



UNIVERSITY-NATIONAL OCEANOGRAPHIC LABORATORY SYSTEM

Moss Landing Marine Laboratories 8272 Moss Landing Road, Moss Landing, CA 95039

(831)-771-4410 Fax (831) 632-4413 www.unols.org office@unols.org

July 15, 2005

H. Lawrence Clark, Acting Director
Division of Ocean Sciences
National Science Foundation,
4201 Wilson Blvd.
Arlington, Virginia 22230

Dear Larry,

UNOLS has completed the review of the current funding problems affecting the scheduling and operation of the UNOLS Academic Fleet in 2006 following receipt of your letter received on 25 February 2005. In that letter you asked for our advice on how to manage the significant reductions that must be realized in overall UNOLS fleet costs over the next several years given the declining NSF budget levels. At the UNOLS Council meeting on 29/30 March, an ad hoc committee consisting of Marcia McNutt (Chair), Eileen Hofmann, and Denis Wiesenburg was formed to work with the UNOLS Scheduling Committee to address the budget concerns you identified. The Council provided a Terms of Reference to guide their deliberations (See Appendix I).

The ad hoc committee worked with the UNOLS Scheduling Committee, the ship operators, program managers from the agencies using UNOLS ships, and the UNOLS Office to define the funding for ship operations and to explore ways to lessen the shortfall's impact. During the preparation of the recommendations, which are provided in Appendix II, there was considerable exchange between the committee and the other parties. The UNOLS Council comprehensively reviewed the recommendations developed by the committee during the summer conference call meeting on 13/14 July, 2005 and approved them for submission to you.

The uncertainties that remain in the current budget forecasts resulted in our taking a precautionary approach. This means that amongst the recommendations is the acknowledgment that some Intermediate/Ocean Class ships will need to be laid up for a year and perhaps a Global Class ship as well. The outcome of the scheduling meeting on the 20th of July will determine in part the extent of this need. We also foresee the possibility that additional declines in the budgets may force the retirement of some vessels before the new classes of replacements are ready for service.

We recognize this is part of a continuing process of adjustment to the current budget realities and we stand ready to provide additional assistance as the decisions made at the highest governmental levels unfold. At the same time we continue to believe that the nation really needs an increase in funding for research and education in the ocean sciences and full support for the required supporting infrastructure.

Sincerely yours,

Peter H. Wiebe
UNOLS Chair



Ad hoc Committee Terms of Reference

- 1) Determine a best estimate of the UNOLS fleet utilization based on funded science by class, by region/season, by special requirements.
- 2) Estimate the ship operation funding from all sources. Evaluate the probability of NOAA funds and additional Navy funds.
- 3) To the extent that the funds available do not meet the operational needs, develop a plan for ship lay-ups that will fit the budget realities and minimize impact on funded scientific programs. This plan should take into consideration longer term issues such as the impact of retirements versus lay-ups or the various forms of lay-ups ("ready to go" versus mothballed) and funding prospects in the out years (Observatories). Marine Superintendents and Directors should be asked to recommend a lay-up process. The cost of lay-up scenarios should be provided.
- 4) Prior to submittal of the plan (both short-term and long-term), the ad hoc committee's recommendations shall be circulated to the UNOLS Operator Institutions for review and comment. The ad hoc committee will consider all comments and revise the recommendations, as they see appropriate.
- 5) Submit the plan for approval by the UNOLS Council. The plan should provide the following:
 - a. A short-term recommendation to address the 2006 budget shortfall. Recommendations for ship lay-ups should include a 3-year lay-up rotation schedule. The short-term recommendation should be provided to the UNOLS Council by June 1st.
 - b. The plan should also provide long-term scenarios (3 years) for ship lay-ups and retirements. Recognizing that future budget projections are unavailable, various scenarios should be developed to address the possibility of level and declining budgets. The costs and operational impacts associated with the various scenarios should be articulated in the plan.
 - c. Lastly, the plan should define a process for annual evaluations to ensure that fleet size and composition is appropriate to meet budget projections and funded ship time demands.
 - d. Long-term recommendations and the process for annual evaluations should be provided to the UNOLS Council by August 31st.

