

Date: 25 June 2013 *B. Houtman*
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To: Dr. Peter Ortner -UNOLS Chair

Subj: 2014 U.S. Academic Research Fleet Operations Support Findings and Recommendations

Ref: (A) Criteria and Process for Recommending Non-Operational Periods of Ships in the UNOLS Fleet, UNOLS Council - July 24, 2006.¹

Introduction

The National Science Foundation (NSF), the Office of Naval Research (ONR), and the UNOLS Executive Secretary have participated in numerous ship scheduling meetings and conducted a thorough review of the 2014 Letters of Intent for the UNOLS Global and Ocean Class ships in the U.S. Academic Research Fleet (ARF). Realizing that additional funding decisions will be made over the coming weeks, and that we are currently working through the 2014 scheduling process, the agencies present the following outlook for 2014 based on current projections.

As of June 17, 2013, there are presently 2348 funded days across all agencies as shown in the 2014 Proposed Operating Days table below. There are 1063 pending days of which an estimated 20% (213) will likely be funded resulting in a total of 2561 days (Institution/State-121, NASA-17, Navy-334, NOAA-152, NSF-1700, USGS-40, BOEM-20, ACOE-2, and Other-175) of proposed ship time. Figures 1-5 illustrate the Fleet Utilization Trends and the Ship Time Request Demand over the past ten years, as well as the anticipated Fleet use in 2014.

Based on the findings outlined below, several ships in the Fleet will have less than optimal schedules in 2014. As agreed to by the UNOLS Council, the reference (A) document, which will guide the recommended process for making decisions regarding non-operational periods, calls for substantive recommendations to be made by the federal agencies. This letter provides those recommendations. The link to the reference document is:

http://www.unols.org/publications/reports/budget_impacts/NonOp_Process_Recmd.pdf

Agency Positions

- The agencies' ability to modernize the Fleet (i.e. move forward with RCRV) is directly linked to effective "right-sizing".
- Vessel owners have sole discretion on whether or not to retain their vessel(s) in service.

- Agencies will continue to support the practice of improving the efficiency and economy of the overall ARF schedule, and therefore NSF and ONR will not provide operators of agency-owned assets with lay-up funds, or divert work from other UNOLS ships as an artificial mechanism by which to reduce day rates. The need for lay-up funds for a specific ship will be carefully reviewed by the federal agency ship owner on a case by case basis and will be considered within the context of the overall Fleet “right-sizing” and budgetary projections. The agencies believe this is in compliance with the UNOLS Charter (ANNEX I, Ship Scheduling Committee).
- Federal agencies prioritize decisions based on schedule efficiency and scientific effectiveness to maximize science support while making every effort to reduce overall costs.
- NSF and ONR agree an appropriate level of surge capacity is needed; in particular for rapid response type cruises and to allow for potential future increases in science utilization.
- Given the current and projected federal funding limitations, coupled with the underutilization of the ARF, it is apparent that the Fleet size needs to be reduced more rapidly than previously planned. The savings from such a Fleet reduction would be used to bolster the schedules of the remaining vessels, thus leading to more efficient operations and more manageable day rates. With regard to “right sizing” of the ARF, consideration will be given to geographic distribution of the ships and overall projected science utilization by Class.
- Federal agencies encourage institutions that own and/or operate Fleet vessels to commit to chartering ship days on their vessels for institutional education, public outreach, research, and training of the next generation of ship users. This commitment reduces the dependency on the federal agencies as the sole source of funding, and lowers the day rates for all potential users.

Agency Decisions and Recommendations

- NSF retired R/V *Cape Hatteras* in March 2013 per last year’s recommendation, with the vessel being sold to Cape Fear Community College. As stated in the 2013 U.S. Academic Research Fleet Operations letter, dated June 1, 2012, R/Vs *Point Sur* and R/V *Clifford Barnes* would be considered for retirement in 2014. Based on inspection reports, projected utilization and FIC’s recommendation, action was taken to defer R/V *Clifford Barnes*’ retirement and a revised Projected End of Service Life date of 2017

was approved. The University of Washington is actively seeking funding for a replacement vessel.

