OSU MARINE OPERATIONS TASK FORCE FINAL REPORT

Lisa T. Ballance (Chair), Jack Barth, Kevin Buch, Robert Cowen, Jennifer Creighton, Tom Doyle, Tamara Gash, Kaya Johnson, Anthony Koppers, Christina McKnight, Kipp Shearman

August 16, 2023

EXECUTIVE SUMMARY

This task force was established in early 2020 by leadership across Oregon State University (OSU) to revise practices and policies pertaining to activities in marine and freshwater environments (hereafter, marine operations). Task force goals were to maximize access to these environments while retaining highest priority on safety, affordability, and efficiency. The initial name (OSU Future Ship Operations Task Force) was changed (OSU Marine Operations Task Force) to reflect its broad mission and scope. Subcommittees comprised of subsets of task force members produced reports pertaining to six topics: safety; prevention of harassment; vessel definitions and size classification; vessel registry; charters, personal boats, and acquisition of vessels. A seventh report pertaining to management and reporting structure was produced by the entire task force. Case studies of four OSU mid-size vessels provide a retrospective review of past problems, challenges, and lessons learned.

Four crosscutting problems were identified:

1. Current marine operations are siloed, isolated, and uncoordinated, resulting in potential risk, liability, and duplication of responsibilities and resource use.
2. There are no explicit guidelines pertaining to the range of vessels used by OSU, resulting in confusion, inconsistent practices, loss of time and resources, and increased risk and liability.
3. There is no comprehensive list of OSU vessels, resulting in duplication of effort and loss of time and resources expended on investigating options for access to the water.
4. Maintenance and operation costs of OSU vessels and credentialed mariners are increasing to the point where fee rates to pay for these costs are trending beyond what

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1 Authors listed in alphabetical order.
2 Beginning 9 June 2021.
3 March 2020 - 17 May 2022.
OSU scientists and educators can pay, resulting in loss of access to the water for critical research and education.

To address these problems, the task force makes the following overarching recommendations:

i. Centralize marine operations across OSU (programmatic, supervisory, budget, and compliance oversight) and place all under a new Marine Operations Director who reports to an Associate Vice President for Marine Operations.

ii. Create and maintain an overarching Marine Operations Safety Policy.

iii. Create and maintain a consistent framework for prevention of harassment and discrimination and apply it across all OSU marine operations.

iv. Conduct an internal audit to ensure that the above framework is consistent and compliant with current practices and policies governing personnel and activities across OSU.

v. Conduct regular OSU-wide risk assessments to evaluate assets and liabilities to OSU, users, and funding agencies.

vi. Define and standardize project review and approval processes for all OSU activities involving vessel use.

vii. Define requirements for safety equipment, inspections, and operator credentials for OSU’s mid-size vessels below 300 Gross Registered Tons.

viii. Define requirements for safety equipment, inspections, and operator credentials for all charter vessels.

ix. Establish procedures, guidance, review, and approval processes for acquisition of new vessels.

x. Create and maintain an online registry of all vessels owned and operated by OSU.

xi. Assess OSU’s mid-size vessels to estimate full life cycle, service life, dry dock costs, and mid-life re-fit work, in the context of resource availability and complementarity versus duplicity in terms of scientific capabilities.

xii. Partially subsidize funding for mid-size vessels to support winter repair periods and offset high fee book rates, following models for OSU’s other hard assets.

The task force urges strategic but immediate implementation of these recommendations to mitigate risk and liability in a comprehensive and standardized manner, and has outlined a suggested timeline with milestones, dates, and decision authority for the next 12 months. While not confidential, this report and recommendations have not been broadly shared across OSU, therefore listening sessions should be conducted immediately with key user and oversight groups to obtain input and buy-in.

Fiscal impacts and considerations are outlined in the report. Budget needs include and are not limited to salary and other payroll expenses for a new Marine Operations Director (ongoing),
administrative support for implementation of a centralized marine operations (one time only), and development of a vessel registry (one time only). Potential cost savings may come from efficiencies found through shared administration of centralized marine operations, and shared operation and maintenance of OSU’s small boats and mid-sized vessels.
INTRODUCTION

Seventy-four percent of the planet is covered by water. The oceans generate most of the oxygen we breathe, are a major driver of global climate, a major source of food, and an increasing source of renewable energy. Freshwater resources are critical to terrestrial environments, agriculture, and industry. Science is key to understanding these influences and utilizing these resources in sustainable ways. Oregon State University (OSU) is a global leader in ocean research, freshwater resource science, and education on these topics. External funding associated with this research represents a major resource at the university level and is directly relevant to key issues outlined in OSU’s Strategic Plan 5.0. Investments by the university (e.g., the Marine Studies Initiative [MSI], new pier and causeway facilities in Newport, the Gladys Valley Marine Studies Building at Hatfield Marine Science Center [HMSC], new faculty hires) are facilitating growth in marine related research and education activities. These factors have aligned in time to create a powerful opportunity for OSU to review, redesign, and strengthen its capacities and capabilities for ocean research and to increase our global impact.

The time window for such a redesign is now in the context of these positive changes, but also urgent in the context of mitigating risk. Current practices and policies are clear with strong compliance and documentation in some units and programs, but unclear and not standardized in others. Risks associated with work, education, and student/athletic activities occurring in freshwater environments can be as serious as in marine environments, and freshwater activity levels are not insignificant. Moreover, the criticality of ocean research in the context of climate change, renewable energy, the blue economy, sustainable use of natural resources, and human-wildlife conflict is gaining increasing recognition, nationally and globally, with an associated need for greater access to the sea for all marine related faculty, students, staff, and partners.

This report is the result of almost four years of work focused on reviewing existing practices, policies, infrastructure, and resources associated with marine operations across OSU. The Task Force (TF) recognizes that the recommendations within represent significant changes from the status quo and a need for additional resources. Yet we make them because we strongly believe that their implementation will be transformative, not only in terms of safety and risk mitigation, but also in the context of research and education, and their impact across Oregon, the nation, and the globe.

This report consists of:

- Overview of Task Force Charge, Scope, and Mission – pgs. 5 - 7
- Overarching Recommendations and Implementation Timeline – pgs. 7 - 9
- Major Findings: Subcommittee Reports – pgs. 10 - 12
- Major Findings: Case Studies – pgs. 12 - 13
TASK FORCE INITIATION, CHARGE, MEMBERSHIP, TIMELINE, SCOPE & MISSION

The OSU Future Ship Operations TF was formed in March 2020 based on a meeting held in December 2019 attended by the Deans of the College of Agricultural Sciences (CAS) and the College of Earth, Ocean, and Atmospheric Sciences (CEOAS), Director of Insurance and Risk Management Services, Associate Dean of CEOAS, Vice President for Finance and Administration, and many others. This group identified a “Need to Increase Efficiencies and Safe Operations: With the current dispersed operational management of our research fleet, from large research vessels in CEOAS and CAS to small boats among other colleges, the small boats program at the Research Office, and the chartering of (fishing) vessels, we are lacking efficiencies in operations, while we cannot guarantee safe operations to our staff, students and researchers.” and developed a proposed charge: “Improve management efficiencies and safety practices across the entire OSU research fleet, by developing a shared management structure and online registry that increases the visibility and management efficiencies of all OSU boat operations, large or small, while ensuring safe operations across the board.” Mission, approach, membership, and timeline were also drafted (Appendix 1) with agreement to discuss and revise as needed.

The TF reports to OSU’s Research Office (RO) and the Provost, and at the direction of the Vice President for Research (VPR) was chaired by Anthony Koppers (Associate Dean CEOAS) and co-chaired by Lisa Ballance (Director Marine Mammal Institute [MMI]). In May 2022, Anthony Koppers was promoted to the RO and left the TF; concurrently, the VPR appointed Lisa Ballance as the new Chair. TF members and primary positions within OSU are listed in Table 1.
### Table 1. Members of the OSU Marine Operations Task Force (listed alphabetically) and their primary positions within OSU.

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
</tr>
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<tbody>
<tr>
<td>Lisa T. Ballance</td>
<td>Director, Marine Mammal Institute</td>
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<tr>
<td>Jack Barth</td>
<td>Executive Director, Marine Studies Initiative</td>
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<tr>
<td>Kevin Buch</td>
<td>Scientific Diving &amp; Small Boat Administrator</td>
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<tr>
<td>Robert Cowen</td>
<td>Associate Vice President for Research &amp; Operations, Hatfield Marine Science Center</td>
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<td>Jennifer Creighton</td>
<td>Associate Vice President, OSU Research Administration, Finance, &amp; Operations</td>
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<td>Tom Doyle</td>
<td>Director, OSU Environmental Health &amp; Safety</td>
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<td>Tamara Gash</td>
<td>Associate Director, OSU Procurement &amp; Contract Services</td>
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<tr>
<td>Kaya Johnson</td>
<td>Marine Superintendent, OSU Ship Operations</td>
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<tr>
<td>Anthony Koppers</td>
<td>Associate Dean, College of Earth, Ocean, &amp; Atmospheric Sciences</td>
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<td>Christina McKnight</td>
<td>Director, OSU Insurance &amp; Risk Management</td>
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<tr>
<td>Kipp Shearman</td>
<td>Professor, College of Earth, Ocean, &amp; Atmospheric Sciences</td>
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The pandemic delayed the first formal meeting of the TF for almost a year, until January 2021, after which time the TF met relatively regularly (i.e., monthly) except for a few longer periods when multiple TF members were unavailable. Progress reports were submitted in June and October of 2021 (Appendices 2, 3), and a status update meeting was held in October 2021 with TF members, the Provost, VPR, Deans of CEOAS and CAS, and the Senior Associate Vice President (AVP) for Administration. The TF held four half-day meetings in person in summer 2022, and met virtually as a whole, and in person in smaller groups through 2023.

Through its three and a half years of work, the TF revised its mission, charge, and less formally, its name, multiple times to reflect its scope (Appendix 4). This report is submitted with the following consensus TF revisions:

**TF Name: OSU Marine Operations Task Force**

**Mission:** Revise practices and policies pertaining to marine operations across the university to increase access to marine and freshwater environments for research and education while retaining highest priority on safety (in accordance with existing University-National Oceanographic Laboratory System [UNOLS], Scientific Boating Safety Association [SBSA], OSU, state, and federal guidelines, maritime law, best practices, and policies), affordability, and efficiency.
Scope: All OSU operations on the water. For brevity, our report refers to “marine operations” but in all contexts, this refers to all operations associated with both marine and freshwater systems.

OVERARCHING RECOMMENDATIONS AND IMPLEMENTATION

TIMELINE

The overarching recommendations below are synthesized from the substantive work represented by the TF in five subcommittee reports, a dedicated TF report focused on management and reporting structure, and case studies of four OSU mid-size research vessels. More detail is presented in the sections below (Major Findings) and in Appendices 5 – 11.

Overarching Recommendations

Current marine operations are siloed, isolated, and uncoordinated, resulting in potential risk, liability, and duplication of responsibilities and resource use. Therefore, the TF recommends that OSU:

- Centralize marine operations across OSU (programmatic, supervisory, budget, and compliance oversight) and place all under a new Marine Operations Director (MOD; 1.0 Full-Time Equivalent [FTE]) who reports to an AVP for Marine Operations (AVP-MO; Appendix 10);
- Create and maintain an overarching Marine Operations Safety Policy (Appendix 5);
- Create and maintain a consistent framework for prevention of harassment and discrimination and apply it across all OSU marine operations (Appendix 6);
- Conduct an internal audit to ensure that the above framework is consistent and compliant with current practices and policies governing personnel and activities across OSU; and
- Conduct regular OSU-wide risk assessments to evaluate assets and liabilities to OSU, users and funding agencies (Appendix 5).

There are no explicit guidelines pertaining to the range of vessels used by OSU, resulting in confusion, inconsistent practices, loss of time and resources, and increased risk and liability. Therefore, the TF recommends that OSU:

- Define and standardize project review and approval processes for all OSU activities involving vessel use (Appendix 5);
- Define requirements for safety equipment, inspections, and operator credentials for OSU’s mid-size vessels below 300 Gross Registered Tons (GRT; Appendix 7);
• Define requirements for safety equipment, inspections, and operator credentials for all charter vessels (Appendix 9); and
• Establish procedures, guidance, review, and approval processes for acquisition of new vessels (Appendix 9).

There is no comprehensive list of OSU vessels, resulting in duplication of effort and loss of time and resources expended on investigating options for access to the water. Therefore, the TF recommends that OSU:
• Create and maintain an online registry of all vessels owned and operated by OSU (Appendix 8).

Maintenance and operation costs of OSU vessels and credentialed mariners are increasing to the point where fee rates to pay for these costs are trending beyond what OSU scientists and educators can pay. This results in loss of access to the water for critical research and education. Therefore, the TF recommends that OSU:
• Assess OSU’s mid-size vessels to estimate full life cycle, service life, dry dock costs, and mid-life re-fit work, in the context of resource availability and complementarity versus duplicity in terms of scientific capabilities (Appendix 11); and
• Partially subsidize funding for mid-size vessels to support winter repair periods and offset high fee book rates (Appendix 11) and convene a working group to provide an annual recommendation for this subsidy based on a cost/benefit analysis and following models used for OSU’s other hard assets (e.g., facilities).

The time window for implementation of these recommendations is urgent in the context of the critical need to mitigate risk in a comprehensive and standardized manner, and opportune in the context of ongoing renovations, new programs, and arrival of a new Academic Research Fleet vessel. Therefore, the TF recommends that OSU:
• Follow the suggested implementation timeline described below pertaining to milestones, dates, and decision authority.

This report and recommendations, while not confidential, have not been broadly shared across OSU. Therefore, the TF recommends that OSU:
• Share this report and recommendations broadly across OSU through listening sessions with key user and oversight groups to obtain input and buy-in, and revise recommendations as relevant.
Implementation Timeline

Implementation of these recommendations must involve strategic and intentional deliberation, allowing for adequate input and feedback, and revisions as relevant in response to comments received. At the same time the need to mitigate risk and liability to OSU, its faculty, staff, students, and funders is urgent. A critical aspect of risk and liability mitigation is the establishment of a centralized marine operations structure and associated advisory bodies and councils so that these entities are active participants in guiding key policy reviews and developments. In this context, the TF proposes the following high-level timeline and priorities for the next 12 months:

Fall 2023:
- Announce plan to adopt centralized marine operations;
- Conduct listening sessions with key oversight and user groups pertaining to marine operations across OSU; incorporate feedback and revise recommendations as relevant (through calendar year 2024);
- Designate AVP-MO.

Winter 2024:
- Conduct search for MOD (AVP-MO to develop position description and job advertisement);
- Form Marine Operations Council; Marine Operations Committee and Safety Subcommittee; Hold first meetings;

Spring 2024:
- MOD in place;
- AVP-MO, MOD, Marine Operations Council, Marine Operations Committee and Safety Subcommittee:
  - Draft Marine Operations Safety Policy and Vessel Operations Safety Manual (VOSM);
  - Draft overarching framework for prevention of harassment and discrimination in the context of marine operations;
  - Draft policies for OSU’s mid-size vessels under 300 GRT;
  - Draft guidelines for chartering non-OSU vessels.

Summer 2024:
- MOD: Lead implementation of Vessel Registry;
- AVP-MO, MOD, Marine Operations Council, Marine Operations Committee and Safety Subcommittee: Establish vessel acquisition and post-purchase policies.
MAJOR FINDINGS: SUBCOMMITTEE REPORTS

The TF created several subcommittees with focused objectives. Each was comprised of a subset of members from the TF and all TF members were active in more than one committee. We summarize the charge and recommendations from each of six subcommittee reports below. We provide full reports in Appendices because the background and major findings associated with each subcommittee provides valuable context in implementing these recommendations with maximum benefit to improving OSU’s marine operations.

Although the subcommittees worked in parallel, many findings are inter-related or identical. In particular, the recommendation to create a centralized marine operations structure across OSU arose multiple times from different subcommittees. The subcommittee reports therefore cross-reference one another.

Safety (Appendix 5)

Charge: Review current safety practices and policies and draft a high-level OSU marine operations safety policy in concert with OSU, UNOLS, SBSA, Federal, and state guidelines.

Recommendations:
- Implement a centralized marine operations structure;
- Create a Marine Operations Safety Policy;
- Create a VOSM; and
- Establish a Marine Operations Safety Subcommittee.

Prevention of Harassment (Appendix 6)

Charge: Review existing OSU policies pertaining to prevention of harassment and formalize these in the context of work on all vessels and small boats.

Recommendations:
- Create a consistent framework for prevention of harassment and discrimination and apply it across all OSU marine operations;
- Require standardized training across all OSU marine operations and develop training specific to vessel types, environments, and positions; document/track and enforce training requirements; regularly refresh training materials to keep them current and relevant; provide easy access to resources; and
- Strongly reinforce OSU’s current requirement to report incidents of harassment and discrimination; develop alternatives for reporting in situations where standard lines of communication are unavailable, and interim mitigation practices to prevent exacerbation of harassment/discrimination until formal access to authorities is available.
Vessel Definitions and Size Classification (Appendix 7)

Charge: Identify and define categories of vessels and provide an overview of required current practices and policies specific to each category. This includes required safety equipment; restrictions (if relevant) pertaining to where a vessel can operate, by whom, and the scope and nature of allowable work; applicable regulations; and organizational structure pertaining to vessel oversight.

Recommendation:
- Establish policies for OSU’s mid-size vessels under 300 GRT.

Vessel Registry (Appendix 8)

Charge: Explore models for asset registry in the context of creating and maintaining a centralized vessel registry within OSU. This registry will include all vessels owned and operated by OSU regardless of size, be available online, and include operational and safety status, list of capabilities, and vessel manager contact information.

Recommendation:
- Develop and maintain a comprehensive vessel registry.

Charters, Personal Boats, Acquisition of Vessels (Appendix 9)

Charge: In concert with UNOLS policies, establish OSU requirements for: (1) the chartering of OSU operated vessels (both UNOLS and non-UNOLS), (2) OSU chartering UNOLS vessels operated by other institutions, (3) OSU chartering non-UNOLS vessels (commercial, non-commercial, nationally, and internationally), (4) acquisition of vessels (new, used, or donated), and (5) loan of personal (non-contracted) vessels.

Recommendations:
- Centralize marine operations across OSU (Appendix 10);
- Develop a comprehensive, centrally managed website for marine operations that includes the guidelines, requirements, procedures, templates, and forms contained in the recommendations of this subcommittee report;
- Develop charter guidelines, requirements, and procedures in compliance with UNOLS guidance and standards, to include: review and approval by the AVP-MO or designate and Vessel Operations Advisory Committee (Appendix 10); update of fiscal policies; development of a reserve contract or qualified pool of internal charter operators, marine surveyors, and marine architects; and incorporation of safety requirements into the VOSM (Appendix 5);
• Establish vessel acquisition guidance and procedures, to include: assessment of complementarity with existing OSU vessels; review and approval by the AVP-MO or designee and Vessel Operations Advisory Committee (Appendix 10);
• Establish post-purchase guidance for compliance with Fiscal Policy 03-160-211: Vehicles and Vessels; and
• Discourage use of personal, non-contracted vessels unless determined to be in the best interests of OSU and resources are provided to meet criteria detailed in the subcommittee report.

