

UNOLS COUNCIL MEETING
Harvard Museum of Natural History
Agassiz Room - 26 Oxford Street
Cambridge, MA 02138-2020
June 6-7, 2012

Executive Summary:

The UNOLS Council met at Harvard University in Boston, MA on June 6-7, 2012. Major discussion topics included:

- UNOLS 2012 Fleet schedules, science operations, estimated operation costs, and 2013 ship scheduling
- Agency Recommendation for 2013 Fleet Operations
- Academic Fleet Modernization Activities
- The UNOLS Green Ship Initiative
- UNOLS Speaker Series
- Antarctic Research Vessels and UNOLS
- Ocean Observing Science Committee (OOSC) Update

A new topic of discussion that was introduced was International Traffic in Arms Regulations (ITAR) and how it relates to the UNOLS Fleet. The Council requested UNOLS Risk Manager, Dennis Nixon, to prepare an opinion paper on ITAR and EAR exports as it relates to permanently fixed equipment on UNOLS Vessels.

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Action Items

- **Ship Time Request Map** – Incorporate a map feature into the UNOLS STRS system that will provide a geographic visual display of the ship time request demand by region. (UNOLS Office)
- **Optimal Window of Vessel Usage Definitions** – The vessel optimal use calculations should be revised to establish a low and high limit range of operating days. These limits will depend on where the ship operates and what is needed to maintain the crew. (FIC and Vessel Operators)
- **Service Life End Dates** - Work with the agencies to update all service life projections for existing vessels in fleet. (FIC)
- **R/V *Barnes*** – Draft a letter for recommendation to extend the *Barnes* service life to 2016. (FIC)
- **New Fleet Improvement Plan (FIP) for beyond 2030** – Begin draft of a new FIP. (FIC)
- **A New Class of Coastal Vessels for UNOLS** – Include a discussion on the Fall Council agenda. (Bruce Corliss/John Morrison)
- **Consortium for Ocean Leadership Report on Ship Funding Models** – FIC’s recommendations regarding the COL report on ship funding models has been circulated to the Council. A motion was passed for Bruce Corliss to draft a cover letter that will highlight the progress UNOLS has made in fleet modernization and send the letter along with FIC’s recommendations to Marc Abbott, the Working Group Chair.
- **Agency Recommendations Regarding Fleet Operations in 2013 and Beyond** – The Ad hoc committee of UNOLS Council Non-operator Representatives (Debbie Steinberg, Wilf Gardner, Robin Muench, and Vernon Asper) will review the agency recommendations and provide a response:
 - Debbie Steinberg will draft a letter welcoming community feedback on the agency recommendations.
 - The Letter and Agency recommendations will be distributed and posted on the UNOLS webpage.

- The ad hoc committee will provide their response within 60 days
- **ITAR Regulations** - Prepare an opinion paper on ITAR and EAR exports as it relates to permanently fixed equipment on UNOLS Vessels. Dave Fisichella will prepare a statement describing the issue. The paper would be sent to the Council and Federal Agencies. (Dennis Nixon)
- **Nominating Committee Report** – The Nominating Committee (Peter Ortner (Chair), Larry Atkinson, John Morrison) will prepare a slate for the 2013 Council elections.
- **AGU sponsored “Geoscience Congressional Visits Day” on 11-12 September in Washington, DC** - Bruce Corliss will follow-up.
- **UNOLS Annual meeting on October 23-24, 2012** – Contact Senator Whitehouse and request that he provide the keynote address (Dennis Nixon).
- **Mid-life Refits for Global Vessels** – Bruce Corliss will request the FIC consider the Navy’s recommendation to carry out mid-life refits on the Navy-owned Global vessels.
- **Rolling deck to Repository (R2R) Advisory Panel** – Request that the Council provide suggestions for panel members.
- **Membership Application** – Penn State University plans to submit additional information for their UNOLS membership application. Once received, the material will be provided to the Council for consideration and in turn added to the ballet for membership vote at the 2012 Annual Meeting.

Continuing Action Items

- **Gender Climate at Sea** – Voluntary On-Line Training Pilot Program – Implement Pilot Program and evaluate participant feedback. (UNOLS Office)
- **Investigate the feasibility of a more flexible UNOLS to meet the needs of additional users** - The ad hoc group is tasked to summarize their findings and distribute them to the Council. The Council could then develop strategies for addressing the findings. (Nancy Rabalais, Joe Malbrough, Dennis Nixon, Peter Ortner, and Jon Alberts)
- **BP Research Funding for the Gulf of Mexico** – Continue to stay engaged with the GRI and encourage UNOLS ship use. (Council and Jon Alberts)
- **UNOLS Vessel Usage Survey** – Review and analyze the survey data and community responses to identify themes and issues from the survey responses. (Bob Collier, Peter Ortner, Deb Steinberg, and Annette DeSilva)
- **2009/2010 Goal: Explore how to make the present and future fleet more environmentally sustainable** – Prepare final report on the Greening the Research Fleet Workshop. (Bruce Corliss)
- **2010/2011 Goal: Establishment of a UNOLS Speaker Series** - Initiate the series in 2012 (contingent upon funding). (Bruce Corliss, regional lecturers, and UNOLS Office)

Day 1: Wednesday, June 6, 2012: Joint session of the Council and FIC

Call the Meeting: Bruce Corliss, UNOLS Chair, called the meeting to order and provided an opportunity for introductions. The agenda for the meeting is included as *Appendix I*. The participant list is included as *Appendix II*.

A motion was made and passed to accept the minutes of the October 2011 Council Meeting: <http://www.unols.org/meetings/2011/201110cnc/201110cncmi.html> (Ortner/Morrison).

UNOLS 2012 Fleet schedules and science operations, estimated operation costs, and 2013 ship scheduling – Jon Alberts and Stewart Lamerdin provided the report. Their slides are included as *Appendix III*.

Stewart began the presentation. He reviewed the 2013 ship scheduling process and emphasized the efforts done by the ship schedulers, particularly Liz Brenner, Eric Benway, Doug Russel, and Jon Alberts.

