SHOALS
Marine Laboratory

Shoals Marine Laboratory is a world leader in the study, appreciation and conservation of sustainable, healthy oceans. Our hallmarks are experiential, place-based education, sustainability in action and innovative research to advance the understanding and protection of marine ecosystems.

Shoals Marine Laboratory

STRATEGIC PLAN 2018–2028

SML at a glance

- Since 1966, Shoals Marine Laboratory has been a leader in marine science education, research and outreach.
- SML trains scientists, scientifically literate citizens and leaders who address the needs of Earth's life-sustaining oceans.
- SML was the first and remains the largest marine laboratory dedicated to undergraduate education in the United States.
- Our academic programs engage students in active, place-based, experiential learning methods that are proven to have lasting and significant impacts.
- SML supports several long-term research projects that enhance our understanding of the Gulf of Maine. This is one of the most productive ocean regions and is currently experiencing dramatic ecological change.
- Every summer, thousands of visitors participate in SML's innovative public programming.

Director's note

Dear Shoals Community,

We live on a blue planet. The ocean covers more than 70 percent of the Earth's surface and is absolutely critical for life — and yet it is in trouble. Overfishing, warming waters, pollution, ocean acidification and reduced biodiversity are some of the interrelated and vexing threats to our marine systems. To address these threats, we must increase the breadth and depth of our understanding, grow public awareness and develop effective and sustainable solutions.

For more than 50 years, Shoals Marine Laboratory (SML) has been championing understanding, awareness and sustainable solutions through world-class immersive, experiential and placed-based education, research and outreach programs.

SML, a facility of both Cornell University and the University of New Hampshire (UNH), is a seasonal field station on 99-acre Appledore Island located six miles offshore in the Gulf of Maine. In 2015, the administration of SML was transferred from Cornell to UNH, triggering the decision to undertake a strategic planning effort to help SML navigate into the future. With this plan, anchored by five guiding beacons, we will deepen our dedication to and impact on understanding and sustaining the marine environment over the next decade. We ask for your support and invite you to join us on our journey to reach our vision for the future.

Jennifer Seavey

Dr. Jennifer Seavey
Kingsbury Executive Director of Shoals Marine Laboratory

This plan represents the contributions of more than 100 participants, spanning across our alumni, faculty, long-time supporters and university leaders, who participated in six workshops and online surveys over the past year. Participants helped to identify the strengths, challenges and opportunities for SML. This community input was provided to a team of field station and marine laboratory leadership experts as well as the SML Executive Committee (comprising UNH and Cornell leaders) to help us formulate our vision and goals. In addition, UNH's Office of Campus Planning undertook the interpretation of strategic goals into a master facilities plan.

Throughout the planning process, five ideas emerged as beacons that will serve as goals for the next 10 years.

These beacons are:

- World-class place-based, experiential and immersive science education
- Scientific discovery and application to today's environmental challenges for the coasts and ocean
- Interdisciplinary and problem-based collaboration
- An engaged and supportive SML community
- Sustainability leadership

These beacons will anchor our strategic plan and guide our actions, investments and partnerships as we sail ahead into the next decade.

We are excited to have you join us to ensure that SML rises to the challenge of meeting our goals and fulfilling our mission. If you have questions or suggestions regarding our plan, we hope you will reach out. Together we will ensure that SML continues to advance understanding, discovery and sustainability of the marine environment.

Beacons

BEACON 1

World-class place-based, experiential and immersive science education

Shoals Marine Laboratory's unique setting, expertise and educational methodology combine to make us a leader in science education. Appledore Island, a 99-acre field station six miles offshore, and its surrounding waters are the classrooms in which students engage in coursework and independent research. Our faculty draw upon more than half a century of science-based knowledge of the surrounding ecosystems and how to access them. This type of learning has been shown to foster retention and success in science disciplines, which is especially critical as the United States struggles to adequately prepare, recruit and retain students in science. To enhance our dynamic learning environment and promote excellence in our nation's scientific workforce, SML is committed to supporting diversity and inclusiveness throughout our community.

ACTION & STRATEGY

- Maximize student enrollment in academic programming, especially Shoals Semester programs.
- Build financial support for all SML students.
- Increase diversity and inclusiveness through scholarships, research funding and faculty and staff recruiting.
- Develop new courses that maximize place-based, experiential and immersive learning in SML's distinctive island setting.