Management and Reporting Structure (Appendix 10)
Charge: Provide recommendations for a university-supported management and reporting structure that will oversee coordinated OSU vessel and small boat operations, to include: where the new program resides; to whom it reports; who has authority for go/no-go decisions; and how it is funded. Recommendations should be made in the context of how to gain efficiencies; how to make better use of shared facilities, dockages, water access, expertise, and the maintenance of all ship, small boat, and shoreside facility assets; and how to use all this to enhance OSU’s capabilities.

Recommendation:
• Centralize marine operations across OSU, to include:
  o AVP for Marine Operations;
  o MOD; and

MAJOR FINDINGS: CASE STUDIES (APPENDIX 11)

Marine operations are complex, ever-changing, and associated with inherent risks, liability, competing demands, and limited resources. Potentially compounding these are several factors extant throughout OSU’s non-ARF vessels. There is lack of clarity regarding best practices, policies, safety requirements, and compliance for OSU’s mid-size vessels under 300 GRT and vessels chartered by OSU scientists and educators (Appendices 7 and 9, respectively). There is no guidance or oversight pertaining to acquisition of new vessels, and consideration for complementarity with the existing OSU fleet (Appendix 9). There is no comprehensive oversight of vessel-specific maintenance schedules and costs across the OSU fleet in the larger context of existing resources and demand by OSU faculty for specific capabilities. Labor for sea-going credentialed and uncredentialed mariners, and repair and maintenance costs come from
fee book funds obtained from users, problematic because rising costs are outpacing the ability of users to provide adequate funds. And marine operations at OSU are managed by multiple units independently and in parallel, siloed, isolated, and uncoordinated (Appendix 10).

To address the explicit request of the VPR to provide:

> A clear and illustrative argument that the structure we’re proposing to create will remove the barriers and silos that we have had in place historically: A case study I asked for to show us that accidents/concerns in past cases can be addressed better with the new org structure⁴.

and to illustrate the broader benefits of the overarching recommendations in this report, the TF prepared case studies of four OSU vessels.

Collectively, a retrospective review of these case studies illustrates that risk and liability would be mitigated through establishment of clear and transparent policies and central accountability in areas with substantive compliance and safety risks; efficiencies associated with coordination and economies of scale would be realized; and increased access to the water for critical science and education would be achieved by implementing the following TF recommendations:

- Adopt a centralized oversight structure for all marine operations as described in Appendix 10;
- Define requirements for safety equipment, inspections, and operator credentials for all OSU vessels below 300 GRT (Appendix 7); and
- Partially subsidize funding for mid-size vessels (amount to be determined by a separate working group based on a cost/benefit analysis) to support winter repair periods and offset high fee book rates, following models used for OSU’s other hard assets.

**FISCAL IMPLICATIONS AND CONSIDERATIONS**

**Current State**

The TF received overall budget presentations and summary reports based on Fiscal Year (FY) 22 information from OSU’s Small Boat & Diving Programs, Ship Operations, HMSC, and MMF⁵. Table 2 outlines the current state of marine operations budgets within the OSU structure. Not represented in Table 2 are the colleges of Forestry, Engineering, and CAS (excluding MMI); Athletics; and Recreation Sports; all have budgets to support their marine operations activities.

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⁴ OSU Vice President for Research email to OSU Ship Operations Task Force, 11/18/2021.
⁵ Summaries available in Box.
Table 2. Budget location and relevant marine operations activities within the current OSU structure.

<table>
<thead>
<tr>
<th>Budget Location</th>
<th>Activities</th>
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</table>
| Research Office | • Small Boat Program  
                  • Scientific Diving Program  
                  • *Research Vessel (R/V Kalipi* and associated expenses  
                  • HMSC marine operations & facilities  
                  • Research Equipment and Lab Management System (RELMS)* |
| CEOAS           | • Ship Operations and facilities  
                  • R/V *Elakha* and associated expenses  
                  • R/V *ExVenture* and associated expenses  
                  • Marine Technicians |
| CAS and OSUF    | • R/V *Pacific Storm*  
                  • MMI leased facilities and moorage  
                  • MMI small boats |
| Provost         | • Marine Studies Initiative  
                  • Port Orford budget and facilities |

**Future State Recommendations**

Under the centralized structure proposed in this report, most marine operations budgets would become centralized under the RO with new indexes and assigned organization codes. This would include:

- Small Boat and Scientific Diving Programs; *R/V Kalipi*, HMSC marine operations and facilities (current state: RO Budget);
- Ship Operations and facilities; *R/V Elakha* and *R/V ExVenture*, Marine Technicians (current state: CEOAS budget); and

A shift of budgets to a centralized model should occur at the beginning of a fiscal year, possibly as early as FY25 with a possible staged approach (e.g., to consider federal funding requirements and other significant factors). A new organization code for marine operations would be required, as would new indexes following the new organization structure. Budgets, revenues, and expenses would move to the new marine operations organization code.

Considerations should include changes in funding flows for:

- Fees for service, rentals and additional potential revenues;

*6 Budget currently under consideration for overall use, potentially to include marine operations.*
- OSU funding and subsidies in the context of fees for services;\(^7\)
- Current expenses (e.g., lease and service agreements);
- Returned overhead; and
- Additional new funding such as grants.

Funding would not be centralized for colleges of Forestry, Engineering and CAS (except for MMI); Athletics; and Recreation Sports as their primary expenses are the purchase and upkeep of unit-managed small boats. These units would continue to purchase through unit-specific mechanisms and funding sources and would follow any new policies associated with vessel acquisition under the centralized marine operations structure.

**Future Budget Needs**

Beginning in FY24:
- FTE (.30 - .50); repurposed or additional for AVP-MO ($80,000 - $150,000 (salary & Other Payroll Expenses [OPE])) – ongoing; and
- FTE (1.0) for MOD – $190,000 (Salary and OPE) – ongoing.

Beginning in FY25:
- Admin support for implementation ($80,000 - $110,000 salary + OPE) – ongoing; and
- Vessel registration launch of software ($25,000 - $150,000) – one time only.

Potential needs which may impact FY25 and beyond:
- Additional or saved FTE after efficiencies are learned by the MOD and AVP-MO – potential ongoing;
- Additional FTE for budget restructuring (one time only) or shift/repurposing of FTE\(^8\) (potential ongoing)\(^9\);
- Additional budget and potential cost savings associated with maintenance (deferred and ongoing) of small boats and mid-size vessels\(^10\) – To Be Determined (TBD);
- Additional budget for long term needs assessment and master plan of operations, facilities improvements, and equipment purchases in the context of centralized facilities, to include cost/benefit analysis of leasing versus using OSU facilities and moorage\(^11\) – One time only and/or bonds;

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\(^7\) For example, some fee for service revenue may include vessel rental, labor for sea-going mariners, equipment, storage space and other assets, equipment, and activities.

\(^8\) All hires should be approved by AVP-MO and MOD if vacancies occur or restructuring recommendations are recommended.

\(^9\) Fee for service may cover some of these expenses.

\(^10\) Currently many faculty and staff independently oversee maintenance, requiring partial FTE from their Position Descriptions. Dedicated FTE to perform and/or coordinate maintenance should be explored.

\(^11\) Incorporate, and revise as necessary, the CEOAS-led Long-Range Development Plan for the HMSC/Newport dock facility and adjacent land.
• Additional budget for Vessel Registry software annual subscriptions, maintenance, enhancements (Est. only $25,000 annually) – *ongoing*;
• Additional and replacement research vessels and small boats\textsuperscript{12} – *TBD*; and
• Establishment of formal marine operations budget process allowing for budget relocations and additional needs and opportunities – *TBD*.

\textsuperscript{12} Long-term replacement plan for all inventory should be created; investigate RERF funds as potential source of support.
## List of Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Full Form</th>
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<tbody>
<tr>
<td>ABS</td>
<td>American Bureau of Shipping</td>
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<td>AMP</td>
<td>Administrative Modernization Program</td>
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<td>ARF</td>
<td>Academic Research Fleet</td>
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<td>AVP</td>
<td>Associate Vice President</td>
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<td>AVPR</td>
<td>Associate Vice President of Research</td>
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<td>AVP-MO</td>
<td>AVP for Marine Operations</td>
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<td>CAS</td>
<td>College of Agricultural Sciences</td>
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<td>CEOAS</td>
<td>College of Earth, Ocean, and Atmospheric Sciences</td>
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<td>COL</td>
<td>Consortium of Ocean Leadership</td>
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<td>Division of Finance and Administration</td>
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<td>Gross Registered Tons</td>
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<td>Hatfield Marine Science Center</td>
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<td>Information and Technology</td>
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APPENDIX 1: OSU FUTURE SHIP OPERATIONS TASK FORCE CHARGE AND MEMBERSHIP - MARCH 6, 2020

MISSION STATEMENT

To modernize university-wide ship operations in order to guarantee better access to the sea for research and education, in the safest possible manner and in accordance with UNOLS guidelines.

CHARGE

Improve management efficiencies and safety practices across the entire OSU research fleet, by developing a shared management structure and online registry that increases the visibility and management efficiencies of all OSU boat operations, large or small, while ensuring safe operations across the board.

APPROACH

This TF will work together with representatives of all OSU colleges, institutes, and facilities operating research vessels, and the SBP at the RO, to develop:

1. A shared management structure that provides transparency to its users and the funding partners, including making available an online register of all research vessels and small boats, their status in terms of operations and safety, list of capabilities, and operator contact information;
2. A plan to remove redundancy in seagoing capabilities, in order to increase efficiencies in the operation and management of all research vessels and small boats;
3. A safety model that is equally applicable to the operation of all UNOLS, non-UNOLS and chartered vessels at OSU, in accordance with UNOLS guidelines, and including mandatory insurance of all research vessels and small boats;
4. A proposal for required dedicated resources to allow for professional and consistent annual safety and usage inspections of all research vessels and small boats;
5. An external advisory committee with experience in the operation of seagoing vessels and/or small boat programs (SBPs) in the context of an UNOLS operator institution.

13 Acronyms and abbreviations revised for incorporation into TF Final Report, 16 August, 2023.
**Taskforce Membership**

(1) **Anthony Koppers** Associate Dean for Research Operations, CEOAS *(co-chair)*
(2) **Lisa Ballance** Director, MMI, CAS *(co-chair)*
(3) **Kaya Johnson** Marine Superintendent, Marine Operations, CEOAS
(4) **Kevin Buchs** Diving and Small Boat Safety Officer, RO
(5) **Bob Cowen** Director, HMSC
(6) **Jack Barth** Executive Director, MSI
(7) **Christina McKnight** Director, Insurance and Risk Management Services
(8) **Jennifer Creighton** Fiscal Director, RO
(9) **Tom Doyle** Director, Environmental Health and Safety (EH&S)
(10) **Kelly Kozisek** Procurement, Contracts and Materials Management Director and Chief Procurement Officer

**Timeline**

The first taskforce meeting will be organized in mid-March. Regular meetings are planned for the spring term, with the goal to provide a recommendation to the RO and Provost by July-August 2020.
APPENDIX 2: OSU FUTURE SHIP OPERATIONS TASK FORCE FIRST PROGRESS REPORT — JUNE 2021

INTRODUCTION

The OSU Future Ship Operations TF was established on 21 November 2019, after a meeting with Provost Ed Feser and the VPR Irem Tumer and other OSU stakeholders. COVID-19 delayed work by the TF until 13 January 2021, when we held our first Zoom meeting. Since that time, we have met remotely at approximately three-week intervals. This first formal progress report documents our approach and accomplishments to date. It will be followed by a second progress report and accompanying presentation, planned for September 2021. Our final product will be a Roadmap for implementation in 2022-2023 which we expect to present in December 2021.

The TF consists of twelve representatives from various OSU colleges/units and administrative offices who are directly involved in ship and small boat operations (Attachment 1). Our mission is to modernize university-wide ship operations to guarantee better access to the sea, estuaries, rivers, lakes, etc. for research and education, in the safest possible and most affordable manner, and in accordance with UNOLS and SBSA guidelines, and with accepted best practices (Attachment 1). To accomplish this, we have identified four priority goals: (1) develop a plan for coordinated operations through a university-supported management structure and an online registry; (2) establish an overarching safety model including mandatory insurance for and registration of all research vessels and small boats; (3) outline a proposal for sustained, dedicated resources to support coordinated operations and the new safety model that is based on a cost/benefit analyses; and (4) form a standing external-to-OSU advisory committee of experts.

Modernization of university-wide ship and boating operations encompassed by these four goals is a multifaceted endeavor with cross-unit implications and a complex series of implementation requirements and tasks. This TF therefore will focus on the development of a Roadmap to provide an intended structure, realistic goals, required policy changes, and looked-for (modest) budget goals. We suggest that this Roadmap be implemented over two years, beginning early in 2022 by an internal OSU Vessel Operations Advisory Group, members of which have not yet been determined.

14 Acronyms and abbreviations revised for incorporation into TF Final Report, 16 August, 2023.
**WORK ACHIEVED SO FAR**

**Charge:** The TF began with a detailed review of its charge and assessment and revision of its scope ([Attachment 1](#)) to best capture the overarching mission and delineate its four priority goals that will aid in developing a shared management structure and online registry that increases the visibility and management efficiencies of all OSU aquatic operations—from large vessels to small boats and other aquatic vehicles—while ensuring safe operations across the board.

**Subcommittees:** In total eight subcommittees ([Attachment 2](#)) have been created, each with a specific charge and reporting timeline: vessel definitions, vessel registry, CEOAS ship operations shoreside facilities, charter & personal boats and acquisition of new vessels, safety, harassment, university policies and regulations, and management and reporting structures. Subcommittees work separately from the TF as a whole, with communication and coordination across subcommittees maintained through reports at meetings of the entire TF. Two subcommittees, Definitions and CEOAS ship operations shoreside facilities subcommittee (independent from, yet critically aligned, with this TF’s mission because of this subcommittee’s focus on pier renewal and upgrades to shoreside facilities) have begun their work. The remaining subcommittees will begin in late June/early July 2021 (see **Next Steps** below).

**Subcommittee on Definitions:** The definitions subcommittee has provided the TF with a summary of existing classifications regarding ships and small boats, and currently applied regulations and safety standards that go beyond size and tonnage and capture typical academic activities carried out at sea and in inshore waters including lakes, rivers, and estuaries. The resulting 3-page document provides current definitions that consider vessel size based on US Coast Guard (USCG) classifications, safety equipment carriage requirements, where vessels operate, who operates these vessels, what work can be conducted from vessels, applicable regulations and safety standards, and who oversees vessel operations ([Attachment 3](#)).

**Ship Operations and Lessons Learned from other Equivalent Institutions:** To aid in our work, the TF is researching how other equivalent institutions have structured their research vessel and small boat programs. We have developed a questionnaire ([Attachment 4](#)) to solicit input on: management and reporting structures; SBPs; large vessels; financials and insurance; new vessel acquisition; charter and personal vessel work; and broader topics as identified in a set of overarching questions. Three institutions have accepted our invitations to present to the TF: University of Washington (UW; 14 July), University of California-Davis (UC Davis; 15 July), and
NOAA’s SBP (presentation date not yet to be scheduled) and Vessel Inventory Management System (VIMS; 23 June).

**NEXT STEPS**

**Subcommittee Work:** All subcommittees are formed and six (of eight total) will begin work on their specific charges (**Attachment 2**) in late June/early July. (The other two have been working for some time.) All subcommittees will provide regular reports to the TF at our standing meetings every three weeks.

**Second Progress Report:** In September 2021 we will provide a written report and in-person presentation and discussion session. We intend to invite the Provost, VPR, and other stakeholders at OSU.

**Presentation of Final Roadmap:** In December 2021 we intend to provide the **Final Roadmap** document and final presentation, to the Provost, VPR, and other stakeholders at OSU. Our proposal is that implementation of this Roadmap be overseen by an internal OSU Vessel Operations Advisory Group, which may contain some members of this TF but will include others within OSU.

**ATTACHMENTS**

<table>
<thead>
<tr>
<th><strong>Attachment 1:</strong> 2021-06-13.OSU-Future-Ship-Operations-Taskforce-Charge.v08.pdf</th>
<th>Mission, charge, priority goals, and membership of the <strong>Task Force</strong></th>
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<td><strong>Attachment 2:</strong> 2021-06-13.OSU-Future-Ship-Operations-Taskforce-Timeline.v07.pdf</td>
<td>Timeline for the <strong>Task Force</strong>, and definition and charges for seven subcommittees (vessel definitions, vessel registry, charter &amp; personal boats and acquisition of new vessels, safety, harassment, university policies and regulations, and management and reporting structures)</td>
</tr>
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<td><strong>Attachment 3:</strong> 2021-03-15.Vessel-Classifications.v02.pdf</td>
<td><strong>Vessel Classifications:</strong> size, safety equipment carriage requirements, operational areas, who operates and oversees vessels, research and educational work conducted</td>
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<td><strong>Attachment 4:</strong> 2021-05-26.Marine-Operations-Presenter-Questions_v06_SHORT.pdf</td>
<td><strong>Marine Operations Questionnaire</strong> to guide invited presentations* to the <strong>Task Force</strong> by University of Washington, University of California Davis, and NOAA</td>
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* Results of the questionnaire and recordings of the presentations will be archived on Box.

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Available in Box.
APPENDIX 3: OSU FUTURE VESSEL OPERATIONS TASK FORCE SECOND PROGRESS REPORT — OCTOBER 2021

INTRODUCTION

The OSU Future Vessel Operations TF was established on 21 November 2019, after a meeting with Provost Ed Feser and the VPR Irem Tumer and other OSU stakeholders. COVID-19 delayed the start of work by the TF until 13 January 2021. Our mission is to modernize university-wide vessel operations to guarantee better access to the sea, estuaries, rivers, lakes, etc. for research and education, in the safest possible and most affordable manner, and in accordance with UNOLS\textsuperscript{17} and SBSA\textsuperscript{18} guidelines, and with accepted best practices, applicable federal, state, local, and maritime law, and university policies and standards (Attachment 1). To accomplish this, we have identified four priority goals: (1) develop a plan for coordinated operations through a university-supported management structure and an online registry; (2) establish an overarching health and safety model including mandatory insurance for and registration of all research vessels and small boats; (3) outline a proposal for sustained, dedicated resources to support new management structure for coordinated operations and the new safety model; and (4) form a standing external-to-OSU advisory committee of experts.