The scheduling process has been a dynamic process. Some of the considerations included:

- Location of vessels at the end of 2012
- Meeting the scheduling needs of all funded science cruises
- Minimizing transits whenever possible
- Mandatory shipyard and inspections schedules
- Foreign clearance issues and permitting
- Agencies constraints (budget caps, mid-life refit schedules, diplomatic priorities)
- Specialized assets

The scheduling status for the Global Class is that there are no double-bookings, but there are still some scheduling issues to resolve. The slides include the specific details by ship.

Discussion:

- Rose Dufour - Some of the stronger ship schedules have work that is lop-sided by agency. NSF has a funding constraint that will not allow them to exceed \$8.8M support for any one ship.
- Peter Ortner - What does the *Endeavor* comment mean, “difficult to assume all work in North Atlantic”? Jon Alberts - During the summer there is peak demand that is difficult to accommodate by one ship.
- David Checkley - Are the operating areas for the Global ships being made known so that PIs can propose for work in those area. Jon Alberts - The global ships skeds are not public at this point.
- David Fisichella - Currently, it is not known where ships will be two years from now. PIs don't know where the ships will be so the potential for advance planning and collaborations is limited.
- Jon Alberts - We have been talking about going to a 2-year scheduling process.
- Rose Dufour - We really need to consider a wider window for scheduling.
- Deb Smith - There has also been talk about taking advantage of the ship transits. It would be great if we could advertise these opportunities.
- Miles Sundermeyer - It would be useful to PIs if they know that they can carry out a multi-year field program and be assured that they will have access to a ship.
- Stewart Lamerdin – Can a map that shows the location of cruise requests be made available through the UNOLS STRS system?

Action Item – The UNOLS Office will investigate options for creating a map of cruise requests.

NSF Ship Scheduling Report - Rose Dufour provided the report. Her slides are included as *Appendix IV*.

Rose reported that the 2012 Ship Ops NSF budget was level funded from 2011. However, ship costs increased from 2011 to 2012 by ~10%. The total 2012 ship utilization at 3597 is down from 3801 in 2011. Ship utilization supported by NSF remains high at 2299 days, which represents a slight increase over 2011. Ship utilization by other federal agencies dropped by ~281 days. NSF is funding ~ 65% of the total UNOLS ship days. ARRA funds have been expended and carry-forward (residual) amounts saw a sharp decline.

OCE science funding versus OCE facility funding is now being supported at a ratio of 50:50. In the chart that Rose presented showing this trend, OOI and IODP are included in the facilities total cost. NSF support of Fleet operations has steadily increased over the years, while other support has been relatively level.

The average day rates by class of vessel have all increased, but the Global Class has had the largest increase. Fuel has been the largest cost factor.

Discussion:

- Mike Prince - Should we normalize the day rate over a longer period? Bob Houtman - This is something that we should look into. This is an action for the agencies.
- Al Suchy - Applying the whole ship funding model into the MOSA account model would be very difficult. There is so much volatility. You would need to know what your schedule would basically look like five years from now.
- Mike Prince - He thinks that there should be a rolling period of ship ops budgeting.
- Bob Houtman – The agencies will need to investigate to determine if there is a way to connect a dayrate to a two-year period. We should also look to see if we could move residual funds into the next year.

Rose Dufour continued the report. Ships are being funded while at the dock and doing nothing. These costs need to be reduced. The agencies have been looking at the ship costs carefully for the last 6 months. She distributed a spreadsheet with cost breakdowns and details. In 2012 the Global ships cost \$64M to go to sea. If the ships were to stay at the dock and not support science, the cost would be \$45M. This is the cost to keep the capability with no science getting done. This includes the MOSA budget. The \$45M can be considered the base cost to maintain the Global vessels. The base cost for the full fleet is \$69M.

Discussion:

- Bob Houtman - To support the facility costs the OCE science was taxed as well as Jim Holik's technical support program.
- Bruce Corliss – Over the years there have been improvements and expansions to the ocean facilities (*Sikuliaq*, *Langseth*, OOI, etc); has this been done with community by-in?
- Bob Houtman - Factions of the community were not supportive of the new facilities. These things were done with increasing budget, but now that has turned and we are faced with level funding.
- Wilf Gardner - If the community saw this chart now, it is doubtful that they would be supportive.
- Annette DeSilva - What proportions of the blue line represent OOI, IODP, and ship ops. Will we be able to bring the blue line down to 50%?

- Bob Houtman - He is working hard with Jean McGovern to bring the OOI budget O&M down to \$55M. They are also trying to reduce the IODP operating budget and also bring the fleet operating budget to \$45M. NSF wants a smaller, more capable fleet and then will work hard to maintain that fleet.
- Will Wilcock - Should there be a review of all facilities? The high cost of *Langseth* operations is frustrating to some in the community.
- Bob Houtman – NSF is thinking about a decadal review.

Agency Recommendation for 2013 Fleet Operations – Bruce Corliss provided information about the UNOLS process for reviewing agency recommendations. Details are provided in his slides included as *Appendix V*. An ad hoc committee made up of Council members from non-operator institutions was formed to carry out the review. The members include: Deb Steinberg (Chair), Wilf Gardner, Robin Muench, and Vernon Asper.

Morning Break

Agency Recommendation for 2013 Fleet Operations (continued) - Bob Houtman reviewed the charts that are contained in the agency recommendation letter: http://www.unols.org/info/NSF_ONR_2013_Academic_Fleet_Finding_and_Recommendations.pdf.

The first chart shows a downward trend in fleet utilization. The 2013 utilization estimate is the requests that are funded along with 20% of the pending requests.

- Mike Prince - Every year, at this time of the year we have seen a low utilization forecast. However, each year we have seen an increase in funded requests later in the year. Do we think that the low 2013 days that are now in the system will stay at that level?
- Rose Dufour - During the May panel, there was no MG&G ship time. She hopes that the NSF utilization will increase to 3000 days, but days for the other agencies are unknown. The proposal pressure is not there.
- Bruce Corliss - Proposals were submitted to MG&G, but PIs were told to withdraw their proposals because NSF could not support them.
- Bob Houtman – Increasing the 2013 operational days from 2400 days to 3000 days will be a big challenge.

Bob reviewed the second chart in the letter. NSF has been taking a closer look at the gap between days supported and the days available. They agree that they are maintaining some surge capacity. However, they are taking a more focused effort at reducing the gap. The 2013 gap is very large.

