This was very helpful for doing microscopy while underway.
- D. Tang really appreciated this feature also. He said relative to native oceanic noise (waves, wind, rain, etc.), the *Sharp* was quite quiet even with the generators, fans and pumps running. They were impressed.

# Debrief Q5

- Vans and deck space:
- J. Katz found this one of the most improved features of the *Sharp* relative to previous vessels used. He found that it greatly aided his work to have a protected environment on deck for instrument prep and ability to also have an instrument supply van on hand.
- M. Johnson commented that the vans were very helpful, but it would be nice to have a second general purpose van available. It would also be nice if they had better ventilation inside.
- Tang's group did not use the vans, but they appreciated the flexibility they offered. One thing they said was that by the time they got all their stuff set-up in the lab it was quite crowded. Next time they will use one of the vans for equipment.

# Debrief Q6

- Variable Berthing Capacity:
- None of the science parties used the expanded berthing capacity. Johnson and Tang thought expansion to 20 would be too many.



# Debrief Q7

- Dynamic Positioning:
- J. Katz used only coming onto site and not during experiments, as it would have disturbed the current measurements. The ship used a three-point mooring arrangement to stabilize it during experiments. This was not adequate during rough weather, however.
- Johnson reported the DP system was not important for his work.
- Tang used this when they ran lines and thought it was really helpful. They thought all future ships should have DP.

# Debrief Q8

- Other Features:
- J. Katz found the ship's ADCP system very useful. The main limitations discussed were the difficulties in over-the-side deployment and particularly retrieval of instruments in rough weather using the stern A-frame. Ship's crane did not have sufficient reach to help with this with his payloads. The main improvement he suggested is some method to stabilize instrument packages during such over-the-side deployments and retrievals.
- M. Johnson commented *Sharp* could benefit from a second or larger wet lab.

# Other comments from D. Tang

- They did a lot of diving from the *Sharp* (to imbed acoustic targets into the sandy bottom) and they really appreciated the set of stairs on the starboard side of the fan tail that went down to the water. This set of stairs is cut notched into the ship and normally is covered by plate on the fantail. Removal of the plate allows access to the stairs. There is also some sort of load control system on the A-frame that is composed of a couple of small winches that are mounted on either side of the A-frame that control the height above the deck of the A-frame load. They liked this.
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- Finally, they had these couple of comments about R/V's in general that they wanted to make.
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- Most ships are not at all well set-up for diving ops.
- DP is a wonderful thing.
- There is no ship in the U.S. that is equipped to run on batteries for a limited amount of time (6-8h) in order to accommodate acoustic studies that need really quiet operations. Evidently the British and Canadians each have one.