Modernization of university-wide vessel operations encompassed by these four goals is a multifaceted endeavor with cross-unit implications and a complex series of implementation requirements and tasks. Accordingly, this TF consists of twelve representatives from various OSU colleges/units and administrative specialists who all are directly involved in vessel and small boat operations (Attachment 1).

Our final product will be a Roadmap which will provide a proposed new management structure, policy changes, and budget goals. An overarching recommendation is to implement

\textsuperscript{16} Acronyms and abbreviations revised for incorporation into TF Final Report, 16 August, 2023.
\textsuperscript{17} The University-National Oceanographic Laboratory System (UNOLS; \url{https://www.unols.org/}) is an organization of 59 academic institutions and National Laboratories involved in oceanographic research and joined for the purpose of coordinating oceanographic ships' schedules and research facilities.
\textsuperscript{18} The Scientific Boating Safety Association (SBSA; \url{https://scientificboating.org/}) founded in 2006 has the mission to facilitate the development of safe and productive scientific boating operations for public and private institutions.
this roadmap, as soon as practical, but at most over two years, beginning in early 2022. This implementation will be done by an internal OSU Vessel Operations Advisory Committee (members to be determined) working together with a newly established Vessel and Diving Operations director within the OSU-wide research and/or academic leadership structure. This second progress report documents our approach and accomplishments to date and provides draft solutions and recommendations for the roadmap.

**CURRENT STRUCTURE OF OSU VESSEL OPERATIONS, ASSOCIATED INEFFICIENCIES AND RISKS, AND PROPOSED SOLUTIONS**

The current structure of OSU vessel operations is largely decentralized with units (e.g. CEOAS, CAS, RO) independently managing and operating large research vessels, small boats, scientific diving, and the charter of non-OSU vessels (Figure 1). This ‘siloed’ structure has developed with individualized needs, funding, and opportunities on a unit-specific basis through time. Even though this had led to exceptional reputation, research expertise and funding within these units, there are risks and inefficiencies associated with the current structure that could endanger the research and academic enterprises at OSU. A lack of coordination at the university level has resulted in inconsistencies with best practices, policies, safety standards, and compliance—all associated with heightened risk. Because maritime operations are inherently dangerous, accidents involving research vessels and small boats can result in serious casualties, liability lawsuits, damage reputation, and impact current and future funding.
Figure 1: Current Structure. This is an incomplete illustration of the decentralized ‘siloed’ structure of vessel operations at OSU to date. Missing are the siloes representing Hatfield Marine Science Center and the College of Science, which provide facilities and/or operate several small boats. In addition, the College of Agriculture Sciences is also operating small boats owned by PIs that are not managed by Marine Mammal Institute (MMI) yet fall under the purview of the OSU Small Boat Program (SBP) for project approval.

The current decentralized structure is also associated with substantial duplication of effort as individual units strive to oversee vessel operations independently, resulting in more than 50 small boats and other aquatic assets. Many of these may duplicate existing capabilities, thereby exacerbating inefficiencies, and many are poorly maintained (if at all), largely inactive, and of unknown status in terms of safety, regulatory compliance, and insurance.

There are strong reasons to address the above issues and it prompted the creation of this TF with the charge to improve management efficiencies, safety and harassment practices, and the workforce environment across the entire OSU research fleet, by developing a shared management structure and online registry that increases the visibility and management efficiencies of all OSU aquatic operations, from large research vessels to small boats and other aquatic vehicles (Attachment 1). Proposed solutions are presented through recommendations from eight subcommittees (see below) synthesized into overarching
recommendations by the TF as a whole (also see below). It is our collective view that the proposed proactive changes in OSU’s approach to vessel operations are timely and will position OSU for remarkable success as the university strives to reach ‘distinctive strengths by the year 2030 in revolutionary Earth system science’ and to become ‘a global leader in research, teaching and engagement involving the world’s marine and coastal environments’ (SP4.0).

**INITIAL WORK**

The TF began with a detailed review of its charge and assessment and revision of its scope (Attachment 1) to best capture the overarching mission and delineate its four priority goals that will aid in developing a shared management structure and online registry that increases the visibility and management efficiencies of all OSU aquatic operations—from large vessels to small boats and other aquatic vehicles—while ensuring safe operations across the board.

To facilitate our work, the TF investigated the structure of the research vessel and small boat program of other Equivalent Institutions. A questionnaire (Attachment 2) solicited input on: management and reporting structures; SBPs; large vessels; financials and insurance; new vessel acquisition; charter and personal vessel work; and broader implementation topics.

Presentations from three institutions (see Table 1 under Attachment 2 for recordings available in Box) provided critical input:

1. NOAA’s Vessel Inventory Management System (23 June 2021).

**VISION TO GUARANTEE BETTER ‘ACCESS TO THE SEA’**

An efficient management structure for coordinated and safe vessel operations also should enhance Access to the Sea or any other aquatic location on land (e.g., lakes, rivers) to serve our research and educational missions at OSU. In this vision, faculty and students will have better access to research vessels and small boats to accomplish their investigations and teaching in a safe and cost-effective way, no matter the size of their project or their home academic unit. In this vision, vessel and small boat operators will provide their expertise and advice on the appropriate and safe use of our vessels and small boats. These vessels include the larger seagoing research vessels that require professional mariners to operate and are housed at OSU’s dock facilities in Newport. The small boats would include those housed and docked at HMSC and the OSU dock facilities and Principal Investigator (PI)-operated boats distributed across the
university. For example, this vision for improved access to the sea is also articulated in the MSI strategic plan (https://marinestudies.oregonstate.edu/about/strategic-planning).

**SUBCOMMITTEE RESULTS**

Eight subcommittees (Attachment 3) have been created, each with a specific charge and reporting timeline: vessel definitions, vessel registry, CEOAS ship operations shoreside facilities, charter & personal boats and acquisition of new vessels, health and safety, harassment, university policies and regulations, and management and reporting structures. Key outcomes for each subcommittee are described below:

### Subcommittee on Vessel Definitions

The definitions subcommittee has provided a summary of existing classifications regarding ships and small boats, and currently applied regulations and safety standards that go beyond size and tonnage and capture typical academic activities carried out at sea and in inshore waters including lakes, rivers, and estuaries. The resulting 3-page document provides current definitions that consider vessel size based on USCG classifications, safety equipment carriage requirements, where vessels operate, who operates these vessels, what work can be conducted from vessels, applicable regulations and safety standards, and who oversees vessel operations.

**Key Outcomes:**

1. The USCG has formal vessel classifications based on length, and in some cases weight and vessel usage, and for each vessel type a set of minimum carriage requirements for safety equipment. OSU must have policies and procedures in place to ensure that all OSU owned, operated, and chartered vessels meet at least the minimum requirements applicable to their USCG classification.

2. Currently at OSU there are clear standards in place for large UNOLS vessels (OSU Ship Ops based on UNOLS and USCG Research Vessel Safety Standards [RVSS] and additionally American Bureau of Shipping [ABS], Safety of Life at Sea and International Safety Management standards for the R/V Taani) and for small boats (typically <26 ft) operated by researchers (OSU SBP based on SBSA Boating Safety Program Guidelines).

3. OSU should create policies and procedures that address operating requirements for all vessels, including those that do not currently fall under existing standards. If vessels are used for anything other than research, then other regulations apply, even to small boats.
For example, sightseeing or taking passengers for hire requires different regulations, such a Sub Chapter T under USCG.

4. OSU must have a program structure, policies, dedicated funding, management support, and oversight/review in place that can be used by appropriate personnel to make sound operational decisions for all environments. This is especially important for Pacific Northwest vessel operations in the coastal areas surrounding Newport, as the ocean is unprotected immediately seaward of the bar.

5. There may be specific safety and operational requirements associated with vessel ownership and/or funding source (e.g., NSF, US Department of Interior units). OSU must ensure that these requirements are identified and met during the approval process for projects using these vessels.

**Subcommittee on Vessel Registry**

A key asset of the TF’s proposed coordinated management structure is a centralized registry of all vessels owned, operated, and chartered by OSU. This subcommittee has explored similar-type registries existing within OSU’s RO and currently those used by NOAA and the University of California System (UC System) in managing their vessel and small boat programs.

**Key Outcomes:**

1. A vessel registry should be made available online within *oregonstate.edu* and include current operational and safety information and status, list of capabilities, and operator contact information of all vessels owned, operated, and chartered by OSU and/or OSU personnel.

2. Given the central nature in supporting and enhancing coordination between all vessel, small boat, and diving operations within OSU, this online registry should be purpose-built and early on during implementation.

3. This vessel registry will provide transparency to all stakeholders about which vessels and boats are *active*, meaning that they meet all requirements for operations and safety, and can be *safely* used by researchers and educators in providing ‘access to the sea’ for their approved projects.

**Subcommittee on CEOAS Ship Operations Shoreside Facilities**

The *shoreside facilities* subcommittee is CEOAS-specific and in principle independent from the TF mission. However, the pier renewal and envisioned upgrades to the shoreside facilities for
CEOAS Ship Operations are critically aligned with OSU’s goal to increase efficiencies in the safe and affordable operation and management of all vessels, small boats, other aquatic vehicles, and related dive operations university-wide at OSU.

**Key Outcomes:**

1. The *Ship Operations Dock Renewal Design-Build* project has the priority to replace, modernize, and improve security of the CEOAS Ship Operations dock, as well as its supporting shoreside facilities, which are co-located with HMSC and MSI.

2. The redesign is intended to allow docking of at least two larger UNOLS vessels, including OSU’s new regional class R/V *Taani* and one other global class vessel. In addition, the new design will allow for the docking of two additional smaller research vessels, one potentially replacing and approximately the size of the R/V *Pacific Storm* and one being the current R/V *Elakha*. Finally, the redesign will consider introducing new capabilities for the launching of small boats and experimentation and testing of seagoing equipment and sensors.

3. The design-build project starts out with the creation of a *Long-Range Development Plan* involving input sessions with various OSU stakeholders that could benefit from coordinated marine and other vessel operations. This planning and stakeholder engagement will allow for prioritizations to refine the scope of the $7M design-build construction project in 2022/2023 and to identify and pursue needed additional investments in the near future.

**Subcommittee on Charter & Personal Boats and New Vessel Acquisition**

The subcommittee on charters, personal boats and acquisition of vessels was tasked with reviewing and understanding the UNOLS *Guidance Document on the Use of Research Vessels Outside the U.S. Academic Research Fleet (non-UNOLS vessels)*. In concert with this UNOLS document, the subcommittee is charged with establishing OSU requirements for (1) the chartering of OSU operated vessels (both UNOLS and non-UNOLS); (2) OSU chartering UNOLS vessels operated by other institutions; (3) OSU chartering non-UNOLS vessels (commercial, non-commercial, nationally, and internationally); (4) acquisition of vessels (new or used or donated); and (5) loan of personal (non-contracted) vessels.

**Key Outcomes:**

1. As it relates to the chartering scenarios described above, our recommendations will include guidelines and requirements to be followed, written procedures, charter
agreement templates, and the use of *Acknowledgement of Risk and Waiver of Liability Forms* when appropriate.

2. As it relates to the acquisition of vessels, our recommendations will include consideration of safety features, price, shared-use opportunities, and replacement planning needs. Compliance will need to be maintained with OSU’s *Vehicles and Vessels Rule of Fiscal Policy Program*, which includes the addition of capitalized vessels to the *Fixed Asset Inventory*, registration with the *Oregon State Marine Board*, and additional coverage in the OSU marine insurance policy.

3. As it relates to loaning personal (non-contracted) vessels, recommendations will include written procedures, OSU loan agreements, and additional coverage in the OSU marine insurance policy.

4. One key outcome is clarity for PIs on requirements so that they can incorporate into a grant proposal an adequate budget around vessel use, which will help OSU stay in compliance with *UNOLS Guidance* and keep PIs within budget. This may include some *flags* in the workflow to evaluate the science proposal for vessel use and compliance with the OSU requirements and the newly built *vessel registry*. Recommendations would also include communicating standards, policies, and procedures; conducting education and outreach to researchers and departmental compliance managers; and building in redundancies and adequate timelines in the procedures.

5. All effort should be made to ensure that OSU projects involving *use of charter or personal vessels* conform to OSU and other applicable vessel safety policies to the greatest extent possible.

**Subcommittee on Health and Safety**

The *safety* subcommittee is tasked with reviewing current OSU and external (e.g., UNOLS, SBSA, NOAA, UC System) research vessel safety practices and policies relating to vessel operations. Subsequently this subcommittee will generate a *draft* high-level OSU vessel safety policy (VSP) and will provide guidelines or a manual for implementation. The subcommittee will also make recommendations regarding minimum content of specific areas of the overall VSP.

**Key Outcomes:**

1. Drafting of a high-level OSU VSP has been started and is based on OSU policy creation guidelines ([https://policy.oregonstate.edu/resources/policy-template](https://policy.oregonstate.edu/resources/policy-template)) and should align
with the new University *Health and Safety Policy* (https://policy.oregonstate.edu/UPSM/07-001_health_safety_policy). Recommendations will be made as to what type of vessel operations should be covered by the policy, but at a minimum should address vessel operation for research and associated educational activities.

2. An OSU VOSM should be written to support and direct the implementation of the main high-level VSP. This will be a manual that lists procedures and requirements needed to comply with the VSP and will become a key element in a comprehensive vessel safety program at OSU. The VOSM will address all aspects of OSU vessel operations with appropriate sections included (UNOLS vessels, larger non-UNOLS vessels, OSU SBP, Charters, etc.). To the greatest degree possible, the VOSM will incorporate appropriate institutional standards (e.g., UNOLS, SBSA, USCG) and mirror current best practices within the research vessel community and at other UNOLS institutions. Key safety elements in the VOSM that will be made visible in the OSU *Vessel Registry* should include:

   a. *Operator Authorization:* procedures should be in place to evaluate and approve operators of any vessel under OSU auspices piloted for research purposes. It is understood that training and experience requirements, as well as vetting procedures, will vary with the type of vessel and nature of the work.

   b. *Vessel Authorization:* procedures should be in place to evaluate and approve vessels operated under OSU auspices for research purposes, regardless of configuration. Vessel authorization would also incorporate regular inspection requirements, maintenance schedules and records, status of associated equipment and materials, and evaluation and approval of the trailer associated with the vessel where applicable.

   c. *Project Authorization:* procedures should be in place to evaluate and approve projects that include vessel operations. This process would assess many elements: operator and vessel suitability for tasks and environment, hazard identification and mitigation strategies, crew suitability, the use of so-called *float plans*, the registration of designated shore contacts and *emergency procedures*, etc. It is understood that project approval procedures will vary with the type of vessel and nature of the work.
d. **Environmental Health & Safety (EH&S) and Harassment:** existing OSU Policies and Standards in the areas of EH&S and Harassment should be supplemented where needed to address gaps relating to the unique nature of vessel operations.

e. **Incident Reporting Requirements:** safety is enhanced when incidents (and near incidents) are reported and reviewed, operations are reviewed post-project, and appropriate metrics are established and analyzed.

3. An OSU Vessel Operations Committee comprised of key OSU stakeholders, OSU subject matter experts, and external advisors should be established and (among other advisory roles) tasked with as-needed review and revision of the main VSP and the VOSM. This advisory committee would also advise on issues concerning project and operator approval, policy and procedure interpretations, incident review, etc.

4. Appropriate authority must be provided to vessel managers (depending on the approved structure model; see below) to make go or no-go calls for vessel operations in concordance and under the purview of the overall VSP and the VOSM.

**Subcommittee on Harassment**

The subcommittee on the prevention of harassment was tasked with reviewing current OSU policies pertaining to the prevention of harassment and discrimination and formalizing these in the context of work on all vessels. The subcommittee will make recommendations that comply with current OSU policies but are procedurally and practically adapted to work aboard vessels. To do this, the subcommittee has reviewed internal OSU policies, consulted with internal subject matter experts, and is drawing from external (UNOLS, NOAA, NSF, UC System, SIO, Consortium of Ocean Leadership [COL]) resources for information, recommendations, and best practices.

**Key Outcomes:**

1. We suggest applying key recommendations of the COL report on harassment in the academic workspace for STEM-related fields and during field campaigns (Box File: https://oregonstate.box.com/s/b52ii1eqwzqw2d8w200prj618rbye0r) while monitoring OSU policies, standards and initiatives underway. It is our intention not to duplicate efforts, but rather to complement and to supplement them in the context of the work aboard vessels.

2. Incorporate in the VOSM (see above) procedures that are consistent across all vessel operations, putting the university’s policies on harassment and discrimination into
action in the workplace with a culture that emphasizes accountability and facilitates reporting.

3. Develop training requirements specific to vessel operations that include who is to be trained, along with the frequency, modality, and content of the training. Training requirements must also include the development and/or distribution of resources to assist in the prevention of harassment and discrimination.

**Subcommittee on University Policies and Regulations**

The required changes/additions to university policies and regulations are best carried out during the implementation phase. This subcommittee therefore has postponed its work until later.

**Subcommittee on Management and Reporting Structures**

This *structure* subcommittee considered organizational models from a variety of academic and private institutions operating both small boats and UNOLS research vessels. These included, among others, the UW, SIO, Woods Hole Oceanographic Institution [WHOI], University of Alaska Fairbanks, UC Davis, and the University of Miami.

**Key Outcomes:**

1. The current OSU research vessel and small boat operations is dispersed, uncoordinated, and inefficient. Leadership in vessel and small boat operations resides in the RO, CEOAS and CAS primarily. In general, faculty, staff, and students across OSU are uncertain of how to “access the sea” via the variety of distributed vessels, small boats, technicians, and port facility assets.

2. Different sources of revenue that support research vessel and small boat operations at OSU. The UNOLS vessels and marine technicians managed by CEOAS are primarily funded by NSF. The OSU SBP is funded by the RO. Unit-based small boats are supported by the fee book or individual investigators. The MMI’s large vessel is supported by the fee book, as well as, in part, by an endowment built from private donations.

3. Key goals for a new management and reporting structure for OSU vessel operations are:
   a. Safety across OSU vessel operations.
   b. Compliance with national vessel operation standards (UNOLS, SBSA) and dive programs.
   c. Compliance with OSU regulations and procedures.
d. Respectful interaction among all people and units involved in vessel operations.
e. Use and documentation of best practices.
f. Attaining efficiencies across OSU.

4. We propose to coordinate vessel operations across OSU by creating a new position, a
   Vessel and Diving Operations Director, who reports to the VPR. This new position could be
   an Associate Vice President for Research (AVPR) given the importance and reputation of
   marine research to OSU. Some desired position goals are:
   a. Attains an effective voice for marine and vessel operations within OSU and with
      OSU leadership, national funding agencies, government relations, and potential
      donors.
   b. Provides leadership in budgeting and capital planning for all vessel operation
      goals.
   c. Promotes “access to the sea” for all faculty, staff, and students at OSU.
   d. Seeks efficiencies across all operations, supporting facilities, and personnel.
   e. Leads capital and budget planning for OSU vessel operations.
   f. Coordinates safety, insurance, inspections, and registry
   g. Fosters respectful behavior while pursuing OSU Diversity, Equity, and Inclusion
      goals.
   h. Maintains and promotes best practices, procedures, and principles.
   i. Interacts with both internal and external advisory groups.