- Al Hine - Perhaps the Full Optimal Year (FOY) definitions for the UNOLS vessels should be revisited.
- Maureen Conte – The peak ship time requirements should be evaluated.
- Jon Alberts – We haven't had to defer a cruise in years.
- Bruce Corliss - For some ships, the FOY definitions are too high.
- Dennis Nixon - It is the wisdom of the operators to plan operations during the right time of the year in the right parts of the ocean. Our ships have a lower accident rates.
- Mike Prince - The FOY numbers were calculated in the 1980s by RVOC and they took into many factors.
- Rose Dufour - It would be good to show a lower limit and higher limit for an FOY range. These limits would depend on where the ship operates and what is needed to maintain the crew.

The third chart in the letter shows that utilization for each ship class has decreased.

The ship time demand, shown in the fourth chart, is drastically reduced for 2013.

- David Checkley - The devil is in the details. What is causing this trend? We need to understand this.
- Annette DeSilva - A UNOLS subcommittee was formed and will evaluate the UNOLS survey results. They might recommend a professional follow-on survey.
- Bob Houtman agrees that there needs to be more emphasis on why the ship demand is decreasing.
- William Wilcock - The core programs need to increase their budgets.

Bob reviewed the Agency recommendations regarding 2013 operations. The agencies agree that they cannot continue to lay-up ships year to year and fund the lay-up periods. We need to seek new and other types of work for the ships. Then it can be determined what the level of support will be.

- John Morrison - The new ships are larger and more expensive to operate. States and Institutions won't be able to afford to put work on the ships, such as classroom labs. This has become frustrating because we are not entraining the next generation. Perhaps there should be support for more educational and student cruises.
- Bob Houtman - There is a new emphasis in this area. The Regional Class Research Vessel acquisition effort is moving forward. Science community input to NSF on these vessels is welcome. If the community feels that the RCRVs are too big and local, coastal vessels are needed they can provide that input.
- Bob Houtman – During the FIC meeting (previous day), they requested that R/V *Barnes* service life be extended to 2016.
- Tim Schnoor - *Knorr* and *Melville* will come off line when the new Ocean Class Research Vessels (OCRVs) come on. There was some consideration that one of these ships would come off line in 2013, but they now have strong schedules. Mid-life refits are planned for *Thompson*, *Revelle*, and *Atlantis* that would extend their service by 10 years each.
- Peter Ortner – R/V *Ron Brown* also has plans for a refit.

Summary of Fleet Improvement Committee Meeting and Action Items - Clare Reimers, FIC Chair, reviewed the FIC action items that came out of FIC Meeting on June 5th. Her slide is included as **Appendix VII**. The actions include the following:

- Define optimal windows of usage for ships by class rather than single fixed number of days.
- Prepare letter to NSF in support of UW's request of service life extension for R/V *Clifford Barnes* based on high utilization and plans for replacement.
- Work with agencies to update all end-of-service-life projections for existing vessels in the fleet.
- Initiate drafting of a new FIP for beyond 2030 considering a different form for the plan and new models for future fleet acquisitions. Incorporate where appropriate COL recommendations.
- FIC is seeking nominations of an operator and non-operator member for terms starting in 2013.

A New Class of Coastal Vessels for UNOLS? – Bruce Corliss and John Morrison made a presentation to consider a new class of Coastal Vessels for UNOLS. Their slides are included as **Appendix VIII**.

A new Coastal Vessel Class could offer a fast and stable platform able to go from shallow to offshore and carry out a wide range of missions. It would have a low day rate (~\$3K) with a small crew and economical fuel consumption. The low day rate would be more affordable for education and outreach activities. Funding sources could include states, institutions, philanthropy, and federal agencies. These vessels could incorporate green technology. One example is the sailing vessel, *Derek M Baylis*. It has been used for geographic survey work and was very cost effective. It is a very quiet vessel. Another example is the NOAA Catamaran.

Discussion:

- Clare Reimers - These ships run into competition from charter vessels such as fisheries ships. Peter Ortner - The *Manta* is about \$6K per day.
- Deb Smith - Raised the question of providing travel funds to support student travel to ships for cruise opportunities.
- Annette DeSilva – UNOLS has received requests for this type of support and would like input from the Council on what is the best way to handle these requests. Currently the UNOLS budget does not include support for these activities.
- Deb Steinberg – Travel support for student participation on cruises should be the responsibility of the PI.

Lunch Break

Consortium for Ocean Leadership Report on Ship Funding Models –Bruce Corliss summarized the Consortium for Ocean Leadership Report of the Working Group to Develop Funding Models for New Ships (see *Appendix IX*). The report recommends:

- A community-based decadal survey process for integrated plans for community infrastructure
- A flexible portfolio of acquisition processes: leasing, government-owned, contractor-operated, build/own, private and non-federal assets
- A multi-year escrow account for construction and operations
- A new governance strategy for federal agencies: Commitment to implementation, designate lead agency to oversee process.

FIC was tasked to review the COL report and provide their recommendations. Clare Reimers drafted a response and provided it to Bruce earlier in the year.

Discussion:

- COL and UNOLS have a very similar membership
- David Checkley - Some of the recommendations made by COL's Working Group report are central to UNOLS and there needs to be a response.
- Bruce Corliss - Some of the successes in securing new UNOLS vessels was not recognized in the COL report.
- Peter Ortner - There were recommendations or implications about inclusiveness in UNOLS.
- David Checkley - There were slights within the document, but there was also some good suggestions.
- Miles Sundermeyer- UNOLS and COL are charged with different things. UNOLS is not political. He feels that it is worth having a conversation with COL. If COL gets back to lobbying, then UNOLS should work with them.

- Vernon Asper - COL will have a hard time lobbying since they now support NSF large programs. There is concern about COL's apparent interest in taking over fleet operations and moving away from the distributed UNOLS fleet.
- When the report was drafted, COL could still lobby.
- David Checkley - When UNOLS provides a response to COL, the positive recommendations should also be highlighted. The response should acknowledge that changing the agency funding mechanism is not possible.
- Mike Prince - UNOLS and the agencies do long-range Fleet planning. This was overlooked in the COL report. A lot of progress has been made in Fleet renewal and it should be acknowledged.
- Bob Houtman - The Fleet modernization plan was in place and it has been instrumental. Dialogs took place between NSF and Navy on which of the two agencies would be responsible for the OCRV (Navy) and which would lead the RCRV effort (NSF). This was key. It showed that NSF collaborated with the Navy and with UNOLS. This was critical in getting the RCRV support.
- Vernon Asper - The report impetus was to think out of the box for acquiring new vessels.
- Peter Ortner - a long time has passed since the report was drafted. Things have changed.