Recommendations From The UNOLS Council To Address The Impact Of Declining Budget Levels On UNOLS Fleet Operations.

A resolution of the University-National Oceanographic Laboratory System (UNOLS) Council dated July 14, 2005 was adopted to provide a response to the letter from Larry Clark, Acting Director of the NSF Division of Ocean Sciences dated 25 February, 2005. Based on input from UNOLS ship operators, Federal sponsors and members of the ocean sciences research community we make the following recommendations regarding the reduction of costs for operation of the UNOLS Fleet and regarding the allocation of funding for these operations. Supporting documentation and the request for community input can be found on the UNOLS website at: http://www.unols.org/_projects/fleet_budget_impacts.asp.

Short term recommendations (2006 operating year)

- **Issue: How many ships should be taken out of service in 2006 to meet the budget projections?**
 - In the absence of additional funded work or an increase in the ship operations budget, there are not enough days next year to fully utilize all of the ships in the UNOLS Fleet. **Ship Schedulers and Agency Program Managers should develop scheduling options that lay-up the *Alpha Helix*, one Intermediate Class vessel on the west coast, one Intermediate Class vessel on the east coast and one Global or Ocean Class vessel. The *Weatherbird II* (as it is being replaced by the *Seward Johnson II*) should be retired from service and current plans to retire the *Gyre* should be carried out. NSF should make a determination regarding the optimal start date for the *Marcus Langseth* operations.** Should the \$5M for UNOLS operations that is currently in the Navy budget be appropriated, it might obviate the need to lay up the one Global or Ocean Class vessel. A preliminary evaluation shows that there is little funded work for a Regional Class vessel in Alaska, about two and a half ships' worth of regional and intermediate work on the west coast, and about four ships' worth of similar work on the east coast. There is around five ships' worth of work for the Global and Ocean Class vessels (not including *Marcus Langseth*). The local vessels all have light schedules, but laying these up does not save significant amounts of money and would leave many projects stranded.
- **Issue: How should UNOLS deal with uncertain budgets for NOAA?**
 - **Schedulers should be careful to create schedules that do not leave the vessel stranded in remote locations or rendered unworkable by the lack of approval for funding a particular project.** All NOAA field work is dependent on Congress appropriating the budget requested by NOAA for each project. In some cases, the requested budget is for an increase over the base budget for the program and is more vulnerable than the other scheduled projects. Also, care should be taken to ensure that the total cost of a scheduled NOAA project is less than or equal to the proposed budget. Given the NOAA budget uncertainties, scheduling will need to be concluded without NOAA programs, while trying to retain some flexibility for inserting those programs at a later date when the agency's needs are certain. While this approach is not optimal for UNOLS or NOAA, it is the only fiscally responsible course of action unless the agency is willing to guarantee some level of UNOLS support.



- **Issue: Which ships should be laid-up?**
 - **The choice of actual ships to be laid up in 2006 should be made by Agency Program Managers based on criteria that maximize the amount of field work accomplished within the budget, meet any ship specific science requirements, and fairly distribute the pain of lay-ups among operating institutions.** The ship operators and schedulers working with the UNOLS Office can provide scheduling options to choose from with associated financial models and analysis of scientific impacts, taking into consideration institutional contributions to vessel support and use of the ships by organizations outside traditional groups such as NSF, ONR and NOAA. The UNOLS Council and this committee can also provide further recommendations about the relative merits or considerations for the specific options once they are developed.

- **Issue: What type of lay-up should be recommended?**
 - **The minimum number of ships should be put into a lay-up for an entire year (as opposed to partial lay-ups for a larger number of vessels) to the extent that this can be done without creating excessive deadhead transits or overly compromising scientific objectives. Any required inspections, surveys or shipyard periods should be scheduled in the most cost effective way possible. Crew members and technicians should be employed on other UNOLS ships to the maximum extent possible.** Operators should be given the opportunity to submit plans that provide for the most cost-effective strategy for laying-up a vessel while maintaining the regulatory certifications, etc. so that they can resume operations efficiently when scheduled. If the use of shorter lay-ups or rotating maintenance periods is considered, it should be done in such a way that the daily rate is kept at an optimal level for the remaining operating period. Lay-ups should be considered temporary cost-saving measures. Efforts should be made to retain experienced crew or technicians and maintain the research vessel and its equipment.