**OVERARCHING TASK FORCE RECOMMENDATIONS (DRAFT)**

1. Implement this TF’s **Roadmap** as soon as practical, but at most over two years, beginning in
   early 2022, by an internal **OSU Vessel Operations Advisory Committee** (members tbd).

2. Create a new **Vessel and Diving Operations AVPR** position in the RO (or in the Provost
   Administration) to oversee the **Roadmap** implementation and to provide future oversight
   and management of all vessel and diving operations by OSU.

3. Implement a **Future Streamlined Management Structure** that is reflected in **Figure 2**.
Figure 2: Possibility for Streamlined Future Structure. This new structure simplifies operations by focusing on all maritime operations being managed through the marine superintendent under ship operations (dark blue) and a small fleet of small boats under the research office (green). Oversight is provided by a new Associate VPR in the Research Office. Not shown: both ship operations (dark blue) and the small boats program (green) require increased FTE support to provide enhanced access to the sea.

4. Create a Purpose-built Vessel Online Registry that represents all vessels of all sizes within OSU.

5. Create an VOSM to support and direct the implementation of the main high-level VSP. This policy and manual should include key recommendations of the COL report on harassment in the academic workspace for STEM-related fields and during field campaigns.

6. Charge the new Vessel and Diving Operations Director, with the backing of the Provost and VPR, to work with all potential Funding Partners (Figure 2) to streamline existing funding
and develop new mechanisms to fund critical new positions that support the vessel program structure. This group would also consider new financial approaches that better support the operations of a small set of ready-to-go and professionally-managed vessels in both the marine and small boat programs. Mechanisms should include a) acquiring new funding and b) capturing savings achieved through addressing existing inefficiencies.

7. Establish an external-to-OSU **Vessel Operations Advisory Committee**. Membership and size is yet to be determined.

**NEXT STEPS**

In December 2021 we will provide the **Final Roadmap** document to the Provost, VPR, and other stakeholders at OSU. The proposal suggests that implementation of this roadmap be overseen by an internal **OSU Vessel Operations Advisory Committee** (which may contain some members of this TF but will include others from within OSU) and coordinated by the new AVPR in the RO or equivalent in the Provost Administration.

**DISCUSSION TOPICS FOR THE 29 OCTOBER 2021 MEETING BETWEEN THE TASK FORCE, PROVOST FESER AND VPR TUMER**

1. We strongly believe that a new position, established at a high level within the university—either in the RO or Provost Administration—is critical to improving all vessel operations at OSU. Other institutions with a strong emphasis on marine research (e.g., SIO, WHOI) have instituted similar positions to guarantee collaborative, efficient, safe, and highly reputational (marine) vessel operations. Can we answer any questions you may have about the need for this position or provide clarification on our motivation?

2. We anticipate that changing the management of OSU vessel operations while enhancing *access to the sea* will require some funding for new supporting personnel, even when we consider that some efficiencies may eventualize during the restructuring. Would you be willing to work with us to investigate possible funding mechanisms (new funding and re-directing existing funding)?

3. Do you have any additional, significant concerns about the directions the TF is taking?
## Attachments\(^{19}\)

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<td><strong>ATTACHMENT 2</strong></td>
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<td><strong>Presentation by NOAA on Institution-Wide Vessel Registry (23 June 2021)</strong></td>
<td><strong>Presentation by NOAA on Institution-Wide Vessel Registry (23 June 2021)</strong></td>
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<td><strong>Presentation by University of Washington on Coordinated Marine Management (14 July 2021)</strong></td>
<td><strong>Presentation by University of Washington on Coordinated Marine Management (14 July 2021)</strong></td>
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<td><strong>Presentation by University of California-Davis on Small Boat Program Management (15 July 2021)</strong></td>
<td><strong>Presentation by University of California-Davis on Small Boat Program Management (15 July 2021)</strong></td>
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<td><strong>ATTACHMENT 3</strong></td>
<td><strong>ATTACHMENT 3</strong></td>
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<tr>
<td>2021-10-22.OSU-Future-Ship-Operations-Taskforce-Timeline.v09.pdf</td>
<td>Timeline, charges and membership for the eight subcommittees.</td>
</tr>
</tbody>
</table>

* Results of the questionnaire and recordings of the presentations will be archived on Box.

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\(^{19}\) Available in Box.
APPENDIX 4: OSU FUTURE VESSEL OPERATIONS TASK FORCE CHARGE AND MEMBERSHIP - OCTOBER 22, 2021

MISSION STATEMENT

To modernize university-wide vessel operations to guarantee better access to the sea, estuaries, rivers, lakes, etc. for research and education, in the safest possible and most affordable manner, and in accordance with UNOLS and SBSA guidelines, and with accepted best practices, applicable federal, state, local, and maritime law, and university policies and standards.

CHARGE

Improve management efficiencies, safety and harassment practices, and the workforce environment across the entire OSU research fleet, by developing a shared management structure and online registry that increases the visibility and management efficiencies of all OSU aquatic operations, from large research vessels to small boats and other aquatic vehicles.

FOUR PRIORITY GOALS

This TF will work together with representatives of all OSU colleges, institutes, and facilities operating research vessels, and the SBP at the RO, to develop:

(1) A plan for coordinated operations through a university-supported management structure that provides transparency to its users and funding partners, including making available an online register of all research vessels and small boats, their status in terms of operations and safety, list of capabilities, and operator contact info, while increasing efficiencies in the safe and affordable operation and management of all vessels, small boats, other aquatic vehicles, and related dive operations;

(2) A health and safety model that is equally applicable to the operation of all UNOLS, non-UNOLS and chartered vessels at OSU, in accordance with UNOLS guidelines and working within current frameworks, and including mandatory insurance and registering of all research vessels and small boats;

20 Acronyms and abbreviations revised for incorporation into TF Final Report, 16 August, 2023.
(3) A proposal for required dedicated resources, including supporting shoreside facilities, and a cost/benefit analyses to allow for professional and consistent annual safety and usage inspections that is affordable for all research vessels and small boats;

(4) An external advisory committee with experience in the operation of seagoing vessels and/or SBPs in the context of an UNOLS and SBSA operator institution.

**TASKFORCE MEMBERSHIP**

(1) **Anthony Koppers**  Associate Dean for Research Operations, CEOAS *(co-chair)*
(2) **Lisa Ballance**  Director, MMI, CAS *(co-chair)*
(3) **Kaya Johnson**  Marine Superintendent, Marine Operations, CEOAS
(4) **Kevin Buch**  Diving and Small Boat Safety Officer, RO
(5) **Bob Cowen**  Director, HMSC
(6) **Jack Barth**  Executive Director, MSI
(7) **Kipp Shearman**  Faculty Member CEOAS and UNOLS Representative
(8) **Christina McKnight**  Director, Insurance and Risk Management Services
(9) **Jennifer Creighton**  Fiscal Director, RO
(10) **Tom Doyle**  Director EH&S
(11) **Kelly Kozisek**  Procurement, Contracts and Materials Management Director and Chief Procurement Officer *(until 1 July 2021)*
(12) **Tamara Gash**  Associate Director for Procurement and Contract Services *(from 9 June 2021)*
APPENDIX 5: SAFETY SUBCOMMITTEE REPORT

INTRODUCTION

The Safety Subcommittee was tasked with reviewing current safety practices and policies and creating a high-level OSU draft marine operations safety policy in concert with OSU, UNOLS, SBSA, Federal, and state guidelines. Subcommittee members were Kevin Buch, Kaya Johnson, Lisa T. Ballance, Christina McKnight, and Tom Doyle.

This document represents consensus by the subcommittee. Safety in the context of marine operations is a large and complex topic and the subcommittee recommends that this report be considered as a start for further discussion and decision-making as implementation of the overarching TF recommendations presented in the main report is undertaken.

WORK COMPLETED

The subcommittee reviewed OSU safety policies and the manuals and safety policies of several other institutions with marine operations similar to the scope and nature of those at OSU (e.g., National Oceanic and Atmospheric Administration [NOAA], Environmental Protection Agency [EPA], UW, UC Davis). These were made available to the entire TF. Presentations (to the entire TF) were given by vessel operations administrators of two university programs (UW and UC Davis) and NOAA (Appendix 10). This review, presentations, and meetings of this subcommittee formed the basis for the draft high-level policy and recommendations presented here.

RECOMMENDATIONS

Implement a centralized marine operations structure.
Details are provided in the Management and Reporting Structure Report (Appendix 10).

Create a Marine Operations Safety Policy.
A draft policy based on the TF recommendations in the Management and Reporting Structure Report (Appendix 10) and OSU policy creation guidelines,²¹ and structured to align with the new University Health and Safety Policy²² is presented in Appendix 5.1.

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²¹ https://policy.oregonstate.edu/ and https://policy.oregonstate.edu/resources/policy-template
²² https://policy.oregonstate.edu/UPSM/07-001_health_safety_policy
Create a Vessel Operations Safety Manual.
This manual will direct the implementation of the Marine Operations Safety Policy through project and vessel-specific requirements.

Establish a Marine Operations Safety Subcommittee.
This subcommittee would be embedded in the larger Marine Operations Committee (Appendix 10). Responsibilities are described in the Draft Marine Operations Safety Policy (Appendix 5.1).
Appendix 5.1. Draft Marine Operations Safety Policy. Italics indicate topics requiring additional discussion and the need for revised or new policies.

University Policy XX-XXX (assigned by Office of University Compliance [OUC])

Policy Title-Marine Operations Safety Policy

Policy Statement

Enable safe operations on the water by OSU personnel utilizing a variety of craft (motorized and non-motorized) operated under a comprehensive risk management approach based on current industry best practices and applicable federal, state, regional, local, and international regulations.

1. Reason for Policy

There are specific inherent hazards to persons and equipment associated with conducting activities on the water. Failure to recognize and mitigate these hazards creates unacceptable levels of risk to the persons involved potentially resulting in fatality, serious injury, substantial property loss, and risk to the environment.

There are also numerous outside regulations that apply to various aspects of work on the water at OSU. Failure to identify and comply with these regulations may increase risk to individuals and exposes the university to increased liability.

A comprehensive safety policy that addresses practical risks and regulatory requirements is a recognized and valuable tool to mitigate risk associated with hazardous operations. OSU has a clear need for a marine operations safety policy to support OSU units and persons working on the water.
Additionally, as a designated UNOLS institution OSU is required to operate all vessels to the highest standards possible and meet requirements outlined in the UNOLS RVSS when applicable.

2. **Scope & Audience**

This policy and the procedures described in the OSU VOSM will apply to all units and individuals conducting research or educational activities on the water in motorized or non-motorized vessels under OSU auspices regardless of location. *‘Non-traditional’ vessel users (e.g., Crew team, Bass Club, Sailing Team) should be incorporated.*

3. **Definitions** *(This is a non-comprehensive list; a final policy should be comprehensive.)*

- **Marine** - any water environment (inland, coastal, offshore) where vessels carrying people conduct activities under OSU auspices.

- **Vessel** - any craft carrying a person or persons on a body of water.

- **Vessel Classification** - Small Boat, Mid-Size Vessel, or ARF Vessel; specified in the VOSM with advice from the Marine Operations Safety Committee

- **Small Boat** - Vessels of a size usually operated by OSU personnel who are not maritime professionals (faculty, research staff, students). Typically, USCG Class II or less in length. Includes paddle craft. Projects using small boats require prior authorization from the OSU SBP.

- **Mid-Size Vessel** – Vessels that require operation by mariners with specialized training and/or certification. Projects using mid-size vessels require authorization from the OSU MOD, or designee.

- **Academic Research Fleet Vessel** - Vessels subject to UNOLS regulations.

- **Vessel Information System** - A web-based tool to support projects and individuals associated with OSU vessel use. Key components include vessel inventory, reservation and scheduling tools, individual vessel files (e.g., operational status, capabilities, operator requirements, usage fees) and registry of approved charter vessels.
Operator – The person responsible for the safe operation and navigation of the vessel and for the safety of all persons onboard.

Crew - Personnel onboard the vessel other than the Operator who are involved in safe operation and navigation of the vessel. *(This definition deserves careful scrutiny, as there are professional maritime workers who can be subject to different laws than a person who is authorized to aid in navigation but is not a professional maritime worker.)*

Scientist - Persons aboard other than the Operator or Crew. Responsible for leading and/or conducting safe execution of science and educational activities and for adherence to OSU and vessel-specific safety policies.

Student - Persons whose activity onboard primarily supports an educational requirement. *(Include reference to enrollment in an academic program of an institution?)* Responsible for safe execution of their assigned educational tasks, and for adherence to OSU and vessel-specific safety policies.

Other - Persons aboard other than the Operator, Crew, Scientists, or Students or designated Crew (e.g., donors, visiting dignitaries, media). *(Is this level of granularity necessary?)*

4. Responsibilities

**AVP for Marine Operations (AVP-MO)** - Accountable for all aspects of Marine Operations to OSU leadership (budgeting, infrastructure needs, policy recommendations, outreach activities, annual reporting, etc.). Provides ultimate approval for vessel acquisitions, charter vessel use, and personal vessel use. Supervises MOD.

**Marine Operations Director (MOD)** – Responsible for oversight of Marine Operations including execution of OSU Marine Operations Safety Policy and VOSM, and oversight of Vessel Information System. Supervises five marine programs: Small Boat, Scientific Diving, Academic Research Fleet Operations, Mid-Size Vessel Operations, and Marine Technicians. In concert with the AVP-MO, serves on OSU Vessel Operations Safety Committee and acts as OSU Institutional Representative to OSU member organizations when appropriate (e.g., American Academy of Underwater Sciences [AAUS], SBSA, UNOLS).

*Insert titles and responsibilities for leads of five proposed marine operations programs as relevant*
**Marine Operations Safety Subcommittee** – Embedded within the larger Marine Operations Committee, this group advises the MOD on safety-related topics. Periodically reviews and recommends updates/edits to the Marine Operations Safety Policy and VOSM. Reviews and advises on issues of non-compliance and participates in incident review process. Reviews and approves policy exceptions. Engages with University Health and Safety Committee and other OSU safety groups as appropriate.

**College/Department/Unit** – Communicates with the MOD as needed to ensure projects involving vessel use are vetted, approved, and supported. Ensures that supervisors are familiar with the Marine Operations Safety Policy and VOSM.

**Supervisor** - Ensures that employees and other project participants are familiar and comply with the Marine Operations Safety Policy and VOSM. Responsible for communication at the project level with the MOD and/or lead of relevant Marine Operations Programs as needed to ensure projects involving vessel use are properly vetted and approved.

**Employee** - Follows the Marine Operations Safety Policy and VOSM provisions as appropriate for assigned duties. Makes sound risk management decisions by evaluating current conditions of personnel, vessel, and environment.

**Operator** - Responsible for the safe operation and navigation of a vessel, the safety of the persons onboard, and adherence to all OSU and external polices and regulations applicable to the vessel and tasks. Must be approved prior to onset of on-water work by the appropriate OSU program based on OSU classification of the vessel to be operated.

**Other Persons Onboard** - OSU vessel operations do not allow commercial passengers-for-hire. Persons aboard other than the Operator will have training requirements and roles and responsibilities relating to vessel safety, the safe completion of tasks, and compliance with Operator instructions. Determination of individual responsibilities and participation requirements are addressed during the appropriate project approval process.

5. **Procedures**

Conduct regular (annual or biennial) OSU-wide risk assessments to evaluate assets and liabilities to OSU, users, and funding agencies.
Vessel Operations Safety Manual - describes the specific procedures necessary to comply with the general intent of the Marine Operations Safety Policy, to include (non-inclusive):

- **Project Approval** - Projects involving vessel operations must be vetted, standardized, and approved prior to commencement of on-water work. Important elements include determining suitability of operators and vessels for planned tasks and environments; operational risk assessment, hazard identification and mitigation strategies; and emergency plans appropriate for work and location. Approval procedures are generally determined by vessel classification.

- **Operator Authorization** - Vessel Operators are approved at the project level and must be determined to have training and experience appropriate for the vessel, planned tasks, and operating environment. This includes formal certifications where relevant.

- **Record Keeping, Documentation, and Reporting** - Collection, maintenance, analysis, and reporting of information and metrics as specified in the VOSM, and as required by applicable non-OSU organizations.

- **Charter Vessels** – See Appendix 9.

- **Personally-Owned Vessels** - See Appendix 9.

- **Prevention of Harassment** - See Appendix 6.

- **Minors** - OSU is committed to providing a safe environment for minors participating in activities under OSU auspices. Minors participating in OSU activities aboard vessels present unique safety concerns. Activities involving minors on the water must engage the OSU Office of Youth Safety and Compliance as part of the project approval process. (Consider a minimum age for activities aboard vessels/boats; See https://scripps.ucsd.edu/ships/policies-and-procedures/age-limits-aboard-sio-operated-research-vessels)

**Forms & Tools**

- VOSM
- OSU Office of Marine Operations website
- Ship Operations website
- SBP website
- OSU Vessel Information System
- EH&S website

6. **Frequently Asked Questions**
7. Related Information

- University Policy 05-001 Sexual Misconduct and Discrimination: http://policy.oregonstate.edu/UPSM/05-001_sexual_misconduct_discrimination

- Office of Equal Opportunity and Access, Resources and Information for Employees: http://eoa.oregonstate.edu/resources-and-information-employees

- University Policy 05-005 Responsible Employees and Reporting Incidents of Sexual Misconduct or Discrimination: http://policy.oregonstate.edu/UPSM/05-005_responsible_employees

- University Policy 07-001 University Health & Safety: http://policy.oregonstate.edu/UPSM/07-001_health_safety_policy


8. History

- Original issue date (for existing policy): Month, year
- Last review date: Month, year
- Next scheduled review date: Month, year

9. Websites

- OSU Marine Operations website link

10. Contacts

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APPENDIX 6: PREVENTION OF HARASSMENT

SUBCOMMITTEE REPORT

INTRODUCTION

The charge of this subcommittee was to review existing OSU policies pertaining to prevention of harassment and formalize these in the context of work on all vessels and small boats. Information was drawn from existing NOAA policies, the UC’s ‘Field Safety Seminar’ and the recent COL (including National Science Foundation [NSF], NOAA and Office of Naval Research) conference on harassment. Advice was also sought from two consulting members, Kim Kirkland (Executive Director in the Office of Equal Opportunity and Access [EOA]) and Susan Freccia (Director of Compliance in the Office of Audit, Risk and Compliance). Subcommittee members were Christina McKnight, Lisa T. Ballance, Kevin Buch, and Kaya Johnson.