Bruce Corliss circulated the FIC letter to the Council. Next step –Bruce will draft a cover letter and forward it to Marc Abbott.

This concludes the joint session of the UNOLS FIC/Council Meeting. All FIC members are welcome to participate in the remainder of the Council Meeting.

Ocean Observing Science Committee (OOSC) – Larry Atkinson provided a report on the recent May 2012 OOSC meeting, along with recommendations, and future action items for the committee. His slides provide details and are included as **Appendix X**.

Larry reviewed the OOSC Terms of Reference. It has been a slow start for the Committee. OOI has been going through changes and working through issues.

The OOSC members have attending OOI science workshops and participation in design reviews. The main concern identified by OOSC is: How will scientists use the OOI assets and what needs to be done to help scientists start to use OOI as it comes on line.

The OOSC came up with a list of recommendations based on their May 16 meeting with NSF and COL/OOI. The recommendations from the meeting are summarized in the slides and include:

- Provide early career scientists opportunities including funding and available bunk space opportunities on ships servicing the OOI.
- Climate Studies – Sampling rate relevant to climate science: organize a workshop that brings climate scientists and modelers together to address this issue and provide recommendations on the sampling requirements and rates to assure data are suitable for climate science.
- Data Management programs – Engage current cyber-infrastructure efforts– HOTS, BATS, Neptune, ARGO to learn from and explore synergies and, where relevant, possibilities of merging resources and infrastructure.
- Explore the feasibility of performing a full system test (one year) of a Global Array in a location near the US for accessibility if the need for repair arises. Additionally, the first

deployment of a Global Array should not be in the Southern Ocean.

- A cooperative approach to science research at Pioneer Array - Consider an approach for collaborative science planning for use of the Pioneer Array that will optimize its use for its planned 5 year deployment period.
- NSF draft and distribute a “Dear Colleague” letter announcing the opportunity to submit proposals for science use of OOI.
- Expand external community involvement in OOI design reviews.
- The framework for relocation of the Pioneer Array should be developed now.
- Create adaptive sampling protocols.
- Plan to ensure long-term deployments considering short-term budget cycles.
- A final recommendation regarded the need for OOI Science workshops. This was discussed at length during the OOSC meeting and the details are highlighted in the slides.

Discussion:

- Deb Steinberg - Is it mandatory that the Pioneer array be moved? Bob Houtman - It doesn't have to be.
- Larry Atkinson – OOI Infrastructure Installment often falls under NEPA regulations and public hearings are required.
- Bob Houtman – OOI is an MRE project. It has a fixed scope, timeline, and budget. COL is being held to a deliverable. It means that the awardee will operate this as a centralized facility.
- Bob Collier - The marine operators of the OOI will have no advantage over the rest of the community in regard to proposing science projects that use OOI.
- Deb Smith- There will be a big push to use the facility. This is the same pot of money that the ship users will go to for science funds.
- Maureen Conte - On a smaller scale, the Venus and Neptune observatories are on line. Venus and Neptune have a great website. Annette DeSilva – OOSC is staying in touch with Kate Moran and she is very willing to help educate OOI on lessons learned from the Canadian observatories.

Agency Recommendation for 2013 Fleet Operations (revisited) - Bruce Corliss reopened the discussion on the agency recommendations.

- Kenneth Coale - There a few points that he would like to make:
 - There are macro-economic forces in place. At his institution, grant writing declined.
 - The timescale of getting a vessel built is decadal, while taking a vessel off line is annual. He cautioned to not make rash decisions.
 - *Knorr* and *Melville*, *Barnes*, *Point Sur*, and *Hatteras* are all slated to come out of service in a few of years; leaving a big whole.
 - *Point Sur* will try to expand the Regional Class role by operating in the South Pole. The agency 2013 recommendations come before evaluating the success of the *Point Sur* operations in the South Pole.
 - Kenneth asked that the ad hoc committee consider these factors.
- Rose Dufour - *Sikuliaq* and the OCRVs will come on-line in the 2014 and 2015.
- Vernon - How many ships would be saved by taking the *Langseth* off line?
- Dale Sawyer - *Langseth* is a unique national asset. Without *Langseth*, you cannot do the adequate research needed for drilling. It has broader use. The *Langseth* data builds onto broader perspectives. It is richly applied to other studies. Scientists need the ability to

characterize the research area prior to initiating a drill program. US scientists need this data to propose for ODP