- **Issue: Can the cost of operating UNOLS vessels be reduced?**
 - Other methods for fleet-wide cost savings should also be explored thoroughly, but it is likely that many of these trends in increasing costs are outside the control of UNOLS operators. Recent increases in the cost of fuel from commercial and Navy sources along with the costs and level of effort necessary to implement new regulations for vessel security, oil spill response, and International Safety Management (ISM) plans have caused increases in total operating costs and daily rates. Increased training and experience requirements for crew members and a competitive market for experienced crew, along with increasing costs of maintaining aging vessels to higher standards of readiness, have also contributed to these higher operating rates. Operators and the funding agencies should continue to explore methods such as group purchases, sharing crewmembers and the use of Navy fuel sources to help control costs. **NSF and UNOLS should ensure that PI's and schedulers continue to be encouraged to find ways to accomplish their objectives on the most cost effective vessel(s). UNOLS and the Agencies should also consider a thorough examination of the costs associated with research vessel operations and maintenance to ensure that individual and fleet-wide operations are as cost effective as possible and then work to ensure that budgets are in line with these legitimate costs.**



Longer term recommendations assuming level funding for next four years

- **Issue: What should be the role of early retirements for meeting near-term budget reductions?**
 - **UNOLS and the scientific community have consistently advocated for fleet renewal and the need to ensure that enough ships are available to meet what we believe will be an increasing demand for ship time. In the near term it appears that budgets are not sufficient to fully operate the existing fleet and move forward with fleet renewal. NSF and ONR in conjunction with FOFC fleet renewal planning should consider retiring research vessels early based on a more thorough evaluation of past utilization trends versus projected budgets for the next few years.** Options for meeting near-term budget shortfalls could include rotating lay-ups or some early retirements. Retirement dates could be accelerated by one or two years to devote the funds saved directly to fleet renewal or short term operational deficits. These decisions should be made only after careful examination of the impact of these retirements on the ability to meet projected near-term science demands. Once construction is complete, it will be necessary for ship operations budgets to increasingly support the operation of the future fleet.

- **Issue: How can UNOLS plan long term for fleet size and composition?**
 - Given the uncertainty from year to year in what portions of the budget are devoted to funding for ship time, research and education, and fleet renewal, long-term planning is difficult to achieve. Ideally, our most creative investigators should believe that their chances for a successful career are equal whether or not their research involves field work. **UNOLS would welcome the opportunity to work with NSF to help ensure that this is both the reality and the perception.** In addition, except under unusual circumstances (such as a very remote field area or a field program using very specialized facilities), PIs should not have to wait more than a year to execute funded field programs. At the same time that NSF is trying to balance ship operations funding with the research and education account, the proportion of the budget devoted to fleet renewal must also be considered so as to meet the future demands as vessels are retired. **UNOLS would like to continue to assist with long-term planning for fleet renewal and operations and invites NSF to provide information at a future UNOLS meeting regarding the balance between ship operation support levels and the funding for facility renewal (Alvin, Langseth, Regional Class ships, etc.). As budgets change due to changing fiscal realities, updates to fleet renewal plans should be evaluated. We recommend that the ratios between funds being set aside for current operations and renewal funding be examined.** In planning for new ships, an emphasis needs to be placed on the future day rates of the ships in order to avoid the natural tendency to want to upgrade the capabilities of each new ship regardless of the overall balance in the fleet.

- **Issue: What steps can UNOLS take to ensure implementation of long-term fleet plans.**
 - Recommendations in the U.S. Commission on Ocean Policy's report call for an increase in funding for the ocean sciences and for maintaining a capable research vessel fleet. Discussions currently ongoing at CORE and JOI are focusing on ways to advocate for Federal support to implement these recommendations and on the necessity for fleet renewal to support other major ocean research and education initiatives, such as observatories. **UNOLS should continue to work closely with these organizations and the Federal Oceanographic Facilities Committee (FOFC) to ensure coordinated long-term fleet planning and funding and should work proactively to ensure that the expertise of the UNOLS members and their sources of information are available to policy makers.**