WORK COMPLETED

Inventory and Review: The subcommittee started its work by inventorying existing policies at OSU. The responsible office for these specific policies is Equal Opportunity and Access – and the list includes, but is not limited to: Discrimination, Discrimination and Harassment, Sexual Misconduct and Discrimination, Responsible Employees and Reporting of Sexual Misconduct or Discrimination (see Attachment 6.1 for full list). Next, the subcommittee gathered policy documentation from two external sources: Scripps Institution of Oceanography (SIO) of UC San Diego, and NOAA. In doing this, the subcommittee wanted to look for information that might be beneficial in applying the policies in the context of the work on vessels and small boats. The subcommittee also viewed the UNOLS training on Fostering a Respectful Work Environment and Shipboard Civility, which is currently used by CEOAS’ Ship Operations for the ARF and R/V Elakha, and CAS’ MMI for the R/V Pacific Storm. The subcommittee also accessed four reports from external sources whose authors have spent considerable time analyzing this issue and have made specific recommendations to prevent harassment. These reports are as follows:

- Consortium of Ocean Leadership Draft Report (Attachment 6.2)
- Best Practices Guide on Prevention of Sexual Assault & Sexual Harassment in the U.S. Merchant Marine (Attachment 6.3)
- National Academies of Science, Engineering and Medicine report from 2018 (Attachment 6.4)
- NSF: Take Steps to Prevent Harassment (Attachment 6.5)
Meetings/Consults: The subcommittee met five times in 2021: July 1, August 12 and August 30, October 1, and November 24. In these meetings, the subcommittee:

- discussed the current state of practices and policies, and potential ideas for broader implementation;
- discussed training and resources that were available to OSU;
- recognized OSU policies and procedures in place, and read example policies, guides, and resources from NOAA and other universities that could be helpful;
- drafted an outline of areas of focus and the general direction of the Subcommittee’s initial recommendations; and
- consulted with Kim Kirkland, Executive Director in the EOA, and Susan Freccia, Director of Compliance in the Office of Audit, Risk and Compliance to ensure the general direction was in line with university policies and that we were reviewing the appropriate resources, and to capture their feedback and concerns.

In doing so, the subcommittee confirmed its scope and the process in which to follow (i.e., point to existing policies and language rather than create new language or policies specific to this area). Following the review of the recommendations of the Draft Report from the COL, the subcommittee reached out again to Kim Kirkland and to Scott Vignos, Interim Vice President/Chief Diversity Officer, to learn the efforts already underway at the university level that were in line with the report recommendations (Attachment 6.6). The subcommittee wanted to prevent unnecessary duplication of efforts and focus on the recommendations remaining that could complement ongoing efforts and support the prevention of harassment and discrimination in the context of marine operations. It was communicated that, in general, several items listed as recommendations were aligned with the university’s Diversity Strategic Plan goals and associated actions, and Strategic Plan 4.0, particularly Goal 4 and Action 10.

Below are recommendations for implementation that complement but are not duplicative of these efforts. Finally, the subcommittee pulled ideas from the Best Practices Guide on Prevention of Sexual Assault & Sexual Harassment in the U.S. Merchant Marine.

**RECOMMENDATIONS**

The subcommittee strongly emphasizes the importance of efforts to confront, prevent and eliminate sexual harassment, sexual assault, and discrimination in all settings. Collectively, we strive for a workplace culture free of sexual assault, sexual harassment, discrimination, and other prohibited behaviors. We envision that the recommendations and ongoing efforts as outlined below will foster a sense of “collaboration, mutual respect, responsibility, and accountability” (see Appendix 6.2, p. 5). Given the scope of our charge and in the context of
marine operations, the subcommittee makes the following recommendations:

**Create a consistent framework for prevention of harassment and discrimination and apply it across all OSU marine operations.**

Incorporate into OSU vessel operations and safety manuals procedures that are consistent across all vessel operations, putting the University’s policies on harassment and discrimination into action in the workplace with a culture that emphasizes accountability and facilitates reporting. By incorporating into these manuals, the prevention of harassment will be “reconceptualized” as a health and safety issue. By applying a consistent framework across all marine operations, understanding, reporting, and access to resources will be greatly facilitated. Although differences between operations exist (e.g., research vessel sizes and capacities), general consistency in documentation is important and achievable, and items that might be niche to different operations can be emphasized with specific instructions/guidelines. This subcommittee recommends that a section/chapter exists in all marine operations and safety manuals for the prevention of harassment and discrimination which would: (1) affirm our commitment to a workplace free of harassment and discrimination, (2) acknowledge the unique circumstances of marine operations, (3) point to existing policies, and (4) address procedural steps to include flow charts, template forms, and resources that can be used across all marine operations. The information incorporated should be developed in consultation with and approved by Kim Kirkland.

Examples:
Require standardized training across all OSU marine operations and develop training specific to vessel types, environments, and positions; document/track and enforce training requirements; regularly refresh training materials to keep them current and relevant; provide easy access to resources.

Training on Equal Opportunity & Access, which includes Title IX, sexual harassment and prohibited discrimination and protections afforded under the Americans with Disability Act, is currently required for all OSU faculty, staff, temporary employees, student employees, graduate assistants, post-doctoral scholars, clinical fellows, and emeritus employees with a post-retirement appointment. In addition to this mandatory training, the subcommittee recommends delivery of training that is also specific and appropriate for distinct types of marine operations (e.g., different types of research vessels). Scenario-based training could be useful in the context of a large or mid-size vessel or small boat, for example, to see how situations might unfold in this real context and what actions can be taken. Bystander intervention training is also highly recommended to create accountability, empower bystanders to say something, and reinforce reporting requirements. Training should foster human/interpersonal conversations; be kept current and relevant; and should occur with a frequency that facilitates building and maintaining the information. Some resources are already created and can be utilized, for
example the UNOLS trainings of *Fostering a Respectful Work Environment* and *Shipboard Civility*. Accompanying resources and supplemental tools such as checklists, guides, periodic emails, or posters should also be developed to reinforce training. Training, repetition of training, and reinforcement with resources in line with the training can help enhance effectiveness. Training should also be documented and tracked.

Examples of UNOLS trainings available to OSU:
Strongly reinforce OSU’s current requirement to report incidents of harassment and discrimination; develop alternatives for reporting in situations where standard lines of communication are unavailable and interim mitigation practices to prevent exacerbation of harassment/discrimination until formal access to authorities is available.

The Responsible Employee Policy states that employees have an obligation to report incidents of sexual misconduct and discrimination to the EOA. The subcommittee acknowledges this obligation, strongly emphasizes its importance, and recognizes that there are instances associated with marine operations that can present challenges unique to these situations. For example, a timely report directly to the EOA could be hindered at sea by a lack of cell service, and in such situations, actions may be needed before such a formal report can be made. As such, the subcommittee recommends that consideration be made to identify up to two parties in situations where marine operations may be occurring remotely and out of contact with authorities, for example aboard a research vessel. In such a situation, these two parties might be, for example, the vessel captain and the chief scientist, to which reports can be made until the typical contacts can be reached. This would allow for a more immediate incident response and intervention as determined by the said parties (i.e., providing alternative quarters, preventing repetitive contact, creating a forced separation, accompaniment). Reports would be made to the EOA as soon as possible, but interim measures could be taken to address immediate concerns. A flow chart/reporting tree should be developed in consultation with Kim Kirkland, trained upon and distributed as appropriate. Some examples were shared above that can be updated and/or adapted for this purpose.
## ATTACHMENTS

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<td><strong>Attachment 6.1</strong>: 2021-09-21_Inventory of Existing OSU Policies.docx</td>
<td>Inventory of existing OSU polices related to harassment, discrimination, responsible employees and reporting incidents of sexual misconduct or discrimination, sexual misconduct and discrimination, retaliation, etc.</td>
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<tr>
<td><strong>Attachment 6.2</strong>: Consortium of Ocean Leadership (COL) Draft Report</td>
<td>Draft report outlining recommendations to prevent harassment in the field; it was developed following the Safety in Field Sciences workshop and aims to improve four major factors affecting field safety: workplace culture, accountability, policy development, and reporting procedures.</td>
</tr>
<tr>
<td><strong>Attachment 6.4</strong>: National Academies of Science, Engineering and Medicine report from 2018</td>
<td>This report reviews the research on the extent to which women in the fields of science, engineering, and medicine are victimized by sexual harassment and examines the existing information on the extent to which sexual harassment in academia negatively impacts the recruitment, retention, and advancement of women pursuing scientific, engineering, technical, and medical careers.</td>
</tr>
<tr>
<td><strong>Attachment 6.5</strong>: NSF: Take Steps to Prevent Harassment</td>
<td>NSF provides links to reports containing several recommendations to address gender harassment in anti-sexual harassment policies, extend policies beyond the legal compliance to federal laws, foster a diverse, inclusive, and respectful environment, and improve transparency and accountability.</td>
</tr>
<tr>
<td><strong>Attachment 6.6</strong>: Feedback on COL recommendations from Scott Vignos and Kim Kirkland related to efforts underway</td>
<td>The Subcommittee requested that Scott Vignos and Kim Kirkland highlight COL recommendations that are being worked on from the university perspective, so that the Subcommittee could focus on looking for opportunity in the remaining recommendations.</td>
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23 Available in Box.
APPENDIX 7: DEFINITIONS AND SIZE CLASSIFICATION

SUBCOMMITTEE REPORT

INTRODUCTION

The Definitions and Size Classification Subcommittee was established to provide reference points to help determine how, and by whom, vessels would be categorized and managed. The charge of this subcommittee was to identify and define categories of vessels and provide an overview of required current practices and policies specific to each category to include: required safety equipment; restrictions (if relevant) pertaining to where a vessel can operate and by whom; consideration of the scope and nature of allowable work; applicable regulations; and organizational structure pertaining to vessel oversight. Subcommittee members were Kaya Johnson and Kevin Buch.

WORK COMPLETED

As work progressed, it became apparent that most topics associated with this subcommittee’s charge would be addressed by other subcommittees, especially the Safety Subcommittee (Appendix 5) and the Management and Reporting Committee (Appendix 10). The scope of this report, therefore, has been scaled back to include recommendations that are complementary to those in other subcommittee reports.

RECOMMENDATION: ESTABLISH POLICIES FOR OSU MID-SIZE VESSELS UNDER 300 GROSS REGISTERED TONS

OSU vessels larger than 300 GRT are subject to clear policies that determine vessel safety equipment requirements, inspection requirements, and vessel operator requirements. These include USCG requirements for inspected vessels and requirements for UNOLS’ ARF, that has included one OSU vessel (and may include more in the future). Collectively these standards include: UNOLS RVSS24; USCG Subchapter U Oceanographic Research Vessels25; EPA Spill

25 https://www.law.cornell.edu/cfr/text/46/chapter-I/subchapter-U
Prevention – Non-Tank Vessel Response Plan\textsuperscript{26}; and ABS Load Line Certification and Safety Management System Certification\textsuperscript{27}.

Federal standards for OSU vessels below 300 GRT are vague and qualitatively pertain largely to recreational craft. OSU’s Small Boat and Scientific Diving Programs have made significant efforts to develop clear and transparent internal requirements referencing current best practices for OSU vessels that can be characterized as “small boats”. These include guidance from: the SBSA\textsuperscript{28}; NOAA SBP\textsuperscript{29}; American Boat and Yacht Council\textsuperscript{30}; and other Federal agencies including the Department of Interior, EPA, and US Army Corps of Engineers.

There are no clear policies for OSU’s mid-size vessels below 300 GRT that are (or should be) operated by certified mariners. Federal requirements are minimal; these vessels are not formally part of UNOLS’ ARF; their size and operator requirements are such that they fall outside of OSU’s Small Boat and Scientific Diving programs. These vessels provide critical access to the sea for OSU scientists and educators in ways that are complementary to OSU’s ARF vessel(s) and small boats. (Extensive details on capabilities, historic use, and potential for future scientific and educational impact associated with these vessels is provided in Appendix 11.) Therefore, it is imperative that OSU develop clear policies for safety equipment, inspections, operator training and certification requirements.

\textsuperscript{27} https://ww2.eagle.org/en.html
\textsuperscript{28} www.scientificboating.org
\textsuperscript{29} https://www.noaa.gov/organization/administration/nao-209-125-noaa-small-boat-safety-program
\textsuperscript{30} https://abycinc.org/
APPENDIX 8: VESSEL REGISTRY SUBCOMMITTEE REPORT

INTRODUCTION

OSU vessels are widely distributed across colleges and geographic locations and are highly decentralized in terms of ownership and management. This is especially true in the case of small motorized and non-motorized vessels. For reasons of safety and risk management, fiscal efficiency, and increased access to the water, there is a clear need for a centralized, web-based OSU vessel information and management system maintained and operated in support of a centralized Marine Operations structure. The charge of this subcommittee was to explore models for asset registry in the context of creating and maintaining a centralized vessel registry within OSU. This registry will include all vessels owned and operated by OSU regardless of size, be available online, and include operational and safety status, list of capabilities, and vessel manager contact information. Subcommittee members were Jennifer Creighton, Christina McKnight, Kaya Johnson, Kipp Sherman, and Kevin Buch.

WORK COMPLETED

Initial work of this subcommittee was delayed to avoid duplication with a parallel effort by OSU to develop an overall laboratory inventory and asset management system. The subcommittee moved forward after determining that this system would not accommodate desired requirements for a vessel management system. Recommendations below are presented in this complementary context, focusing on critical components of an effective registry for OSU vessels.

RECOMMENDATION: DEVELOP AND MAINTAIN A COMPREHENSIVE VESSEL REGISTRY

All OSU vessels, regardless of size (small, mid-size, large), type of use (research, education, recreational), and capabilities (e.g., motorized or non-motorized) should be listed in a comprehensive vessel registry. One-time initial fiscal investment and possible support personnel may be needed to acquire appropriate software and build the registry. Subsequently, the registry should be maintained through time to represent OSU’s current vessel assets and their capabilities and status, and the registry system will continue to require consistent but anticipated low-level support.
Key elements of the registry would include general vessel details (length, propulsion, etc.), vessel manager contact information, scheduling and availability features, fees and rates, and search functions allowing users to query the system. In addition to a list of vessels, the registry should track and update all items pertaining to safety, compliance, operational status, and capabilities (e.g., safety equipment, operator training and certification requirements, maintenance status, inspection status, tow vehicle requirements if applicable, and scientific equipment). Of note, the vessel registry should document compliance, but should not substitute for project or cruise plan approval.

The subcommittee recommends that oversight of the vessel registry reside with the MOD associated with the TF proposed centralized Marine Operations structure (Appendix 10), with Information and Technology (IT) support coming from RO Systems/Data team with support from University IT. Units that own vessels should work with the MOD to ensure that the registry remains current.

The subcommittee recommends additional research pertaining to software to support the vessel registry, including currently available software that could meet some of the vessel registry needs. Four platforms and approaches with valuable features and capabilities include:

- NOAA SBP VIMS - an Oracle Apex web- and cloud-based program with much of the functionality sought by OSU. In addition to vessel inventory data, the system has provisions for filing and tracking float plans, and documenting vessel activity in almost real time.
- Bloop (https://www.bloop-web.com/) - a web-based subscription software platform developed to manage scientific diving and boating programs in accordance with American Academy of Underwater Sciences and SBSA requirements, and with customizable features.
- OSU Motor Pool - using a combination of a commercial products (Fleet Focus-https://www.assetworks.com/fleet/fleetfocus/) and a supplemental program developed in-house. The safety, maintenance, and operator characteristics associated with OSU vehicle operation are similar to those associated with vessel use (especially small boats).
- RELMS - RELMS is not programmed to manage vessel registry and scheduling easily and effectively. RELMS does work well for user authentication, scheduling, and billing. One recommendation is to have TXI build a marine operations system with a robust database and then have an Application Programming Interface to RELMS for user verification/accounts, scheduling and billing purposes.

Vessel registry software should be included in OSU’s full implementation of its Administrative Modernization Program (AMP).
INTRODUCTION

The charge of this subcommittee is to, in concert with UNOLS policies, establish OSU requirements for: (1) the chartering of OSU operated vessels (both UNOLS and non-UNOLS), (2) OSU chartering UNOLS vessels operated by other institutions, (3) OSU chartering non-UNOLS vessels (commercial, non-commercial, nationally, and internationally), (4) acquisition of vessels (new, used, or donated), and (5) loan of personal (non-contracted) vessels. The members of this subcommittee were Kevin Buch, Bob Cowen, Tamara Gash, Kaya Johnson, Anthony Koppers, Christina McKnight and Kipp Shearman.

WORK COMPLETED

Inventory and Review: The subcommittee began its work by identifying and reviewing policies at OSU that are specifically for vessel charters, acquisitions, and personal boat use. The subcommittee found two policies that specifically address vessels:

- Fiscal Policy 03-160-211: Vehicles and Vessels (Revised August 27, 2021)
  https://fa.oregonstate.edu/fiscal-policy-program/03-160-211-vehicles-and-vessels
- Property Management Manual 304: Insurance (Revised March 9, 2016)
  https://fa.oregonstate.edu/pro-manual/300-equipment-management/304-insurance

There are additional OSU policies that generally address acquisition, contracting, loans, and equipment management, which are not specific to vessels but are also applicable and were reviewed:

- Procurement and Contract Services Policies https://fa.oregonstate.edu/pacs-manual
- Property Manual https://fa.oregonstate.edu/pro

The subcommittee also reviewed the following UNOLS documents:

- UNOLS Guidance Document on the Use of Research Vessels Outside the U.S Academic Research Fleet (non-UNOLS vessels), January 29, 2021

Next, the subcommittee gathered documentation from external sources including multiple universities and institutions. In doing this, the subcommittee wanted to look for information
that might be beneficial in developing guidelines, standards, and practices. When needed, the subcommittee dove deeper into university websites, sought clarification from university contacts, and performed benchmarking in support of this work.

**Meetings, Risk Assessment and Benchmarking:** After review of the information, the subcommittee met many times between October 2021 and February 2022 to discuss and draft an outline of focus areas and the general direction of the subcommittee’s initial recommendations. During this time several meetings were spent considering and discussing personal vessel (non-contracted) use. The Subcommittee believes the statistics on personal boat use at OSU to be roughly 2-4 requests in 5 years. To fully consider the risks and challenges related to personal vessel use, the subcommittee:

- Completed risk assessment and determined it is possible to use personal vessels for university business (Attachment 9.1);
- Completed benchmarking based on a review of 11 institutions and documented that 3 did not allow, 3 were not aware of instances of, and 5 allowed use of personal vessels on a case-by-case basis, though it was not the norm (Attachment 9.2).
  - When not allowed, the reasons were: safety and liability; risk to personnel or university; requirement of vessel inspection and insurance; use of institution-owned vessels best accomplished the goals.
  - When **not aware of instances of personal vessel use**, comments included: the institution owned a fleet of small vessels and used charters; the institution encouraged use of university vessels, but it is possible this may be happening without awareness; and strict conflict of interest rules as a state funded campus.
  - When **allowed on a case-by-case basis**, there were few requests and an effort to steer PIs to use university vessels, though personal vessel use was not prohibited.