- Stewart Lamerdin - In scheduling schedulers look at the size of vessels that should be used. There is a lot of savings by this process. It would be a short sighted to remove the Regional Class.
- John Morrison - The amount of money that would be saved by taking the Regional Class of ships off-line is not going to solve the problem.
- Jim Holik – Every cost savings is important. They looked carefully at the ship retirements.
- Deb Steinberg – The landscape for oceanography is changing. Maybe some of the smaller ships can help with OOI. She is confused because the ships that are named for retirement in the agency recommendations are not very expensive, so there will not be a lot of savings.
- Bob Houtman - Every penny counts. OMB will look at this. They need to look at other options for getting the work done.
- Pete Girguis – If the *Point Sur* goes to Palmer Station, does a great job and is requested for additional work in that region; is it practical to keep the ship in service?
- Clare Reimers – The FIC wanted advance notice of vessel retirement decisions (they didn't want to see what happened with *Oceanus*). FIC asked that the agencies give advanced notice and they did. We would like to see that continue.
- Mike Prince - By taking the ships off line, you need to look at the alternatives and determine if it would be more expensive to work that is left stranded.
- Bob Houtman - A new model that avoids lay-up costs is needed.
- Bruce Corliss - He stated that he will represent Duke University in his following comments regarding *Cape Hatteras*. He agrees with Kenneth Coale in the long term. Preserving the small vessels is important. It will be a long time until the RCRVs come on-line. The underutilization of the RCRVs is a problem. Taking *Point Sur* and *Cape Hatteras* off-line won't resolve the financial pressures of the fleet. In looking at fleet utilization, the problem is with the Intermediate and Global Classes. *Cape Hatteras* is in good physical shape. As an alternative to removing the ships from service, do as what Bob Houtman suggested and come up with a new model that avoids lay-up costs. Another option would be to apply earlier models and provide no more than \$500K per ship for lay-up periods.
- Bob Houtman - OOI has indicated that the Intermediate ships will be needed for service and it cannot be done by the Regional ships.
- Tim Schnoor - SIO went out and got work for *Melville*, otherwise they would have been laid up. *Cape Hatteras* and *Point Sur* can do the same.
- Deb Steinberg – She is interested in new models. Have any of the operators worked part of the year? Is there precedence for this? Reply - *Blue Heron* works partial years every year during the winter months. The technicians move to other ships.
- Mike Prince - One of the things that make our vessels safe is because the crew has been with the operation for a long time. It is important to retain the crew.
- Joe Malbrough - The operators should be on shoe-string budgets.
- Deb Steinberg - Having a ship at your institution is prestigious. It can be used for outreach and fundraising activities.
- Stewart Lamerdin - The Council should consider the impacts of losing a capability if the Regional Class is removed from service.
- Wilf Gardner - How much is this a political move that NSF needs to show that they are reducing the number of ships? Bob Houtman - The appearance that NSF is keeping ships on line with insufficient schedules is unacceptable. If there were a scenario where the institution was using the ship significantly, then that would be a different story.

- Jon Alberts - This is a very passionate topic that is difficult to address. We need to come up with suggestions or new models. Either we come up with some options, or we turn the recommendations back to the agencies.
- Bruce Corliss wrapped up the discussion by asking that the non-operator subcommittee take this effort on and considers the comments that were made at today's Council meeting. Use the 2006 procedures for their review.
- Mike Prince added that the agency recommendations should be shared with the UNOLS members and community.
- Deb Steinberg – The letter can be posted on the UNOLS website. She will draft a letter to announce the opportunity to provide feedback. However, given the complexity of this project, she is worried about 30-day timeline.
- Bob Houtman - He can extend the timeline. This is why they tried to provide it to the Council as early as possible. They wanted to get this to the operator early so that they would have as much notice as possible. Perhaps a 60-day response time would be more appropriate.
- Tim Schnoor – He would like feedback from UNOLS on the recommendation of conducting mid-life refits for the *Thompson*, *Revelle*, and *Atlantis*.
- Bob Houtman – In regard to the *Barnes*, FIC's recommendation that the life be extended to 2016 with the Council's endorsement is sufficient. It can be included in the UNOLS subcommittee response.

Agency Reports:

Navy – Tim Schnoor provided the report for the Office of Naval Research (ONR). His slides are included as *Appendix XI*. FLIP turns 50 this year and a celebration is planned in a couple weeks.

Tim reviewed the ONR science objectives requiring ship time. In 2011, the Navy supported a total of 472 days and in 2012 there is 439 Navy days. ONR is working with Vietnam and *Revelle* will go into Vietnam soon. In 2013 a cruise with Vietnamese scientists is planned. Work is also planned with Sri Lanka in the Bay of Bengal. The Navy is rebuilding their Arctic program and there may be work on *Healy* in the future.

The schedule for upcoming inspections (INSURVs) of the Navy vessels is included in the slides. The inspections are helping in the effort to scope the mid-life refit plans for the *Revelle*, *Thompson*, and *Atlantis*. The goals of the refits will focus on efficiency and environmental compliance and to extend the vessel service lives from 30 to 40 years. The timing for the first ship, *Thompson*, will be no earlier than mid-2014. There will be at least one year between ships. The refits are dependent on the availability of funds. Planning for design work has been initiated with Glosten.

For 2013, NSF said that they would not fund *Melville* operations; however, SIO built a schedule. Neil Driscoll got 90 ship days from medical funding; there was some NRL funds, and some state funds, for a total of over 200 days.

ONR ship retirement schedule plans for the retirement of *Knorr* in early 2014, approximately six months before delivery of AGOR 27. *Melville* is also planned for retirement during 2014, six months before delivery of AGOR 28.

National Oceanic and Atmospheric Administration (NOAA) – NOAA’s slides are included as **Appendix XII**. Annette DeSilva provided a summary of the NOAA report.

Interagency Working Group on Facilities Infrastructure (IWG-FI) – Bob Houtman provided a report on IWG-FI activities. The Committee and Bob Winokur have been working on implementation plans for the ocean policy.

- Wilf Gardner – The House has a bill to not fund activities associated with the ocean policy. Is this a problem? Bob Houtman - Yes. Many National programs were tied to the ocean policy. The ocean policy was an Executive Act. If the Bill passes it could impact programs, such as, OOI.

Bob Houtman continued. IWG-FI focus has recently been on the update of the Federal Fleet Status report. A Ship working group has been formed to draft the report. They are updating and expanding their 2007 report. Once approved by IWG-FI, the report will be sent to the JSOST.

Another activity of the IWG-FI is the Subcommittee on Unmanned Systems (SUS). They are developing an inventory of unmanned systems, evaluating operational obstacles, and developing recommendations.

Break

Academic Fleet Modernization Activities:

Ocean Class Research Vessel (OCRV) Acquisition Status - Tim Schnoor and Mike Prince reviewed the status of the OCRV project. Their slides and ship general arrangement drawings are included as **Appendix XIII**.

Mike Prince reviewed the project timeline. Keel laying is planned for summer 2012. The launch of the first OCRV is January/February 2014 and the second ship is July/August 2014. The deliveries of the ships are Oct/Nov 2014 and April/May 2015, respectfully. Details of the acquisition schedule are listed in the slides.

The slides provide information about the general characteristics of the ships. The LOA is 238-ft, beam is 50-ft and draft is 15-ft. The fuel consumption is expected to be comparable to *Knorr* and *Melville*. Endurance is 40 days. There are 12 double staterooms for science.

Mike reviewed the mission systems. There will be a gantry system that will accommodate *Jason*. Comparisons of the OCRV lab space with existing ships are provided in the slides. The Science Mission Requirements (SMRs) call for 1500 sq ft to 1800 sq ft space aft of the deckhouse. The OCRV design has 1873 sq ft.