- As a follow-up to the retirement recommendation of R/V *Point Sur*, NSF sent a letter to Moss Landing Marine Laboratories dated June 19, 2013, conveying the decision to proceed with plans to retire the R/V *Point Sur* from service during CY2014. ONR continues to plan for de-activation of R/V *Knorr* and R/V *Melville* in conjunction with the Ocean Class delivery requirements for crew training on R/V *Neil Armstrong* (AGOR 27) and R/V *Sally Ride* (AGOR 28). De-activation dates will be determined based on 2014 operating schedules, with current planning to result in both R/V *Knorr* and R/V *Melville* de-activating in 2014.
- ONR has completed the scoping study for the mid-life refit of the AGOR 23 Class of Global vessels, to include R/V *Thompson*, R/V *Revelle* and R/V *Atlantis*. Funds have been identified to develop detailed engineering designs for the mid-life refit, and to plan for the shipyard overhaul of R/V *Thompson* in late 2014.
- NSF and ONR recommend the operators of all ships find ways to reduce costs and seek appropriate opportunities to support research and education programs from other funding sources, including institutional funds.

Guidelines

The guidelines used by the agencies to develop the recommendations above are outlined below:

- As with the previous year, we are faced with limited budgets across the federal agencies and escalating fuel and ship repair costs, operators must control the operating and maintenance costs within their direct purview in order to maintain day rates within inflation. An institution's ability to maintain reasonable day rates will be considered when negotiating annual awards.
- Federal agencies will continue to evaluate if a weak schedule of an institution-owned ship is adding to agency costs. Shore-side support is one area where costs are distributed across the ships and these costs will be reviewed on an annual basis.
- When appropriate, maintenance periods should be carried out in a vessel's homeport, both as a cost saving measure as well as an opportunity to conduct preventative maintenance. In support of current federal policy, U.S. shipyards are required for known regulatory dry-docking.
- Ship schedules must be developed to meet the science program requirements while adhering to budgetary constraints.

- Science program requirements must match the oceanographic outfitting capabilities of the ship on which the program is scheduled.
- The size/class of vessel should be considered when selecting ships appropriate for the science mission.
- The Funding Agency Science Program Managers and Principal Investigators will be consulted when information beyond that listed on the UNOLS Ship Time Request Form is required. Modifications to cruises cannot change the scope and purpose of the funded project unless approved by the federal agency.
- Programs may be scheduled as a two-ship operation instead of a single Global Class ship if it will be more efficient and cost effective.
- Every effort should be made to schedule each year's funded programs within the budgetary constraints of each federal agency. Deferrals of cruises will be considered if a particular cruise cannot be accommodated effectively and efficiently. All cruises requiring significant transit costs will be specifically scrutinized to determine if it can be accommodated within the available funding or may require adjustment to attain effectiveness and efficiency objectives.

Supporting Information and Findings

The findings regarding Fleet ship operations for 2014 are based on the submitted ship-time requests, and posted Letters of Intent (preliminary schedules). For 2012 and 2013, information was obtained from published schedules, and cost estimates provided by the ship operators. Planning for 2014 is currently in progress and details vary at the time of this letter.

1. There were 3397 operating days on the 2012 final published schedules.
2. There are currently 3607 operating days (funded and pending) on the 2013 published schedules as of June 17, 2013
3. See *Introduction* for 2014 funding discussion.
4. The total number of requested operating days for 2013 funded by NSF is 2047 days. NSF continues to fund the majority of days at sea as shown in the total Fleet percentages below. In 2012, of the total 3397 days, NSF funded 2158 days, or ~63 %. In 2013, NSF will provide support for ~57 % of the total days. ONR is funding 594 days, NOAA 219, State 230, and Other 517.
5. For 2013, the Global ships, (*Atlantis*, *Knorr*, *Langseth*, *Melville*, *Revelle*, and *Thompson*) and the Ocean Class ship, *Kilo Moana* have schedules ranging between 187 and 309 operating days (funded and all pending). There are specific

homeport maintenance periods scheduled. For 2014 scheduling, significant effort has gone into identifying critical timing and capability requirements. *Atlantis*, *Langseth*, and *Kilo Moana* currently have some capacity to add days.