The subcommittee also communicated with Athletics and Recreational Sports to understand current practices related to personal vessel usage. Athletics does not currently allow personal vessel usage (all vessels are provided for the participants of the activity). Within Recreational Sports (clubs and Adventure Leadership Institute) there is limited personal vessel use. Two Recreational Sports clubs utilize boats: the Sailing Team and the Bass Fishing Club. OSU supplies boats to the Sailing Team, but members supply their own boats while participating in the Bass Fishing Club. In Adventure Leadership Institute, there are limited instances when a personal vessel is used (example: safety kayakers may use their own kayak).
RECOMMENDATIONS

Centralize marine operations across OSU (Appendix 10) and provide adequate support as detailed in the main report.

Develop a comprehensive website for marine operations that is centrally managed and that includes the guidelines, requirements, procedures, templates, and forms contained in the recommendations of this report.

Charters

- Develop charter guidelines, requirements, and procedures in compliance with UNOLS guidance and standards, and Procurement and Contract Services Policy;
- Review and approval by the AVP-MO or designate and Vessel Operations Advisory Committee (Appendix 10), and a rule setup in the eProcurement system based on account code to trigger a special review process for charters;
- In conjunction with the Division of Finance and Administration (DFA), review and update of fiscal policies if necessary;
- Create custom OSU charter agreement templates for OSU-owned vessels, and procedures for their use;
- Develop a reserve contract or qualified pool of internal charter operators, marine surveyors, and marine architects for OSU to use on an as needed basis;
- Use standardized OSU Acknowledgement of Risk and Waiver of Liability Forms;
- Add information pertaining to the charter operator pool and charter float plans to the OSU Vessel Registry (Appendix 8); and
- Incorporate safety requirements specific to charters into the VOSM (Appendix 5).

Acquisition of Vessels

- Establish vessel acquisition guidance and procedures. These should include:
  - Assessment of complementarity with existing OSU vessels in the context of anticipated demand and scientific capabilities; safety features; shared-use opportunities; cost and anticipated maintenance and repair budgets;

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o Review and approval by the AVP-MO or designate and Vessel Operations Advisory Committee (Appendix 10), and a rule setup in the eProcurement system based on account code to trigger a special review process;
o In conjunction with DFA, review and update of fiscal policies if necessary;
o Work with DFA Procurement and Accounts Payable to establish additional internal controls needed before vessel purchases can occur; and
o Consideration of a proposal to the Fund-Organization-Account-Program-Activity Committee that characterizes all vessels and small boats as “vessels” (under account codes) rather than characterizing some as equipment.32

• Establish post-purchase guidance for compliance with Fiscal Policy 03-160-211: Vehicles and Vessels, which includes capitalization and addition to the Fixed Asset Inventory, registration with the Oregon State Marine Board, and addition of insurance coverage. Newly acquired vessels should also be entered into the Vessel Registry (Appendix 8) and fee book.

Use of Personal Vessels

While wanting to provide the greatest access to the sea, the significant administrative burden and relatively low use of such vessels (based on historical requests and benchmarking with peers) may equate to a high cost/benefit ratio. The subcommittee therefore recommends that:

• OSU discourage usage of personal vessels for university business; other platforms should be considered prior to personal vessel use; and
• If determined to be in the best interest of the university and if resources are available, a comprehensive policy should be developed and followed for review and approval of use of such vessels as described in Appendix 9.3 and within newly established recommended policies.

ATTACHMENTS33

<table>
<thead>
<tr>
<th>Attachment 9.1: Risk Assessment</th>
<th>Risk Assessment performed to determine use of personal vessels for university business</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attachment 9.2: Summary of Benchmarking related to Personal Boat Usage</td>
<td>Summary of results from a benchmarking study of 11 institutions on if the institution allowed employees to use their personal vessels</td>
</tr>
</tbody>
</table>

32 See https://fa.oregonstate.edu/fiscal-program/guidelines/exhibits/ex003-02-account-codes?field_code_value=&title=&body_value=boat&field_tax_reportable_value=All
33 Available in Box.
Appendix 9.3 – Components and estimated time and resources required to construct a comprehensive policy for review and approval of use of personal vessels.

Upfront structure development (may require updates throughout lifecycle)

- Draft full procedures [100-175 hours]
- Draft Application for Personal Vessel Use for University Business [40 hours]
  - Owner would be the only party that could operate (could not be operated by other employees, volunteers, or students)

Add process to website [20 hours]

- One-time cost estimate (assuming $65/hr for pay & OPE): $10,400 - $15,275

Ongoing support

- Flow through approval process, which requires the same compliance as would apply to OSU-owned vessels (see information under Acquisition of vessels), and would include resources as follows:
  - SBP review [3 – 8 hours]
  - AVP-MO review [1 hour]
  - Risk Management - add to insurance policies, review endorsements [3 hours per use]
  - Risk Management - Premium redistributions [2 hours per use]
  - Risk Management - Claims support [10 – 100 hours depending on type of claim, per incident]
  - Reimbursement of expenses associated with use [1 hour per use]
  - Annual cost estimate (assuming $65/hr for pay & OPE, assuming 1 personal vessel used and 1 claim in 1 year): $1,300 - $7,475
APPENDIX 10: MANAGEMENT AND REPORTING STRUCTURE REPORT

INTRODUCTION

The charge of this subcommittee was to provide recommendations for a university-supported management and reporting structure that will oversee coordinated OSU vessel and small boat operations, to include: where the new program resides; to whom it reports; who has authority for go/no-go decisions; and how it is funded. Recommendations should be made in the context of how to gain efficiencies; how to make better use of shared facilities, dockages, water access, expertise, and the maintenance of all ship, small boat, and shoreside facility assets; and how to use all this to enhance OSU’s capabilities.

The subcommittee believes that an efficient management and reporting structure should support “access to the sea” for all OSU faculty, staff, and students. While “access to the sea” is a tag line used by several marine-related units at OSU, for example by the MSI in their 2016 Strategic Plan, it should include access to marine and fresh water. A ‘user’ should have access to platforms, equipment, and infrastructure needed to accomplish their goals in a safe and cost-effective way no matter the size of their project or their home academic unit. Expertise and advice on appropriate platforms, equipment, training, compliance, and safety, should be easily available and consistent across the university. In turn, this coordinated approach needs to be adequately and equitably supported.

Key goals are:

- Safety and risk mitigation;
- Compliance with international, national, and local regulations and standards;
- Compliance with OSU regulations and procedures;
- Respectful and professional interaction among all involved;
- Efficiencies across OSU;
- Effective voice for all marine and freshwater operations with OSU leadership and national agencies;
- Leadership in budgeting and capital planning; and
Use and documentation of best practices (e.g., UNOLS\textsuperscript{34}, SBSA\textsuperscript{35}).

The original membership of this subcommittee consisted of Jack Barth, Lisa T. Ballance, Robert Cowen, Jenn Creighton and Anthony Koppers. After Anthony Koppers’ resignation from the TF and the realization that this management and reporting structures effort included all aspects of marine operations across OSU, the subcommittee membership was expanded to include the entire TF.

**WORK COMPLETED**

Subcommittee members constructed a list of problems and goals related to marine operations at OSU (Attachment 10.1). Things that work well include:

- ARF vessel operations (CEOAS Ship Operations); formerly R/Vs *Wecoma* and *Oceanus*, soon-to-be R/V *Taani*;
- State-funded Oceangoing Research Vessel Program for time on OSU’s research vessels operated by professional mariners for researchers, students, and agency scientists across Oregon ([https://ceoas.oregonstate.edu/oceangoing-research-vessel-program](https://ceoas.oregonstate.edu/oceangoing-research-vessel-program));
- SBP that works across the university and that is becoming more widely known;
- Opportunity for collegial relationships across the university and specifically in Newport between HMSC with its new Innovation Lab, CEOAS Ship Operations, PacWave, agency small-boat users, and MMI;
- HMSC-based vessel storage facilities that are open to all users; and
- Effective external outreach outside of OSU pertaining to vessels and their science and educational accomplishments, albeit from several different units, and with varying and siloed approaches, within OSU (CEOAS Ship Operations, MMI, HMSC).

Problems identified include:

- Multiple and siloed management and oversight structures (within OSU, HMSC-Agency partners, Charters) resulting in inconsistent policies, lack of clarity, and potential risk;

\textsuperscript{34} University-National Oceanographic Laboratory System ([https://www.unols.org/](https://www.unols.org/)) is an organization of 59 academic institutions and National Laboratories involved in oceanographic research and joined for the purpose of coordinating oceanographic ships’ schedules and research facilities. The vessels operating under UNOLS are referred to as the “Academic Research Fleet (ARF),” a term we will use hereafter to include OSU’s largest research vessel.

\textsuperscript{35} Scientific Boating Safety Association ([https://scientificboating.org/](https://scientificboating.org/)) with the mission to facilitate the development of safe and productive scientific boating operations for public and private institutions.
• Multiple and siloed points of contact for access to the water and associated operations, resulting in inconsistent training opportunities and missed opportunities for science and education;
• Inefficiencies through duplication of similar responsibilities by multiple positions within siloed management structures and associated loss of opportunity to leverage resources;
• Lack of inventory system that could provide clarity and easy access to vessels, with information on their status, visibility of resources, compliance, etc.;
• Lack of clarity regarding business models across various units overseeing marine operations, including but not limited to research vessels, small boats, dive programs, and marine technical groups;
• Lack of a current structure to manage chartered vessels to meet UNOLS guidance; and
• Lack of guidance regarding acquisition of new research vessels, resulting in siloed approaches, inconsistent safety practices and policies, and vulnerability to resource limitations (e.g., funds and staff).

High-level goals identified include:
• Develop, embrace, and market a central, inclusive, and OSU-centric mission statement pertaining to marine research and education, and associated operations;
• Develop a high-level, crosscutting policy and manual addressing all marine operations;
• Develop a website to provide information on training and policy requirements, and to allow for documentation of compliance; this website could also host an information and management system for OSU vessels; and
• Advocate for and create central funding for marine operations, including and not limited to services currently charged through fee book rates (Appendix 11).

Challenges that complicate implementation of change include:
• Competing priorities across multiple units;
• Siloing within multiple units; and
• Different funding sources and associated constraints (e.g., Federal vs. state).

Subcommittee members considered organizational models from a variety of federal, academic and private institutions operating both small boats and large vessels, the latter including the ARF (scheduled by UNOLS). These included UW, UC Davis, NOAA, SIO, WHOI, the University of Alaska Fairbanks, and the University of Miami. Input for the first three was provided through written answers to a questionnaire (Attachment 10.2) and/or a formal presentation to TF members with ample time devoted to questions and discussion. Brief summaries of these presentations, and expanded information including weblinks and PowerPoint presentations can be found in Appendix 10.3 and organizational structures for
WHOI and SIO in Appendices 10.4 and 10.5, respectively, both of which show high-level leadership for marine operations.

Current Structure

Current OSU vessel and small boat operations are dispersed and uncoordinated (Figure 10.1). Oversight and management of research vessels, small boats, scientific diving, facilities, regulation policies and compliance, and associated personnel reside in five siloed structures reporting to the AVP for Research Integrity, the AVP and Director HMSC, (both reporting to the VPR), the Ship Operations Marine Superintendent, the PacWave PI, (both reporting to the CEOAS Dean), and the MMI Director (reporting to the CAS Dean), with both college deans reporting to the Provost. Additionally, a number of small and mid-sized vessels, charter vessels, and platforms of opportunity spread across OSU have an undetermined status with respect to oversight and management. This structure is inherently associated with potentially unmitigated risks, increased liability, inconsistent policy, and inefficiencies and potential lost opportunities to leverage resources (Appendix 11).
Operation of NSF-owned research vessels has resided in CEOAS Ship Operations for decades. OSU/CEOAS operated the 175-foot *R/V Oceanus* until its retirement in November 2021 and eagerly anticipates the delivery and start of operations of the nearly 200-foot *R/V Taani* in 2024-2025. CEOAS Ship Operations is run by a Marine Superintendent, assisted by a shoreside staff and a sea-going, credentialed crew of professional mariners. CEOAS Ship Operations also operates the 54-foot *R/V Elakha*, used primarily for 1-day scientific and educational cruises in Yaquina Bay and coastal-to-offshore waters (Appendix 11). The CEOAS Marine Superintendent also supervises the Marine Technicians group that provides scientific and technical support primarily for OSU’s large research vessel but also on other OSU vessels on a fee-for-service basis. The CEOAS Marine Superintendent also oversees the facilities at Ship Operations including a pier and a number of buildings and storage yards. Also under CEOAS supervision
(outside of Ship Operations) is the renewable wave energy testbed PacWave which operates the 40-foot *R/V ExVenture* (Appendix 11) which is docked at the Port of Newport’s recreational marina for a fee. CEOAS has an advisory committee on Ship Operations with representatives from several colleges across OSU and the RO.

Beyond CEOAS, the CAS’ MMI operates the 84-foot *R/V Pacific Storm* (Appendix 11) which is docked with the Port of Newport’s commercial fleet for a fee, and a number of small boats, all stored and maintained at privately owned and leased marine-related facilities in Newport.

Several entities involved with marine operations fall under the RO, including the Small Boat and Scientific Diving programs (the latter with a required Diving Control Board), and HMSC. These entities operate small boats, are responsible for oversight and compliance of marine operations, and maintain marine facilities in Newport. Notably, not all small boats at OSU are subject to oversight and approval by the SBP. A number of small boat operations at OSU have undetermined oversight and approval.

**Current Funding Sources**

It is important to recognize the different sources of revenue that support the variety of marine operations at OSU. ARF vessels and marine technicians managed by CEOAS are primarily funded by NSF with some charter funding from other agencies or research projects. MMI’s *R/V Pacific Storm* is supported, in part, by philanthropic funds, and also from charters by OSU and outside researchers. The Small Boat and Scientific Diving programs are almost wholly funded by the RO, with some chargeback activity for trainings and SBP boat use. Additionally, some small boats are owned by individual laboratories, or personally owned by PIs.
RECOMMENDATION: CENTRALIZE MARINE OPERATIONS ACROSS OSU

The TF considered several management and reporting structure scenarios for marine operations across OSU. All scenarios included greater centralization and a marine operations leadership position at the AVP of Research (AVPR) level. Functions of this position would include raising the national and international visibility of OSU’s marine operations, advocating for and coordinating marine operations across the university, developing and leading strategic plans for safe and efficient operations, coordinating facilities, and supporting future vessel acquisitions. Potential scenarios differed in the amount of authority AVPR-level leader would have, ranging from advisory to supervisory.

Ultimately, the TF agreed that the best approach was full supervisory and budget authority in a centralized structure36 (Figure 10.2). This structure would place five marine-related programs under direct oversight of an MOD who would report to an AVP-MO. The proposed structure would provide a currently unrealized benefit of potential efficiencies through leveraging of personnel, equipment, and infrastructure across all five marine programs when possible, relevant, and effective. Marine-related facilities in Newport, presently spread across CEOAS in two separate entities (Ship Operations and PacWave), HMSC, and CAS (MMI), would be strategically and economically managed by the AVP-MO, allowing all OSU marine operations access, and central oversight would lead to smoother operations and improved risk management. The AVP-MO would advocate and help fundraise for maintenance and improvements of these facilities. This new structure would also eliminate vulnerability associated with the current lack of clarity regarding oversight authority for personally owned and chartered boats, those operated by Athletics and Recreational Sports, and vessels of opportunity, by placing all under decision authority at the AVP-MO level.

The TF recommends that the implementation process begin as soon as possible, by the AVP-MO in consultation with the VPR, the Provost, and marine leadership across campus (e.g., Deans and Center and Institute Directors involved in marine operations). Below, we describe

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36 A centralized structure for marine operations has been proposed before in A Consolidated “OSU Marine Operations” – A Phased Approach, a white paper produced in 2015 by a team whose membership was independent of this current Marine Operations Task Force, with the exception of Professor Jack Barth, and included CEOAS’s Marine Superintendent. The original concept around “uniting OSU marine operational components” was begun in 2011, and both the 2011 and 2015 versions were informally shared with several OSU Vice Presidents for Research although no formal request for action was made. The anticipated benefits and proposed structure detailed in this white paper, although created largely independently, are strikingly similar to those identified in this 2023 Task Force report.
the two key leadership positions in this structure, the five relevant programs, and associated benefits to OSU’s marine operations.

**Figure 10.2.** Proposed future structure that creates a new Associate Vice President for Marine Operations (AVP-MO) in a supervisory role. The AVP-MO supervises a fulltime Marine Operations Director who oversees all day-to-day marine operations in five programs across OSU. The numbers of small boats in the various boxes are reliable estimates. Acronyms include: CEOAS – College of Earth, Ocean, and Atmospheric Sciences; HMSC – Hatfield Marine Science Center; ARF – Academic Research Fleet; NSF – National Science Foundation; UNOLS – University-National Oceanographic Laboratory System; ABS – American Bureau of Shipping; USCG – United States Coast Guard.

**AVP for Marine Operations**

The proposed new structure places all existing marine operations under the supervision of an AVP-MO (Figure 10.2). The AVP-MO will report to the VPR with an explicit communications line to the Provost. The AVP-MO would supervise a new, full-time MOD (described below; Figure 10.2), allowing the AVP-MO to focus strategically, especially to communicate about and
advocate for OSU marine operations both inside and outside the university. With the hiring of a full-time MOD (1.0 FTE, see below) the TF anticipates that an existing AVPR within the RO could fill the AVP-MO role with 0.3-0.5 FTE devoted to marine responsibilities\(^3\) (for a total of 1.3-1.5 FTE focused on leadership of marine operations). This estimated range recognizes that more FTE may be initially required to implement the new structure, with time demands potentially decreasing after implementation.

The TF recommends that the AVP-MO:

- Speak on behalf of OSU’s marine operations goals;
- Promote safe access to marine and freshwater environments;
- Lead capital/budget planning for OSU marine operations;
- Promote operational excellence;
- Support acquisition of new vessels;
- Lead efforts on Diversity, Equity, and Inclusion; and
- Generate federal, state, and philanthropic funding by interfacing with NSF, congress, Oregon state officials, and private donors.

The AVP-MO will interact with and be advised by a university-wide Marine Operations Council to include representatives from units across the university. Example membership might include:

- Faculty members and leadership from colleges with marine operations (e.g., CEOAS, CAS, College of Science, College of Engineering);
- Representatives from major ocean projects (e.g., Ocean Observatories Initiative, PacWave, Regional Class Research Vessel program);
- Leadership from the Scientific Diving and Small Boat Programs;
- Marine technical staff;
- AVP for Research and Operations of HMSC or their designee;
- HMSC operations staff; and
- Graduate student(s).