- Dennis Nixon – Are there any green features in the OCRV design? Mike - No, green features weren’t called out in the specifications.

Green Ship Initiative – Bruce Corliss provided the report on the UNOLS Greening the Research Fleet Workshop. His slides are included as **Appendix XIV**.

There were 50 participants, with representation from the Council, RVOC, RVTEC, FIC, NSF, Navy, NOAA, architects and naval designers, industry, and marine scientists.

Bruce reviewed the Green Workshop findings:

1. Sail-assist vessels with a small environmental footprint can be used for particular operations.
2. Hybrid power systems and new technologies should be considered as options for future vessels.
3. Vessel energy management consisting of detailed energy audits and on-going monitoring can be carried out with existing vessels.
4. Biofuels and bio-lubricants and an environmental management plan can reduce a vessel's environmental impact and may be appropriate for some vessels.
5. Development of an environmental classification system, similar to LEED, is underway (Tim Leach, Glostten Assoc.) and will help operators and agencies identify environmental issues and successes in the fleet.
6. Environmental sustainability of UNOLS support facilities and ports should be considered in parallel with vessels.
7. Environmental sustainability can be enhanced by incorporating both technological innovation and attitude changes (green culture) amongst ship operators and users.
8. Developing collaborations between UNOLS, ship operators, and the private sector will be beneficial to the fleet.

More information on the meeting at:

http://unols.org/meetings/2012/green_workshop/details.html

Discussion:

- Peter Ortner - For station work, ships could go on battery power and make a big savings.
- Dennis Nixon - *Endeavor* is using 5% biofuel with the goal of going to 20%, it is a gradual process.

Application for UNOLS Membership - Annette DeSilva reported that Pennsylvania State University has submitted an application for UNOLS membership. Their letter will be forthcoming.

UNOLS Goals and Priorities – Status Reports on Activities:

UNOLS Speaker Series: Progress Report - Bruce Corliss reported on plans for a UNOLS Speaker Series. His slides are included as *Appendix XVI*. The speaker series will work to highlight UNOLS ships and oceanographic research and to serve as an outreach activity to non-UNOLS colleges and universities. Particular attention will be given to institutions with under-represented minorities in the marine sciences. The series will run for three years beginning in fall 2012 and evaluated in 2015.

Eight regional coordinators have been identified to assist with the program.

Discussion:

- Bob Collier - In the NW there is a lot of underrepresented in the community colleges. COSEE has a network of these. Bob Collier encouraged coordinators to contact COSEE.
- Bruce Corliss - Jim Yoder is coordinating the diversity in education workshop. Bruce will attend the workshop.

- Pete Girguis circulated a link to COSEE that could offer useful resources, <http://www.ibparticipation.org/>. COSEE is great at identifying institutions with high representation of underrepresented groups.

Antarctic Research Vessels and UNOLS:

Polar Research Vessel (PRV) Subcommittee Report on Science Mission Requirements (SMRs) Refresh Project – Jon Alberts provided a report PRV Subcommittee activities. His slides are included as *Appendix XVII*. The slides provide the project background, the PRV subcommittee membership, and PRV subcommittee goals. The Subcommittee report was delivered to NSF in early 2012 and is now in the hands of Tim McGovern.

The PRV SMRs define a ship that is quite a bit larger than *Palmer*. It won't be able to dock at the current Palmer Station, but dock upgrades are planned.

- Vernon Asper - The report doesn't include a Baltic Room, but most people feel that it should.
- The Palmer lease was renewed for another 5 years.

NSF Solicitation for USCGC *Healy* Ship Support - Jon Alberts provided a status report. His slides and details are included as *Appendix XVIII*. The ship-based science technical support in the Arctic, STARC award to coordinate the deck level support of *Healy* science, was established on September 1, 2011. The awardees are Scott Hiller- Scripps Institution of Oceanography and Daryl Swensen- Oregon State University.

OPP Regional Class Requirements for Antarctic – Stewart Lamerdin provided a report on the status of efforts to support Antarctic research with a Regional Class vessel. Moss Landing Marine Labs (MLML) and NSF are still looking into the logistics of sending R/V *Point Sur* to the Antarctic. In early March, NSF provided funds to start preparing for Antarctic operations. R/V *Point Sur* will be removed from the water and a retired USCG Admiral with experience in the Antarctic will take a look at the ship.

- Bob Houtman - A risk table has been developed. The project is carefully being evaluated and safety is the highest priority. They are confident that they have identified all of the issues.
- Bob Houtman - Where does the Ice Pilot position stand? Stewart – MLML is still evaluating this and they will seek the advise of the Admiral about this. They have talked about extra observers on the bridge. Local knowledge is important.
- Stewart - They are looking at the transit from California to Antarctic to determine if extra work can be accommodated along the way.

Committee Activities and Issues requiring Council Attention:

Deep Submergence Science Committee (DESSC) – Peter Girguis, DESSC Chair, provided he DESSC report. His slides are included as **Appendix XIX**.

Four major topics were addressed

- NDSF vehicle status and updates
- NDSF policies regarding photo attribution and video copyright
- Outreach- Early career scientist program at AGU 2012
- Emerging Topics

Details of these four topics are covered in the slides.

DESSC members spent a considerable effort staying abreast of the *Alvin* Upgrade project. There are ongoing concerns in relation to recent major costs largely to dual certification by ABS and NAVSEA of the *Alvin* vehicle.

- Bob Houtman - NSF drove the requirement for dual cert. They were concerned that if ABS was not onboard from the start of the project and Navy stopped their certification, the vehicle would be unable to get certification. NSF had decided that they would continue down the path of dual certification until there was a standoff between NAVSEA and ABS. That has now occurred. As a result, ABS certification has been postponed until a later date.
- Bob Houtman - The vehicle sea trials have been moved up and should happen by the end of 2012. The science verification cruise is planned for March 2013.

DESSC held a workshop for Early Career Scientists at their December 2011 meeting in San Francisco. Thirty-two participants participated at a modest cost. With COSEE-OS, an online survey was drafted and participants were asked to complete the form. In very positive news, eight workshop participants have plans to submit new proposals.