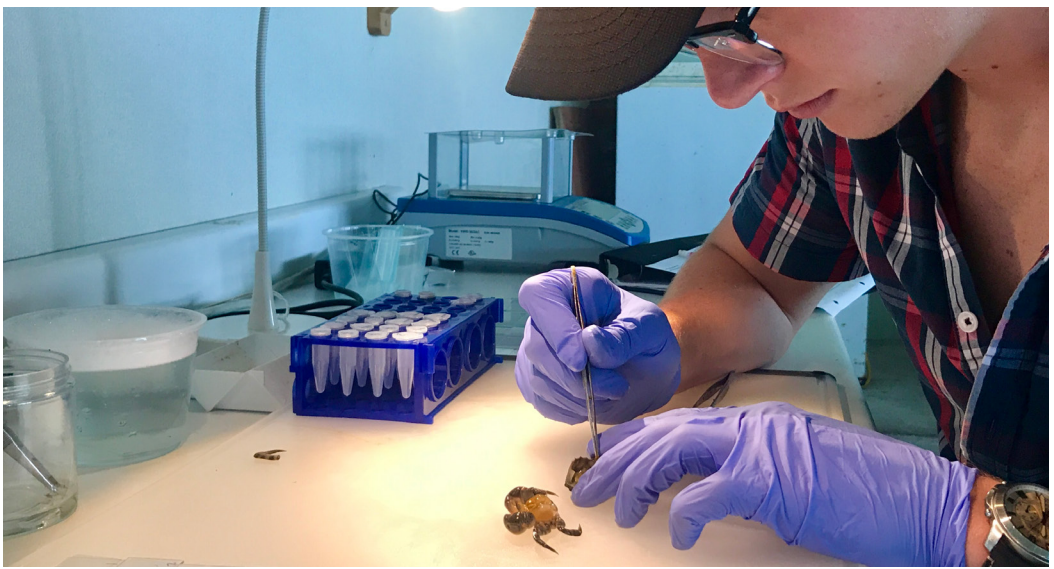
ACTION & STRATEGY

- Enhance our network with other field stations and marine laboratories to promote collaborative research in the Gulf of Maine and beyond.
- Modernize and improve research facilities by constructing researcher housing, doubling the size of Palmer-Kinne Lab and building a new research vessel to replace the R/V *Kingsbury*.
- Increase financial resources to support research.

BEACON 2

Scientific discovery and application to today's environmental challenges for the coasts and ocean

Shoals Marine Laboratory is a center of scientific discovery and field research in a location that provides direct access to the rapidly changing coastal and marine ecosystems of the Gulf of Maine. The Gulf of Maine is widely regarded as one of the most diverse, productive and complex temperate marine areas in the world, yet it is experiencing unprecedented environmental change. The Gulf serves as a strong model system for understanding and addressing today's environmental challenges. For more than 50 years, SML students and scientists have been generating data and making discoveries that provide a solid foundation for additional scientific progress, interdisciplinary networking and collaboration.



BEACON 3

Interdisciplinary and problem-based collaboration

Shoals Marine Laboratory is on the front line of one of the fastest-changing ocean regions in the world. Non-native species invasions, overharvest of natural resources and climate change are all challenging the environmental conditions of the Gulf of Maine. These pressures are complex and interdisciplinary and require the synthesis of knowledge from different fields of study. As a result, science education and research need to take a holistic view and draw upon expertise from a variety of disciplines and approaches — biological, ecological, social, political, economic, legal and cultural. SML is committed to innovation and promotion of interdisciplinary studies and problem-based collaboration.

ACTION & STRATEGY

- Identify and support the development and incorporation of a greater diversity of disciplines into SML's educational programs.
- Create collaborative opportunities for researchers and scholars, and promote interdisciplinary and problem-based work.
- Organize workshops, seminars and symposia around environmental challenges relevant to the Gulf of Maine and existing SML strengths, with an emphasis on interdisciplinary exchange of knowledge.

ACTION & STRATEGY

- Create a Shoals Marine Laboratory Alumni and Friends Association and provide social and career networking opportunities for members.
- Celebrate community members' successes and achievements, especially those in concert with the SML mission.
- Encourage fundraising by the SML community to support and sustain the lab.

BEACON 4

An engaged and supportive SML community

Shoals Marine Laboratory provides positive, life-changing experiences for members of our island community. The influence of SML on our students, alumni, faculty, researchers, volunteers, staff and visitors can last a lifetime. An engaged and supportive SML community creates a source of information about marine issues and marine-related careers — it connects like-minded individuals and resources, and it offers support and inspiration. A successful community is cultivated by generating excitement, remaining relevant and attracting and engaging members.