**Marine Operations Director**

The proposed structure places direct responsibility for and oversight of day-to-day marine operations across OSU on a full-time (1.0 FTE) MOD, who reports directly to the AVP-MO. The MOD will supervise leaders of and provide oversight for five marine operations programs (Figure 10.2), and therefore, should have experience with a range of marine operations, including large and mid-size vessels that require credentialed mariners for their operation,

\(^3\) The TF was not unified with respect to the FTE required for dedicated marine operations oversight by the AVP-MO, and the extent to which this might change through time.
scientific diving, small boats, shoreside facilities, and marine scientific and technical support. As the MOD reports to the AVP-MO, the latter will have an early task of creating a job description for the former. The MOD will need staff support. Some may be leveraged from existing programs; others may be new positions (FTE to be determined).

The TF recommends that the MOD:
- Seek efficiencies across programs;
- Mitigate risk to OSU;
- Strive to achieve a world class program and embrace best practices to maximize safety;
- Coordinate safety, insurance, registry, and respectful behavior across programs;
- Maintain and promote best practices, procedures, and principles; and
- Interface with relevant internal and external advisory groups, in consultation with the AVP-MO.

The TF recommends that the MOD participate in the advisory groups and committees in place at the marine units in the new structure (Ship Operations Committee, Diving Control Board, Small Boat Advisory Group, etc.) and represent the advice of these groups to the AVP-MO and the Marine Operations Council. The TF also recommends the MOD be advised by a Marine Operations Committee that includes a Marine Operations Safety Subcommittee (Appendix 5). This committee could be especially helpful in identifying the need for scientific and technical support across OSU marine operations and for advising on various funding mechanisms for supporting these activities (e.g., NSF marine facilities grants). This Marine Operations Committee differs from the Marine Operations Council that advises the AVP-MO in that it focuses on tactical issues rather than strategic planning.

**Small Boat and Scientific Diving Programs**

These programs are already established at OSU and are working well. Each establishes training requirements and best practices for almost all small boat use, and all scientific diving, respectively, across the university, and each is advised by relevant groups (the Small Boat Advisory Group comprised of small boat users across the university, and the Diving Control Board). Both programs would report to the MOD, providing a currently unrealized benefit of potential efficiencies through leveraging of personnel, equipment, and infrastructure across all five marine programs, when possible, relevant, and effective. Additionally, this new structure would eliminate vulnerability associated with the current lack of clarity regarding oversight authority for personally owned and chartered small boats, those operated by Athletics and Recreational Sports, and vessels of opportunity, by placing these three categories under decision authority at the AVP-MO level.
Academic Research Fleet Operations Program

This program is, with a few notable exceptions, OSU’s existing Ship Operations, thereby preserving the existing safe and high performance of OSU’s ARF vessel and associated operations while transferring some oversight and administrative responsibilities not associated with the ARF to the MOD. This program would operate and oversee the new, state-of-the-art regional class R/V Taani (expected delivery 2024-2025), any additional OSU ARF vessels that may be acquired in the future, and the UNOLS van pool. It would be overseen through the currently titled “Marine Superintendent” who would report to the MOD, thereby providing a currently unrealized benefit of potential efficiencies through leveraging of personnel, equipment, and infrastructure across all five marine programs, when possible, relevant, and effective. The ARF Operations Program would include administrative staff and the highly skilled and credentialed mariners who operate OSU’s ARF vessel(s). The program would continue to be subject to oversight and requirements from national-level entities including the NSF, UNOLS, the USCG, and the ABS.

Mid-Size Vessel Operations Program

The proposed new structure includes a dedicated program for operation and oversight of research vessels that are not formally part of the ARF. These vessels require professional, credentialed mariners to operate, and carry scientific and technical equipment that should be maintained by skilled marine technicians. OSU currently has two such vessels: the 84-foot R/V Pacific Storm and the 54-foot R/V Elakha. Two others are under consideration as requiring operation by professional mariners: the 40-foot R/V ExVenture, and the 29-foot R/V Kalipi, and there is interest in designing and seeking funding for a new, mid-size research vessel as the R/V Pacific Storm nears the end of its operational life. These mid-size vessels provide critical support for OSU faculty, staff, and students, especially for projects and activities that do not require a larger (and more expensive) ARF vessel. Examples include scientific research off Oregon and further into the North Pacific during daily or multi-day/multi-week cruises, hosting of marine classes, and oceanographic equipment maintenance around the year, including sometimes on very short notice. These vessels have historically been operated independently in siloed structures (Figure 10.1), leading to inconsistent practices, uncertainty regarding policy, and vulnerability in terms of risk and liability (Appendix 11). Centralizing them into a single program overseen by the MOD would address these problems and provide a currently unrealized benefit of potential efficiencies through leveraging of personnel, equipment, and infrastructure across all five marine programs, when possible, relevant, and effective (Appendix 11).
Marine Technicians Program

The proposed new structure includes a dedicated program for OSU’s marine technicians, including a Marine Technician Superintendent and skilled, sea-going marine technicians familiar with operation, maintenance, and repair of complicated and critical sea-going equipment associated with collection of scientific data. OSU’s marine technicians are currently housed in CEOAS’ Ship Operations and work almost exclusively on ARF vessels, although they are available for other fee-for-service work across campus. Centralizing them into a single program overseen by the MOD provides currently unrealized benefits by expanding their critical expertise to apply to mid-size research vessels as well as other marine related activities, and finding potential efficiencies through leveraging of personnel, equipment, and infrastructure across all five marine programs, when possible, relevant, and effective.

Fiscal Implications

While the budget implications of the proposed new marine operations structure are clear at the top of that structure, specifically the need for a partial FTE for the AVP-MO and a full FTE for a new MOD, they are less clear for the remainder of the structure. This is deliberate on the part of the TF, as implementation strategies and decisions should involve the AVP-MO and the MOD, along with leaders in each of the five marine operations programs as relevant. There will likely be efficiencies that reduce resource needs, for example the ability to share credentialed mariners across research vessels. The TF also anticipates the need for additional budget for shift/repurposed FTEs as some programs take on more responsibility for serving the entire OSU marine enterprise, for example scheduling and operating mid-size research vessels and small boats.

With full implementation of the new centralized and coordinated marine operations across OSU through the leadership of the AVP-MO and new MOD, it is anticipated that OSU’s marine-related research and education activities will continue to grow. This will grow the OSU research budget and attract support for marine programs at OSU from federal and state agencies, as well as private donors and foundations. Overall, an investment in OSU’s coordinated marine operations will keep OSU at the forefront of safe access to marine and fresh water for OSU faculty, staff, and students taking on the challenges of changing conditions for our critical ocean and coasts.
ATTACHMENTS

Attachment 10.1. Problems-Solutions - Problems - Solutions - current operations v6.docx

Attachment 10.2. Questionnaire designed to learn about organizational structures of federal, academic, and private institutions involved in marine operations.

Appendix 10.3. Summaries of presentations and question and answer sessions with representatives from federal and academic institutions in the context of organizational structures for marine operations.

PowerPoint presentations available in Box.

University of Washington (UW); Will Love, Boating Safety Manager - The UW vessel program was established in 2019, mainly in response to two major incidents that involved close calls and vessel damage but no fatality. The main elements of the UW program include an Administrator (currently only 10% FTE), a Boating Safety Manual outlining policies, and a Boating Safety Advisory Committee. The UW boating program also oversees boating in recreational student aquatics and athletics. UW units that have vessel operations are required to delegate a unit “Boating Coordinator” responsible for policy compliance and for interaction with the Boating Safety Manager. UW is a UNOLS institution and UNOLS vessels are operated according to the UNOLS RVSS. Larger non-UNOLS vessels are operated by USCG licensed Captains. All UW vessels are required to adhere to UW boating policies. The UW program is housed in EH&S. UW is a member of the SBSA.

University of California Davis (UC Davis); James Fitzgerald, Boating Safety Officer (BSO) - The UC Davis Boating Safety Program was established in 2002 as a result of a well-publicized multiple fatality incident in 2000. UC Davis boating safety policies are described in a section of the UC Davis Policy and Procedure manual. UC Davis is also finalizing a Boating Safety Manual. Departments with boating are individually responsible for adherence to the UC Davis Boating Safety Policy. Boating Project Plans get routed through the BSO for review. Department-owned vessels are registered with UC Davis Fleet Services (similar to the OSU Motor Pool). UC Davis does not operate UNOLS vessels, but larger vessels are operated by USCG licensed Captains. The UC Davis Boating Safety Program is housed in the UC Davis Research Office. UC Davis is a member of the SBSA.

NOAA Vessel Inventory Management System (VIMS); Mike Hendon, Vessel Operations Coordinator, Pascagoula MS - The TF was given a brief overview of the NOAA SBP and then a presentation on the NOAA VIMS, which was of particular interest to the TF Vessel Registry Subcommittee. NOAA reviewed its vessel operations and established a stand-alone SBP in response to multiple incidents over time (including a fatality). The VIMS software platform was developed internally by NOAA as a safety tool to

38 Available in Box.
support the NOAA Small Boat Standards and Procedures Manual and the NOAA Small Boat Examination Program, and tracks a wide diversity of individual vessel metrics. The VIMS includes data on vessel specifications, maintenance, readiness and availability, inspection status, operator qualifications, operating environment limitations, vessel-specific standard operating procedures, safety equipment onboard, and other elements that relate to safety and work status. The VIMS is used by both potential operators of the vessels and by the unit Vessel Operations Coordinators who are responsible for the status of vessels at their locations.

Appendix 10.4. Organizational structure for the Woods Hole Oceanographic Institution (WHOI), a non-profit 501c(3) research and education organization, showing a Vice President for Marine Facilities and Operations. WHOI is one of the top oceanographic institutions in the world with an annual budget of over $200M and that operates several Academic Research Fleet large vessels, small boats, and the Deep Submergence Human Occupied Vehicle Alvin.
Appendix 10.5. Organizational structure for the Scripps Institution of Oceanography (SIO) at the University of California at San Diego, showing an Associate Director for Ship Operations and Marine Technical Support. SIO is one of the top oceanographic institutions in the world with an annual budget of over $140M and that operates several Academic Research Fleet large vessels and small boats.
APPENDIX 11: CASE STUDIES

INTRODUCTION

Marine operations are complex, ever-changing, and associated with inherent risks, liability, competing demands, and limited resources. Potentially compounding these are a number of factors extant throughout OSU’s non-ARF vessels. There is lack of clarity regarding best practices, policies, safety requirements, and compliance for OSU vessels under 300 GRT and vessels chartered by OSU scientists and educators (Appendices 7 and 9, respectively). There is no guidance or oversight pertaining to acquisition of new vessels, and consideration for complementarity with the existing OSU fleet (Appendix 9). There is no comprehensive oversight of vessel-specific maintenance schedules and costs across the OSU fleet in the larger context of existing resources and demand by OSU faculty for specific capabilities. Labor for sea-going credentialed and uncredentialed mariners, and repair and maintenance costs come from fee book funds obtained from users, problematic because rising costs are outpacing the ability of users to provide adequate funds. And marine operations at OSU are managed by multiple units independently and in parallel (Appendix 10).

These factors are all common to OSU’s mid-size vessels. Relative to small boats, OSU’s mid-size vessels offer increased scientific capabilities due to their complex equipment and skilled technicians and mariners, the latter often certified. These vessels are able to spend more extensive sea time farther from land. And these same factors make them potentially more vulnerable to risk and liability. Yet mid-size vessels are critical to OSU’s marine research, particularly in Oregon waters.

Four OSU mid-size vessels have been chosen to address the explicit request of the VPR to provide:

*A clear and illustrative argument that the structure we’re proposing to create will remove the barriers and silos that we have had in place historically: A case study I asked for to show us that accidents/concerns in past cases can be addressed better with the new org structure*.

The TF has broadened the objective of these case studies to illustrate the benefits of the overarching recommendations in this report. The four vessels are: *R/V Pacific Storm*, managed by the MMI in CAS; *R/V Elakha*, managed by Ship Operations in CEOAS; *R/V Kalipi*, managed by OSU’s SBP housed in the RO; and *R/V ExVenture*, managed by the Chief Scientist of PacWave in CEOAS. For each, we provide background, an overview of problems and challenges, and a

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synthesis of the benefits of implementing TF recommendations in the context of the problems and challenges these vessels and their operators have faced.

**Recommendations**

Collectively, a retrospective review of these case studies illustrates that risk and liability would be mitigated through establishment of clear and transparent policies and central accountability in areas with substantive compliance and safety risks; efficiencies associated with coordination and economies of scale would be realized; and increased access to the water for critical science and education would be achieved by implementing the following TF recommendations:

*Adopt a centralized oversight structure for all marine operations as described in Appendix 10.*

Decision authority would fall under a new MOD, reporting to an AVP-MO, who in turn, reports formally to the VPR with informal reporting to the Provost. The MOD would oversee five programs, including mid-sized vessels such as the four described below, which would be housed together in a dedicated program. In the context of these case studies, and the problems and challenges associated with each, a centralized structure would have:

1. Ensured, prior to the vessel’s acquisition, a comprehensive (across all OSU), consistent, and transparent analysis of the need for new vessels relative to demand, capabilities of existing OSU vessels, and available resources. For example, OSU accounting would evaluate operational costs; Insurance and Risk Management Services would determine insurance needs; facilities for berthing and infrastructure, expertise, and resources for maintenance and repair would be identified; analysis of the vessel’s full life cycle, service life, dry dock costs, and mid-life re-fit work would be investigated. This would prevent potential internal competition with existing vessels with similar capabilities and save time and resources that would have been expended without such a comprehensive assessment.

2. Enhanced maintenance, repair, and staffing (shoreside and sea-going) through availability of additional credentialed captains and mariners as a central pool; increased scientific and technical support through the Marine Technicians Program; and provided efficiencies in facilities, equipment, infrastructure, and administrative support;

3. Increased access to the sea across colleges and units for OSU faculty, staff, and students through enhanced coordination with OSU’s marine programs (e.g., Scientific Diving Program, SBP, HMSC, Marine Studies Program), and elevated visibility, advertising, and infrastructure and staff support across OSU and the region.
Define requirements for safety equipment, inspections, and operator credentials for all OSU vessels below 300 Gross Registered Tons (Appendix 7).

In the context of these case studies, a clear OSU policy would have mitigated risk and liability, reduced (likely significantly) the confusion associated with these requirements, saved significant time and resources that were independently expended on attempting to address these important factors.

**Partially subsidize funding for mid-size vessels to support winter repair periods and offset high fee book rates; convene a working group to provide an annual recommendation for this subsidy based on a cost/benefit analysis and following models used for OSU’s other hard assets (e.g., facilities).**

In the context of these case studies, and in concert with the recommended centralized marine operations oversight, this would ensure proactive maintenance while simultaneously assessing competing priorities for vessels with similar capabilities thereby resulting in fiscal savings and enhanced access to the sea for all OSU faculty and staff.
CASE STUDY: RESEARCH VESSEL PACIFIC STORM

LISA T. BALLANCE, KAYA JOHNSON

Background

The (R/V Pacific Storm is an 84’, steel-hulled vessel with a 24’ beam built in 1979 as a commercial trawler. The vessel was gifted to the OSUF in 2004 and was reconfigured as a research vessel in 2005 for approximately $280,000 using philanthropic funds donated to OSU’s MMI, CAS). R/V Pacific Storm was transferred to MMI in FY2008.

Scientific capabilities of the R/V Pacific Storm include a 5-ton articulating A-frame with an 18,000 lb winch; a 5-ton knuckle crane with a 32’ reach; 4,000 and 18,000 lb PullMaster winches; excellent low-speed handling and positioning; ability to carry additional equipment, small boats, and vans on two decks; a series of 1500-watt lights for around-the-clock work; decks for visual surveys at 5.5 m and 10 m above the sea surface; a flow-through water sampling system; EK-60 echosounder; dry lab with printer, computer monitors and three dedicated work stations that can accommodate seven scientists; and StarLink high speed internet system and Iridium satellite phone. The vessel has berthing for seven scientists and five crew, a galley, a reverse osmosis system (900 gallons of fresh water daily), washer/dryer, two heads with showers, and a 15,500-gallon fuel capacity for science missions ranging from hours to 30 days at sea. The vessel is operated by a licensed captain, licensed chief mate, and chief engineer.

R/V Pacific Storm has conducted research on marine mammals, seabirds, and physical and biological oceanography for OSU scientists (as well as scientists from other universities, non-governmental organizations, and consulting firms) on over 100 projects in locations ranging from the eastern tropical Pacific to the Bering Sea, and durations ranging from day trips to 30 continuous days at sea, hundreds of km from shore. Of note, the R/V Pacific Storm supported MMI scientists and a film crew from National Geographic to study blue whales off the coast of Costa Rica in 2008 (resulting in a 2-hour, award-winning documentary on the research); twelve annual MMI research projects between 2004 and 2015 supported by the US Navy (ONR and Commander Pacific Fleet) to study large whale migration patterns and improve satellite tag technology (including humpback whales in Alaska, sperm and blue whales in Mexico, and fin blue, humpback, and gray whales in the California Current); played a lead role in the 2015 inaugural deployment of research buoys for the NSF-funded Ocean Observatories Initiative (footage from which figured prominently in celebrating OSU’s role in this internationally recognized program); and in 2022, the R/V Pacific Storm was a critical asset in securing a $2M grant from the Department of Energy for a project that includes 2 yrs of visual surveys for

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Vessel specifications and scientific capabilities are listed on the Pacific Storm web page: https://mmi.oregonstate.edu/research-vessels
marine mammals and seabirds in the northern California Current to inform siting decisions for potential offshore wind energy platforms.

A sample of R/V Pacific Storm utilization metrics for FY2017 – 2021 is provided in Table 11.1.

Table 11.1. Vessel utilization metrics for research vessel (R/V) Pacific Storm during a sampling of recent years. The vessel was operated by CEOAS Ship Operations from July 2016 through the end of calendar year 2018. An extensive shipyard repair period following R/V Pacific Storm’s return from Ship Operations and the start of the pandemic kept the vessel essentially non-operational during fiscal year (FY) 2019. The pandemic continued to severely limit operational days in FY2020.

MMI, in consultation with CAS leadership and following existing OSU policies, is fully responsible for the R/V Pacific Storm. This includes budgetary oversight and responsibility, supervisory responsibility for three full-time crew and a part-time cook, shoreside support (e.g., safety and compliance, training, documentation, scheduling and interfacing with sea-going scientists and educators), and assessing repair and maintenance priorities, their schedules, and their documentation. R/V Pacific Storm is berthed with Newport’s commercial fishing fleet at Port Dock 3 (for an annual fee of $5742 paid to the Port of Newport). Maintenance facilities are leased by MMI at South Beach Shop (annual fee of $31,200). The vessel is operated with philanthropic funds and on a fee book basis. Rates are based on costs of labor, repair and
maintenance (including a winter repair period), and anticipated charter days at sea (based on historical data).  