Bruce - the early career workshop was very effective and great expenditure of \$9K

Research Vessel Operators' Committee (RVOC) – Joe Malbrough, RVOC Chair, provided the RVOC report. His slides are included as *Appendix XX* and provide highlights of the RVOC 2012 meeting. The RVOC activities have also been focused on the Research Vessel Safety Standards Appendix B, Group Purchases, and the Lithium Battery Safety Circular. The 2013 RVOC meeting will be hosted by the University of Maryland and held on April 22-26.

Research Vessel Technical Enhancement Committee (RVTEC) – Dave Fisichella, RVTEC Chair, provided the report. An increasing issue of growing concern is International Traffic in Arms Regulations (ITAR). The technical support groups often end up with the responsibility of the ITAR. There is a lot of oceanographic equipment that fall under ITAR. Different institutions address ITAR differently. At WHOI, if systems are fixed on the ship, they feel that they comply with ITAR. He would like to hear from the Council regarding the ITAR issues.

Discussion:

- Mike Prince - The Navy AGOR ships are on the ITAR list.
- Dennis Nixon - If we consider a ship as part of the US, then everything on the vessel is in the US, no matter where the vessel is located.
- Tim Schnoor - The Navy has been trying to get the AGORs off of the munitions list for 4 years. Even if the vessels are off the munitions list, the ships could still be on the commercial export list. *Alvin* is on the list. The Navy is also trying to get *Alvin* off the list. So there are activities within the Navy to get these off. Perhaps the Department of State could assist.
- David Fisichella – He suggests that we first address the fixed equipment that is on the ship.
- Jim Holik - What about the gravimeter? David - That is a good example. If we install the gravimeters on the ships and secure access from foreign nationals, it should comply with ITAR.
- Dave Fisichella - It would help if there were a Fleet-wide statement from UNOLS regarding ITAR.

- Bruce Corliss – He suggests that Dennis Nixon prepare to write an opinion on ITAR and permanently fixed equipment and submit it to the Council and to the Agencies.
- Bob Houtman - We want to make sure that we are complying with all of the regulations. If we are found out of compliance, it could have bad implications. We need to make sure that the options are within the legal laws.
- Dennis Nixon - It is important to look at this carefully. There needs to be a path forward so that we can continue to do our work.
- Mike Prince - It is important to develop a stance so that if the AGORs come off of the ITAR list, we need to know how to deal with the rest of the equipment.

Tasking: **ITAR Regulations** – Bruce Corliss requested that Dennis Nixon prepare an opinion paper on ITAR and EAR exports as it relates to permanently fixed equipment on UNOLS Vessels. Dave Fisichella will prepare a statement describing the issue. The paper would be sent to the Council and Federal Agencies.

Tim Schnoor – There is another technical issue and that is Fleet Broadband and HiSeasNet. Usage bills have been high. Dave Fisichella - There is now an Internet policy under development that will be discussed by RVTEC.

Marcus Langseth Science Oversight Committee (MLSOC) – Dale Sawyer, MLSOC Chair, provided the report. His slides are included as *Appendix XXI*.

Some of the points that Dale highlighted were:

- The MLSOC have developed a Seismic brochure. The brochure was provided at the meeting and has been distributed.
- There is a need for long term planning for the R/V *Langseth*. The ship has long transits. If there was a longer planning cycle, some of the long transits could potentially be minimized.
- During NSF panels, the *Langseth* proposals are in the same reviews as other, much less expensive proposals. The *Langseth* users would like to address this issue with NSF.
- Training for the next generation of Langseth users is needed. MLSOC will invite early career scientists to their December meeting. They can work to offer courses on how to plan a 3D survey. They are also committed to reserve berths for early career scientists. Mentors can be assigned to early career scientists.
- There is a need to teach people on how to access the seismic data sets and how to use the data sets.
- A hybrid model for Langseth operations will be explored. This would include large-scale experiences that are planned by a large set of users. The data would be broadly available quickly.
- There is a debate on 3-D data processing and whether it should be done commercially. Commercial processing is more efficient and faster.
- The Langseth is a unique vessel. It allows a unique capability.

Discussion:

- David Fisichella - There has been a repositioning study on moving the long core system to *Langseth*. A stability test and evaluation would be needed.
- Wilf Gardner - How much of the work is for site surveys for IODP? Reply - Nathan Bangs' cruise was for post drilling. Bob - There is no funding for this.

- Deb Smith- IODP site surveys are international. One thing that might be considered is having it as an international pot of funds to support survey work.
- Bruce Corliss - In the future, the Concil might have a discussion on the *Langseth* on how it will fit in (there is some scepticism) and cost.

Arctic Icebreaker Coordinating Committee (AICC) – Jon Alberts provided the AICC report for Robin Muench, AICC Chair, who could not attend the meeting. Robin’s slides are included as *Appendix XXII*. The slides provide details about this year’s accomplishments along with 2011 *Healy* field activities.

Scientific Committee for Oceanographic Aircraft Research (SCOAR) – Annette DeSilva provided the SCOAR report. Her slides are included as *Appendix XXIII*. University of Alaska Fairbanks will host the next SCOAR meeting in August. A highlight of 2012 was the SCOAR’s input to the UNOLS Booth at the Ocean Sciences meeting in February. SCOAR provided unmanned aircraft systems including A GateWing system, a Scan Eagle, and a Quadrotor. They provided video clips of unmanned aircraft operations. The booth was very popular.

Adjourn Day 1

At the conclusion of the Day 1 meeting, UNOLS meeting participants were provided with a tour of the Harvard Museum of Natural History.

Day 2: Thursday, June 7, 2012

Open Day-2 of the Meeting: Bruce Corliss, UNOLS Chair, called Day-2 of the meeting to order.

Academic Fleet Modernization Activities:

Regional Class Design and Construction Solicitation – The solicitation is currently open and proposals for the RCRV construction are due in September. A link to the RCRV solicitation is posted on the UNOLS website. Questions about the solicitation can be sent to the UNOLS Office. In turn, UNOLS will pass the questions to NSF. The questions with NSF’s responses are being posted on UNOLS webpage.

Bob Houtman provided the RCRV Project Organization Chart for Phase I – Project Refresh. The chart is included as *Appendix XV*. The chart illustrates how NSF will interact with the awardees, UNOLS, other agencies, and technical support groups. There will be advisors to the RCRV project and they include NOAA, IWG-FI, GEO/OPPs, UNOLS FIC, NSF Project advisory team (PAT), and NSF Review Panels.