6. For 2013, the East Coast Ocean/Intermediate, *Endeavor* has 211 days (funded); *Oceanus* was transferred to Oregon State University in January 2012 and has 182 days scheduled in 2013. As has been the norm over the past ten years, the work is concentrated in the mid North Pacific and North Atlantic in the optimal weather windows from March to October. In 2014, *Atlantic Explorer's* LOI shows 97 days funded, and 39 pending. *Endeavor's* 2014 LOI has 243 days, of which 144 are funded.
7. In 2013, R/V *Pelican* has a robust schedule of 238 days (funded and pending). In 2014, *Pelican's* LOI has 100 days, with 67 funded days, however historically the *Pelican* has added days over the course of the year from a broad source of agencies. In 2013, R/V *W. F. Smith* has a somewhat weaker schedule with 115 days. In 2014, R/V *W. F. Smith* shows an LOI with 73 days, 2 days funded and 71 pending.
8. In 2013, R/V *Hugh Sharp* has a relatively strong schedule at 221 funded operating days, and work concentrated regionally. In 2014, R/V *Hugh Sharp's* LOI has 151 days funded and 38 pending days with no double bookings.
9. For the West Coast Ocean/Intermediates in 2013, *Oceanus* has 182 days and *New Horizon* has 173 days. This Class of ship should be operating between 200-225 days. In 2014, it is anticipated that *Oceanus* will have approximately 174 days, although there are some days double booked with the *New Horizon*. The R/V *New Horizon* has 71 days funded and 73 days pending in 2014.
10. In 2013, R/V *Point Sur* has 196 days and the *Robert G. Sproul* has 43 days. Figure 1 shows the overall steady decline in utilization of R/V *Point Sur* over the past ten years. Regional Class ships are considered fully utilized at about 180 days. In 2011, R/V *Point Sur* had 84 operating days and 98 days in 2012, of which 33 days were for the NSF Division of Polar Programs to support science research at Palmer Station Antarctica. This research cruise continued into CY 2013 and resulted in 92 of her 191 operational days. This one-time opportunity was successfully completed earlier this year. Based on budget projections, Polar Programs is not presently planning to support a return of R/V *Point Sur* to the Antarctic in 2014 or 2015. At this time, an optimistic projection is about 70 operating days for R/V *Point Sur* in 2014.

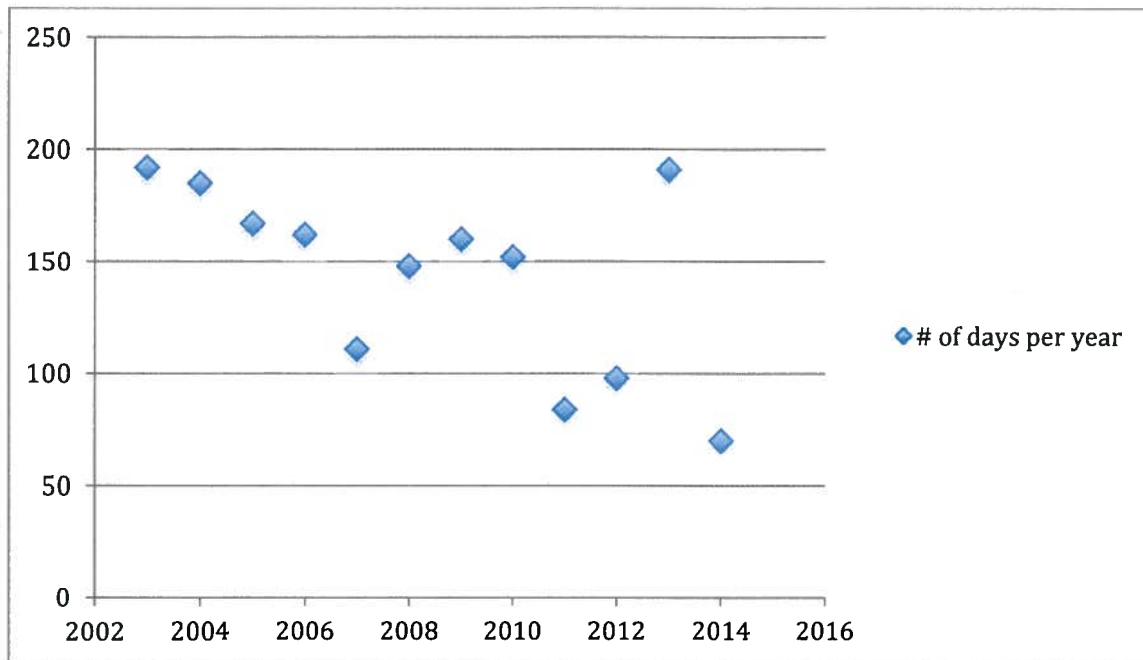


Figure 1. R/V Point Sur's operating days CY2002-CY2014

The University of California, Scripps Institution of Oceanography, owns R/V *Robert G. Sproul*. A decision was made in CY 2013 to subsidize the day-rate in order to bring it more in line with other ships in her Class. As a result, R/V *R.G. Sproul* went from a complete lay-up status in CY 2013 to a modest operating year. As of the time of this memo, R/V *R.G. Sproul* is showing 8 funded days, with 24 pending days in CY 2014.