**Problems and Challenges**

Historical problems and challenges pertaining to *R/V Pacific Storm* are primarily associated with oversight responsibility and decision authority for the vessel residing in two different colleges sequentially during the past decade, the different funding sources and associated priorities of these colleges, the types of expertise residing in each, and the lack of clarity regarding best practices, policies, safety requirements, and compliance for OSU vessels below 300 GRT.

*R/V Pacific Storm* was transferred from MMI to OSU’s Ship Operations (housed in CEOAS) in July 2016. The reason for the transfer was that “Under MMI fiscal limitations, the vessel operated cost-effectively from May through September and also serviced other users. However, now with the vessel being managed by Ship Operations, it will be possible for more users to benefit from the vessel with year-round operation.” Both colleges agreed to this transfer.

In 2018 the CEOAS Dean determined that the vessel was at the end of its useful service life. In accordance with the 2016 Memorandum of Understanding between CEOAS and CAS, *R/V Pacific Storm* was returned to MMI at the beginning of calendar year 2019. MMI instead determined that the vessel should be retained, repaired, and maintained, and consequently, implemented an extensive repair and inspection period at an approximate cost of $167,000. Of note, the same inspection has not been required nor conducted for OSU’s other mid-size vessels. This difference in treatment and assessment regarding the future of *R/V Pacific Storm* was disruptive at many levels within OSU, reaching the level of the Provost and VPR, and was likely a catalyst for the initiation of this TF. At least two significant factors were likely associated with this difference in assessment regarding the future of *R/V Pacific Storm*: 1) varying opinions regarding the safety of the vessel, complicated by the fact that OSU had no clear policy for safety requirements, training, and compliance for OSU vessels under 300 GRT (the *R/V Pacific Storm* is 153 GRT), and 2) sources of funding for maintenance, repair, and labor for credentialed mariners. Under MMI’s oversight, these funds were obtained in part through philanthropy, especially during the vessel’s early years with MMI. Philanthropy was not a source of funds when the vessel was overseen by CEOAS and Ship Operations.

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41 See [https://fees.oregonstate.edu/](https://fees.oregonstate.edu/) for details.


43 Memorandum to Irem Tumer, Vice President for Research (interim) from Lisa T. Ballance, Director MMI, 25 July 2020, 141 pp.
Since the return of R/V Pacific Storm to MMI and after the extensive repair period and inspection, the vessel has been successfully conducting science for OSU and external users. Its oversight has necessitated re-programming of existing MMI staff to provide shoreside support (e.g., supervision of seagoing mariners, scheduling of projects and communication with project PIs, budgetary oversight, documentation of maintenance and training). This currently includes the Director (.1 - .25 FTE), the Fiscal Manager (.25 FTE), and the MMI Research Coordinator (.25 - .4 FTE). In many cases, this shoreside support involves addressing problems and finding solutions to situations that likely exist for other units independently operating their own mid-size vessels. Additionally, the MMI Director has placed a high priority on credentialed mariners, ensuring that they are compensated appropriately, and maintaining the vessel, including extensive winter repair periods, in keeping with recommendations from an extensive inspection conducted in 2019. These costs have resulted in higher fee book rates as of 2023; the implications of this for OSU users is unknown.

**Benefits of Implementing Task Force Recommendations**

*Centralize Marine Operations* - Were a centralized Marine Operations in place two decades ago, a thorough evaluation of the benefits, costs, and liabilities of acquiring the R/V Pacific Storm in the context of the entire OSU fleet (excepting ARF vessels) would have occurred prior to its acceptance. The decision to acquire and retain the vessel would have been made at the AVP-MO level with messaging across marine operations. Once the vessel was in place, a centralized and coordinated Marine Operations would facilitate and potentially realize efficiencies for maintenance, repair, and staffing (shoreside and sea-going) through a central pool of credentialed mariners, increased scientific and technical support for the vessel through the Marine Technicians Program; and shared facilities, equipment, infrastructure, and administrative support. There would have been no transfer between units, and any disagreements pertaining to R/V Pacific Storm would have been resolved internally within the centralized Marine Operations.

*Define requirements for safety equipment, inspections, and operator credentials for all OSU vessels below 300 GRT* – Had these requirements been explicitly in place, there would be little question regarding compliance for R/V Pacific Storm. Moreover, all of OSU’s mid-size vessels would be held to consistent policies and inspections in a transparent manner.

*Subsidize mid-size vessels* – R/V Pacific Storm has been operated, repaired, maintained, and staffed with philanthropic funds from MMI and the vessels fee book rates. CAS, while not subsidizing the vessel, has allowed MMI to carry a negative balance due to the extensive repair and inspection period, and the global pandemic, all of which severely impacted the ability of R/V Pacific Storm to go to sea. Fee book rates were re-calculated in 2023 to account for increasing
costs, and the impact on OSU users is yet to be determined. A subsidy for mid-size vessels could be used to offset many costs and/or benefit many users, including educators wishing to take classes to sea, new faculty wishing to start research programs, and existing programs needing capabilities of R/V *Pacific Storm* (e.g., PacWave).

**CASE STUDY: RESEARCH VESSEL ELAKHA**

**JACK BARTH, KAYA JOHNSON**

**Background**

The *R/V Elakha* is a 54-foot aluminum research vessel purpose built for oceanographic research in 2001 ([https://ceoas.oregonstate.edu/rv-elakha](https://ceoas.oregonstate.edu/rv-elakha)). The name Elakha, the Chinook trading language word for sea otter, was selected after consultation with researchers and representatives of regional Native American groups. The vessel was funded through a research grant to the Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO; [https://www.piscoweb.org/](https://www.piscoweb.org/)), a multi-university consortium led by OSU studying the connection between rocky intertidal and kelp ecosystems and the coastal ocean along the US west coast. PISCO received $400,000 for a coastal research vessel from the David and Lucile Packard Foundation. The OSU PISCO PIs asked CEOAS Ship Operations to design, construct and operate a general-purpose coastal ocean research vessel based on Ship Operations years of experience and expertise. CEOAS/OSU provided an additional $125,000 to the construction cost of the vessel, in particular to support onboard safety systems. The *R/V Elakha* was constructed at Rozema Boat Works based on Puget Sound in Washington. In 2020, the *R/V Elakha* was overhauled including replacing the engine, new navigation electronics, and rebuilding of the overboard handling equipment. *R/V Elakha* is today in better material condition and professional management than the past 6 years.

The *R/V Elakha* has a small laboratory area, berthing for four and a small galley; although capable of overnight work, it is almost exclusively used for day trips. Scientific capabilities include a 1,000-pound capacity A-frame, a variety of winches (mechanical only; with conducting wire; specialty mooring), a conductivity-temperature-depth instrument with a water sampling system for use on the conducting wire winch, and a flow-through water sampling system. *R/V Elakha* is powered by a single, 600-horsepower diesel engine, has a bow thruster for maneuverability, and has a range of about 575 miles. The vessel is operated by a licensed captain, assisted by an Able Seaman, also credentialed for conducting operations at sea. The *R/V Elakha* is berthed on a floating dock at the OSU Ship Operations dock in Newport.
CEOAS Ship Operations has operated the R/V Elakha since 2001 for the benefit of OSU faculty, staff, and students on a fee book basis. The R/V Elakha is available seven days a week pending crew availability, allowing critical flexibility in getting work at sea done when the weather is amenable. There is a surcharge for weekend operations. The R/V Elakha is also available, and has been used extensively, by entities outside of OSU, notably NOAA. CEOAS Ship Operations receives advice and strategic planning direction from the CEOAS Ship Operations Committee and from the R/V Elakha Users Group, the latter consisting of members from across OSU and with some members outside of OSU, for example from NOAA.

The R/V Elakha conducts scientific research in Yaquina Bay and coastal ocean waters near Newport, Oregon, typically within about 25 nautical miles of the coast, and up to 50 nautical miles about once each month. Work is primarily conducted in the spring through early fall, but R/V Elakha does operate year-round weather permitting. Late fall through early spring operations, primarily on protected waters in Yaquina Bay, are critical for supporting OSU classes during the academic year.

Early in its operation, the PISCO program was in full swing, using about 40 days per year. By agreement with CEOAS Ship Operations, PISCO was given scheduling priority since it provided the bulk of the construction funds. The R/V Elakha featured prominently during PISCO’s work on low-oxygen (hypoxia) zones off the Oregon coast, including in a film documentary that played in the Smithsonian’s Sant Ocean Hall in Washington, DC (https://www.youtube.com/watch?v=yh5Ev8VEbZ0 ). Another major user is the NOAA coastal ecology group in Newport, Oregon, who have conducted bi-weekly oceanographic sampling on the historic Newport Hydrographic Line (https://ceoas.oregonstate.edu/feature-story/towing) since 1997. The R/V Elakha also proved critical for deploying and recovering underwater gliders starting in 2005 and continuing until today. In June 2015, the R/V Elakha played a lead role in the inaugural deployment of underwater gliders for the NSF-funded Ocean Observatories Initiative, a decades-long, internationally recognized program co-led by OSU.

Use over the years has varied widely, averaging about 125 days per year during the first decade of operation, but declining in recent years to about 65 days per year. The fee book rate for the R/V Elakha for internal OSU (external) users is $380/hour ($448/hour) with an additional $58/hour ($68/hour) for weekend operations. For an eight-hour weekday, this totals $3,040 ($3,584) for an internal (external) user. It is estimated that costs for the R/V Elakha operation would be covered at about 105 days/year of use.

CEOAS uses funds raised from private donors to support student experiential learning onboard the R/V Elakha. Donors are excited to support experiential, sea-going learning experiences. One such fund is known affectionately as the “kids on boats” program. These donor-supplied funds are used to support field trips on R/V Elakha for formal OSU marine classes and for individual
student projects. CEOAS success has been mimicked by other recent fundraising campaigns to support experiential learning onboard vessels by other colleges across campus.

Problems and Challenges

The R/V Elakha is a highly successful, widely used vessel for coastal ocean and estuarine research. While the vessel has been successfully operated by CEOAS for over 2 decades for scientific research and class field trips, the expense of its operation and maintenance are now outpacing the amount that can be recouped by reasonable hourly user fees. Hourly rates have been raised over the years to cover costs, with a substantial increase when it was decided for safety purposes to require a second, full-time crewperson. With rising fuel and employment benefit costs, hourly rates now are so high that they are a disincentive for both OSU and non-OSU users. This is especially true for research by students or young faculty who may not have research grants to support their work. The availability of other mid-size vessels (e.g., R/V Kalipi, R/V Pacific Storm, inexpensive fishing boat charters) may have also contributed to competition with R/V Elahka. Thus, the R/V Elakha is not utilized to its full potential as it was during the first decade or so of its operation.

Benefits of Implementing Task Force Recommendations

Subsidized funding from the University is badly needed. Such funding could offset high day rates, allow for free cruises, start new programs to get students out to sea or create leveraging for research initiatives and ultimately increase funded proposals from federal agencies.

A centralized and coordinated Marine Operations will bring opportunities to increase use of R/V Elakha, make the vessel more affordable, and thus more fully utilized in several ways:

- increased visibility, advertising and access for users across OSU and the region;
- increased class support and student use through coordination with OSU’s marine programs (e.g., Scientific Diving Program, SBP, HMSC, Marine Studies Program);
- availability of additional credentialed captains and Able Seamen for R/V Elakha operations, thus increasing availability to researchers;
- expanded private fundraising around student experiential learning at sea, including the possibility of providing free time at sea on the R/V Elakha for any OSU student who would benefit from that opportunity; and
- a rigorous and well-defined procedure for replacing the vessel and its capabilities at the end of the current service life.
CASE STUDY: RESEARCH VESSEL KALIPI

KEVIN BUCH

Background

*R/V Kalipi* is a 29’ aluminum hull, purpose-built, nearshore oceanographic research vessel. *R/V Kalipi* was purchased in 2002 by the OSU Zoology Department (Zoology). (Menge/PISCO lab) to support lightweight nearshore mooring work and scientific diving operations (purchase price ~ $141K). Funds for the purchase came from PISCO, and the boat was listed as a Zoology asset. *R/V Kalipi* was maintained and operated solely by Zoology, with funds coming from the PISCO budget. PISCO use of *R/V Kalipi* had largely ended by 2010-11, and the boat was left in open storage at HMSC.

OSU hired its first full-time Diving Safety Officer in 2012 to fully develop the OSU Scientific Diving Program (SDP), and this individual was also tasked with the creation and implementation of a university-wide SBP. Among the early noted constraints to development of the SDP was lack of a nearshore dive vessel suitable for training and research diving. The Diving Safety Officer initiated efforts to revive *R/V Kalipi* but lack of funding and staff made this impractical. In 2016-17 the SBP was approached by the Barth Lab (CEOAS) with a need for *R/V Kalipi* to support a project off the CA coast, and with funding for restoration, repairs, and a project vessel Operator. The *R/V Kalipi* had been in open storage, unused, for over 5 years.

The SBP agreed to assume management and operational control of *R/V Kalipi*, and Zoology (now Integrative Biology) and the Menge Lab were supportive of this initiative. The boat was brought back to work status for the 2017 project and has been in steady operation by the SBP since then. Vessel user fees have been established, and demand continues to rise. *R/V Kalipi’s* size, shallow draft, lightweight A-frame, ability to be used extensively at remote sites, and dive capabilities fill an important niche in OSU’s research and educational vessel needs.

Problems and Challenges

Operational - When *R/V Kalipi* was first acquired, Zoology had no center for marine/vessel operations, and there were no formal OSU policies regarding small boat operations. As a result, decisions regarding safety, operator qualifications, vessel upkeep, and similar were largely made within the Menge/PISCO Lab. Although *R/V Kalipi* had a safe operational record, in hindsight the lack of subject-matter peer review of procedures, maintenance, and safety requirements likely resulted in operations that did not conform to accepted industry best practices.

44 Additional sources: Bruce Menge mengeb@oregonstate.edu; Gary Allison gary.allison@gmail.com; Jack Barth jack.barth@oregonstate.edu; Taylor Eaton taylor.eaton@oregonstate.edu
practices and safety recommendations. The lack of vessel oversight also meant that when PISCO use ceased there was no provision for other use of the boat, and no program to oversee storage and long-term maintenance of the vessel.

Since its revival in 2016-17 R/V Kalipi is now largely a victim of its own success, having benefited from the professional oversight of the SBP. The current challenge is lack of operator availability due to the short-staffed nature of the SBP, resulting in missed opportunities for use which leads to a lack of income that helps support the boat.

Fiscal - Bringing R/V Kalipi out of storage and keeping it operational has resulted in significant expenditures. R/V Kalipi is powered by a complex and maintenance-intensive engine. The lack of programmatic oversight during its down period resulted in many unexpected major failures and repairs that manifested over several field seasons. Without a dedicated budget, these repairs have largely been paid for by the RO, with the unplanned nature of these expenses presenting funding challenges and future uncertainty.

Benefits of Implementing Task Force Recommendations

Many of the problems associated with the acquisition, operations, and funding of Kalipi could have been largely mitigated had there been a centralized and coordinated OSU Marine Operations structure in place.

- There would have been safety and operational procedures in place from the start, which would have ensured that the boat was properly equipped, maintained, and inspected, and that R/V Kalipi operators had the appropriate experience and qualifications. This would have resulted in reduced risk and liability and would have saved money in the long term.
- Other potential users of R/V Kalipi would have been consulted at the outset, which could have resulted in continued use and additional funding for the boat.
- R/V Kalipi would have likely been fitted with a more cost-effective engine system better suited to R/V Kalipi’s power needs. This would have resulted in lower overall costs of repair and maintenance, and fewer missed at-sea days.
- A unified program overseen by an MOD with less siloing could expand the operator pool for R/V Kalipi, making it easier to share personnel and increasing the availability of the boat, thereby benefiting both researchers and students, and also helping to keep the boat funded.
- A dedicated long-term R/V Kalipi budget for operations and maintenance would be established and maintained, reducing the frequency of unplanned expenses and funding uncertainty.
CASE STUDY: RESEARCH VESSEL ExVENTURE

KEVIN BUCH

Background

R/V ExVenture is a 42’ 2005 Coastal Craft Model 370 recreational luxury yacht (originally M/V Adventure). The vessel was offered up for donation to OSU in 2020. Doug Brusa (OSUF) oversaw the donation process. The vessel was eventually acquired in October 2020 by PacWave (Burke Hales-Chief Scientist) with CEOAS approval. Planned uses for R/V ExVenture were small ROV deployments, lightweight mooring work, sonar tows, and inspections and photo documentation of surface equipment in support of PacWave operations.

Problems and Challenges

As there was no formal vessel acquisition policy in place at the time it was unclear what inspections (e.g., marine survey, stability test) should be required prior to acceptance of the boat. There were also no clear OSU safety and compliance policies in place for a vessel of R/V ExVenture’s size and configuration (42’ yacht).

R/V ExVenture was much larger and more complex than vessels overseen by the OSU SBP and was also outside the oversight and management of CEOAS Ship Operations. This resulted in initial confusion and uncertainty regarding Operator qualifications, vessel inspection and safety requirements, and boating project review and approval, all of which hindered overall risk management decision making. To address these issues PacWave agreed to partner with the SBP and adhere to SBP policies and approval procedures as closely as possible, resulting in R/V ExVenture-specific policies and procedures having to be addressed as they came up.

R/V ExVenture also required more extensive modifications to execute its work tasks than was originally expected including major electronics additions, modifications to the deck and gunwales, and modifications to exterior/interior cabin walls.

There were also impediments to R/V ExVenture’s use outside of Pac Wave, limiting its use as a broader OSU asset. These may stem from constraints due to the boat’s US Department of Energy funding leading to challenges establishing internal and external fees, and a general lack of Operators outside PacWave with appropriate qualifications (licensing and experience).

Additional sources: Burke Hales burke.hales@oregonstate.edu; Brett Hembrough brett.hembrough@oregonstate.edu; Taylor Eaton taylor.eaton@oregonstate.edu; Doug Brusa doug.brusa@osufoundation.org
Benefits of Implementing Task Force Recommendations

Had there been a centralized and coordinated Marine Operations structure and policy in place with clear vessel classification, acquisition, and compliance procedures many of the problems listed above could have been avoided. Although approval procedures and Operator and vessel requirements were eventually worked out (R/V ExVenture has a solid safety record so far), there was initial confusion and delay, and things could have been different had PacWave not been pro-active in voluntarily engaging with the SBP.

A formal acquisition process overseen by an MOD would have given PacWave a forum to present their vessel needs and improved the likelihood of their getting a vessel suited to their requirements (workboat vs. recreational yacht). This process also could have addressed how to make a PacWave vessel more available and better integrated into the larger OSU ‘fleet’, including an expanded operator pool. Possibly the donation could have been accepted, and its value used to fund a more appropriate purchase, as the work and expense to modify R/V ExVenture has not been insignificant.