***Sikuliaq* Update** – Bob Houtman reported that the *Sikuliaq* construction project is moving forward according to schedule. The vessel will be launched in the fall.

Ocean Observatories Initiative - Bob Houtman reported that the OOI program has had some challenges in the design process. They are also faced with the challenge of reducing the estimated Operations and Management costs significantly.

Discussion:

- Dennis Nixon – There are many places in the RCRV process where NSF can stop the program, “off-ramps”. Is the same true for OOI?
- Vernon Asper - There should be a Global Array in the Gulf of Mexico.
- Wilf Gardner – Yesterday was the first that he heard that the OOI would be competed. Bob Houtman - This was always the case. Bruce Corliss - Last year he and Jon attended the Large Facility Workshop and this issue was discussed.
- Deb Smith – Reported that NSF recently held a workshop to evaluate the recompetition of NSF’s major research facilities. The subcommittee report resulting from meeting was accepted by NSF’s Business and Operations Advisory Committee May 18, 2012. It is available on NSF’s public website at:
http://www.nsf.gov/oirm/bocomm/pubs/BOAC_Letter_RecompetitionReport.pdf

Nominating Committee Report – Peter Ortner, Chair of the Nominating Committee provided a status report on the nominating process. His slides are including as *Appendix XXIV*. A call of nominations was announced and the deadline is June 30th. Peter requested the Council’s help in identifying candidates for the Chair-Elect position. Current council members are eligible. Also past council members should be considered.

Investigate the feasibility of a more flexible UNOLS to meet the needs of additional users - Peter Ortner reported that there are still areas to consider in regard to a more flexible fleet. If we had a class of smaller ships, it might present additional opportunities. Peter suggested that there might also be opportunities with marine archeology, but it is not clear if it was fall within the Research Vessel designation. Dennis Nixon - It would be challenging to find archeology in the definition of oceanography.

UNOLS Outreach Activities:

AGU Science Policy Conference – May 2012 – Bruce Corliss reported that AGU had their first Science Policy meeting (see *Appendix XXV*). Bruce and Larry Atkinson were invited to be panelists.

UNOLS Booth at the 2012 Ocean Sciences Meeting – Annette DeSilva reported that the UNOLS Booth was a big success. Details are included in the slides, *Appendix XXIII*.

Early Career Investigator Oceanographic Research Cruise Training Opportunity -Clare Reimers provided the report and thanked the UNOLS Office for their help. Clare’s slides are included as *Appendix XXVI*. *Clare submitted* an EAGER proposal to continue the Training program for another 3 years. The proposal was awarded and there will be a cruise on New Horizon in November 2012. There were 39 applications from 24 institutions for the 2012 training opportunity. The applications will be reviewed soon.

UNOLS Annual meeting - Bruce Corliss reported that this year’s 2012 Annual meeting would take place on October 23-24, 2012. Suggestions are needed for the featured speaker. Senator Sheldon Whitehouse was suggested and Dennis Nixon offered to contact him.

The Status of UNOLS On-Going Activities, Issues, and Items of Council Interest:

Post Cruise Assessment Report (PCAR) Subcommittee – Jon Alberts provided a summary of the PCAR trends and statistics. His slides are included as *Appendix XXVII*.

Membership Applications – Annette DeSilva reported that there is a membership application from Pennsylvania State University. They are drafting a letter that will accompany the application. Annette will forward the material to the Council when it is received.

Revisit Topics from Day One:

Mid-life Refits for Global Vessels - Bruce opened discussion on Navy's plans for mid-life refits for the Global ships.

- Mike Prince - The agency letter to UNOLS requests UNOLS feedback regarding mid-life refits for the Global ships.
- Clare Reimers – FIC has stated that they are in favor of mid-life refits for the Globals.
- A motion was made and passed to request that FIC review plans for mid-life refits and provide a recommendation to the Council Motion (Gardner/Morrison)
- Bruce will draft a request to FIC asking that they provide a recommendation regarding the mid-life refits.

Consortium for Ocean Leadership Report on Ship Funding Models – FIC's recommendations regarding the COL report on ship funding models have been circulated to the Council. A motion was passed for Bruce Corliss to draft a cover letter that will highlight the progress UNOLS has made in fleet modernization and send the letter along with FIC's recommendations to Marc Abbott, the Working Group Chair (Morrison/Collier)

Rolling deck to Repository (R2R) Project Update – Jon Alberts summarized the R2R report that was provided by Bob Arko. Slides are included as *Appendix XXVIII*. R2R is looking for suggestions for their R2R advisory panel. Bob has requested that the Council provide suggestions for panel members.

Update on UNOLS meetings with NOAA - Bruce Corliss provided information about the meetings UNOLS leadership has been having with NOAA leaders. His slides provide additional details about the meeting and are included as *Appendix XXIV*. Future meetings will also include NSF and ONR participation.

Marine Technician Recruitment and Retention Pilot Program- Transition to full time UNOLS position/effort – Jon Alberts summarized slides that were prepared by Alice Doyle. The slides are included as *Appendix XXX*. The Pilot Program that was initiated two years ago has been completed successfully. The decision has been made to transition the program to a full time position within the UNOLS Office.

Break

Open discussion on Fleet issues and material presented during the meeting – Bruce Corliss opened the floor for comment.

- Deb Steinberg – Should the *Barnes* be addressed by the non-operator ad hoc committee in their recommendation to the agency letter? Bob Houtman - The Barnes issue has been resolved. UNOLS recommends that Barnes service life be extended to 2016 based on its material condition.

- John Morrison- Should there be more discussion about the Coastal Vessels as a new class of vessels? Bruce - this can be discussed at the fall Council meeting.
- Mike Prince - We need to determine what a Coastal Vessel is.
- Stewart Lamerdin - The life-cycle and cost of these ships needs to be considered.

Closing Remarks - Bruce Corliss thanked Pete Girguis for all of his help with the meeting arrangements and hosting the meeting. Bruce thanked the agencies for participating in the meeting.

A motion was made and passed to adjourn the meeting (Collier/Gardner)

11:30 Meeting Adjourns