11. In 2013, R/V *Blue Heron* has a 68 day schedule. A 2014 LOI is posted with 58 total days, 25 days funded and 33 pending. There are no double bookings. In 2013, R/V *Barnes* has 115 funded. For 2014 a posted LOI shows 57 days, 44 funded and 13 pending. R/V *Savannah's* CY 14 LOI shows 125 funded and 47 pending. This represents a viable schedule.

Agency	ACOE	DOE	EPA	Inst/State	BOEM	NASA	NAVY	NOAA	NSF	USGS	Other	Total
2009 Funded Days	5	0	0	175	57	40	618	334	2397	21	556	4203
2010 Funded Days	6	3	3	183	63	0	487	518	2515	20	213	4011
2011 Funded Days	0	0	1	206	35	2	491	498	2274	62	232	3801
2012 Funded Days	0	0	0	176	21	37	376	337	2158	11	281	3397
2013 Funded & Pending Days*	8	0	0	230	16	14	594	219	2047	23	456	3607
2014 Funded & Pending Days**	2	0	0	121	20	17	334	152	1700	40	175	2561

- * The 2013 Funded and Pending days are based on posted ship schedules as of 6/17/2013.
- ** The 2014 Funded and Pending days are based on the latest LOIs and draft schedules posted as of 6/17/2013. A 20% success rate factor has been applied to the pending days.

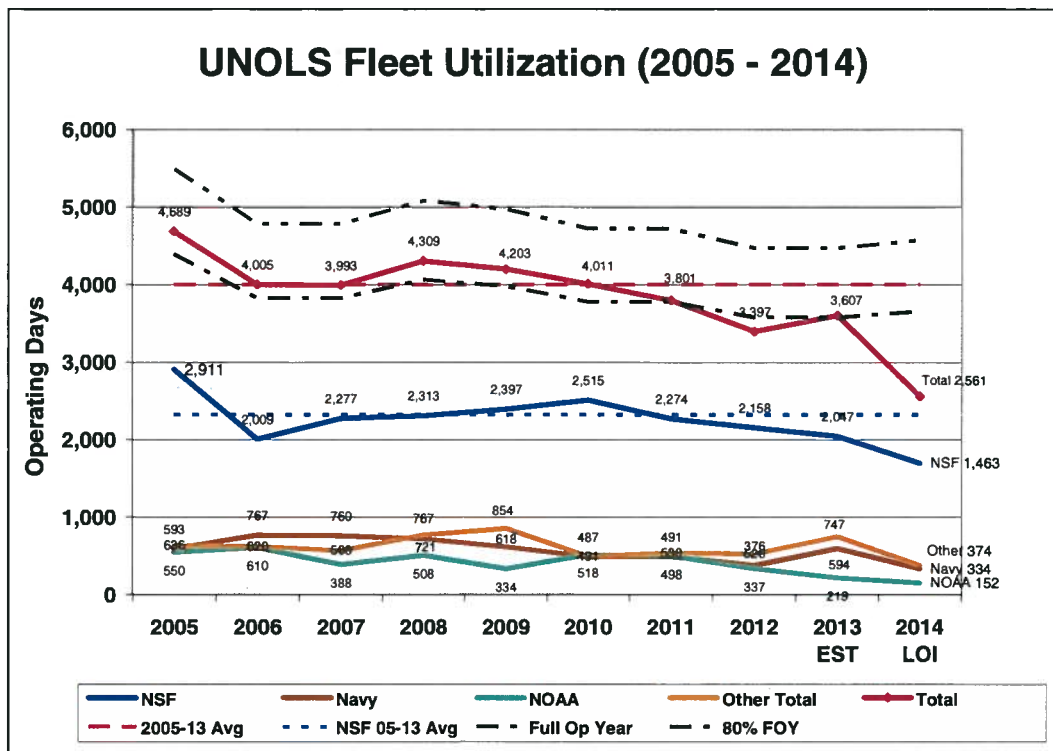


Figure 2: UNOLS Fleet Utilization (2005-2014)

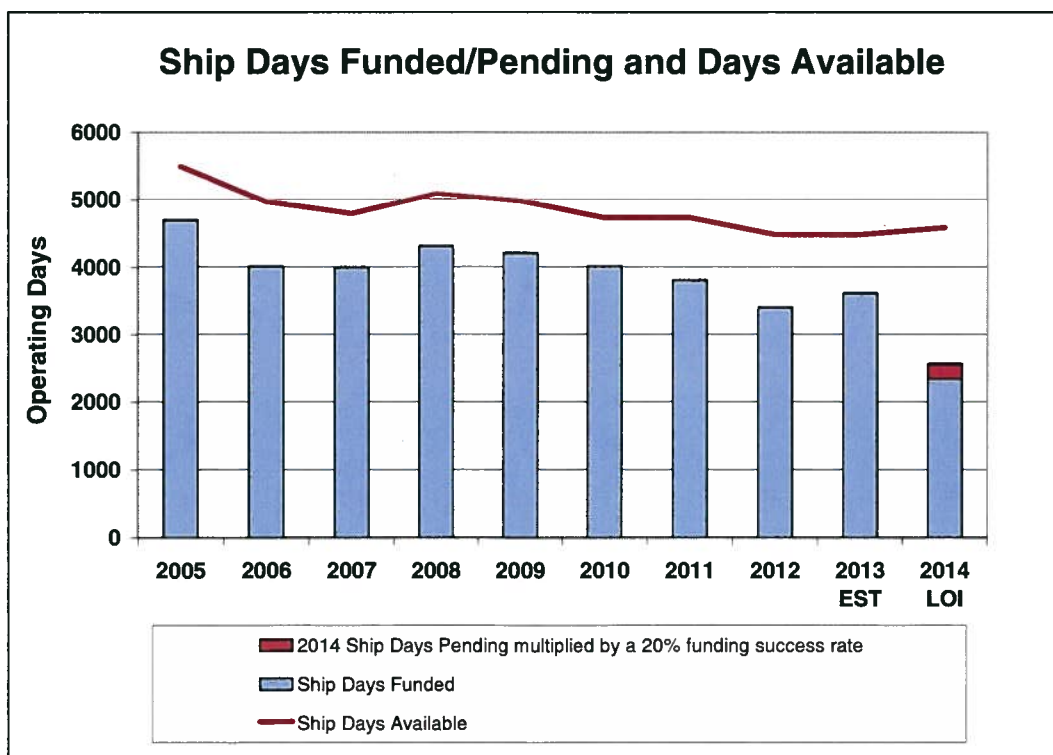


Figure 3: Ship Days Funded/Pending and Days Available

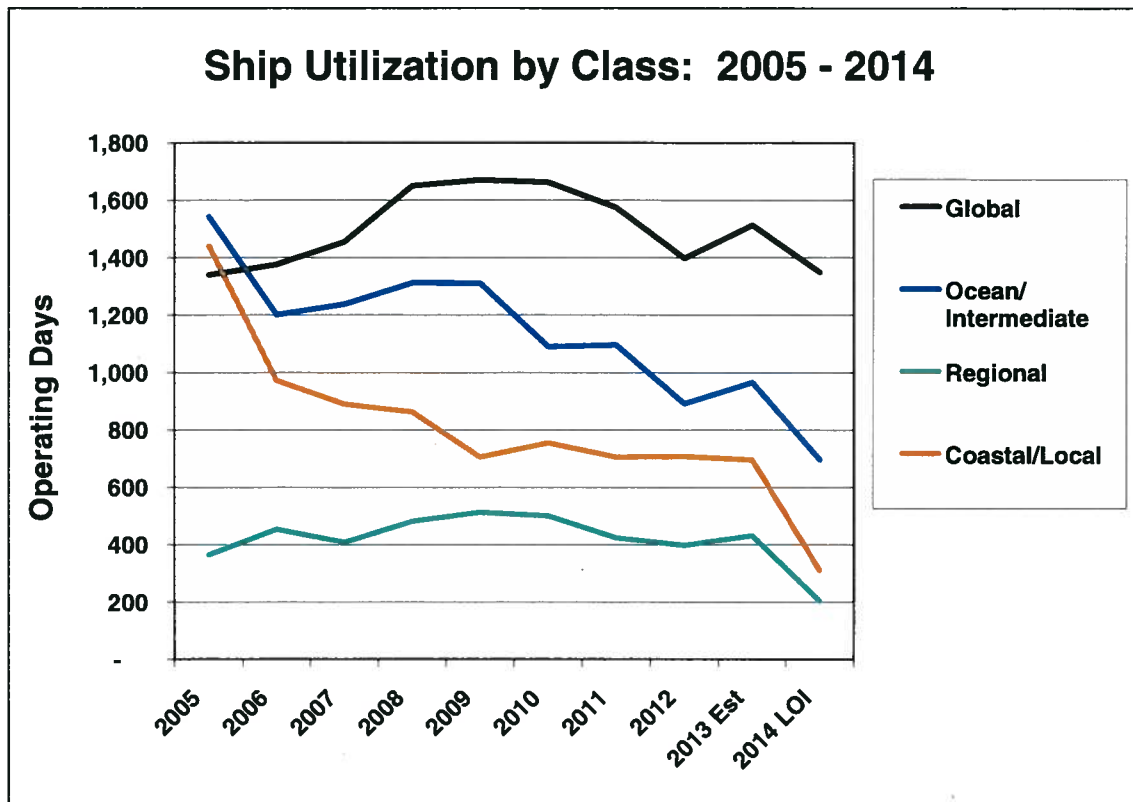


Figure 4: Ship Utilization by Class (2005-2014)

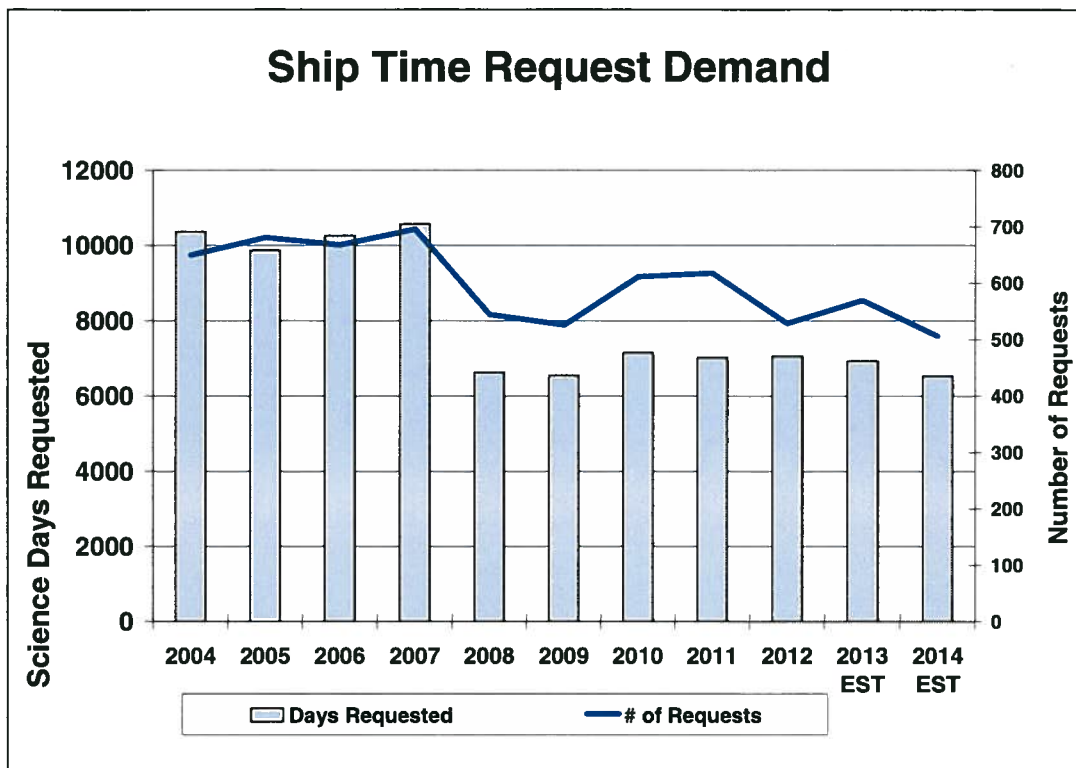


Figure 5: Ship Time Request Demand