BEACON 5

Sustainability leadership

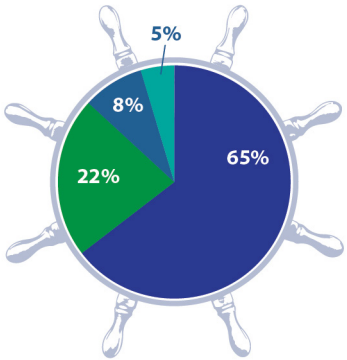
To protect all life on Earth and to sustain human populations now and for future generations we must use natural resources wisely, and an island community is a wonderful place to showcase sustainable use of limited resources. Shoals Marine Laboratory enjoys an excellent reputation for innovative sustainable infrastructure and operations. The next step is to extend this innovation beyond our facilities to our programming, in order to advance education and awareness of successful sustainability strategies. SML aims to be a living laboratory for low-impact infrastructure and behavior that cultivates leaders in sustainability education and research, with a special focus on protecting marine resources.

ACTION & STRATEGY

- Maintain and innovate our sustainable infrastructure and operations, and strive for climate neutrality in terms of zero-carbon emissions.
- Improve the support and rigor of the Sustainable Engineering Internship.
- Develop additional educational and research activities and partnerships focused on sustainability.

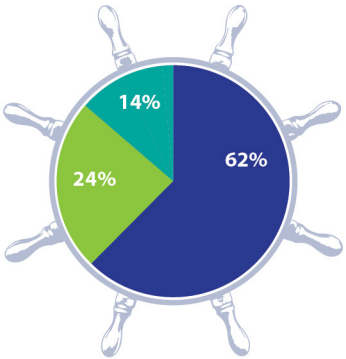
SML financial snapshot

ANNUAL EXPENDITURES



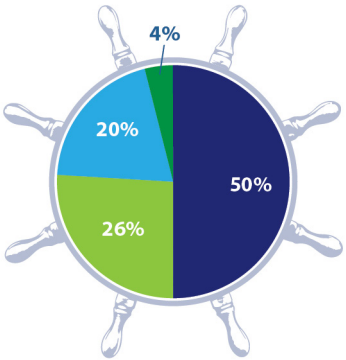
- Programs (65%)
- Administration (22%)
- Facilities & Maintenance (8%)
- Operations (5%)

REVENUE SOURCES



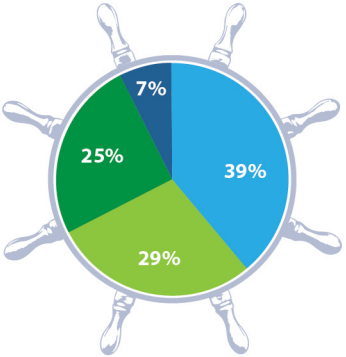
- Course Revenue (62%)
- Gifts & Endowment (24%)
- Public Programs & Visitor Fees (14%)

CURRENT USE GIFTS ALLOCATION



- Unrestricted (50%)
- Program Support (26%)
- Scholarship (20%)
- Staff Salary (4%)

ENDOWMENT ALLOCATION



- Scholarship (39%)
- Program Support (29%)
- Staff Salary (25%)
- Building Maintenance (7%)

The single largest source of revenue continues to be course revenue from our academic programs. We also benefit from the generous support of our donors. Unrestricted gifts help us keep costs down and allow SML to have competitive academic program rates. Scholarships, program support and funding for capital projects are critical needs identified in our strategic plan.

Community members

ON WHY SML MATTERS

Alumna

Vanessa Constant (Cornell '14, SML '08, '10, '11)

"The transformative experiences I had at Shoals Marine Laboratory launched my scientific career and helped lay the groundwork for my future academic and research pursuits as a coastal ecologist. I think fondly of my time on the island and warmly reflect on the profound influence it had on me as a young scientist. SML helped position me to be an engaged student, proactive researcher and dynamic communicator."

Researcher

Dr. Jarrett Byrnes (SML '00, Assistant Professor at UMass Boston)

"When I sought to set up a subtidal research program with intensive long-term monitoring as a key component, the first place I thought of was Shoals Marine Laboratory. SML provides an amazing natural laboratory with a wide variety of environmental conditions in a very small area, making it ideal for researchers like me. Further, the wealth of natural history knowledge in the faculty and staff mean that every trip my lab and I learn about nature both from what we observe and the conversations we have every night around the dinner table. It is truly a unique and special place for the study of long-term change in ocean ecosystems."

Donors

Morgan and Tara Rutman (UNH '84)

"In keeping with our dedication to undergraduate education, Tara and I have directed our gift toward Shoals Marine Laboratory — a place where engaged and active learning helps students prepare for careers in science. We specifically support scholarships so that SML can attract the best and brightest students to engage in field science, regardless of their financial means."

The mission of SML is to provide outstanding experiential, place-based education and to support innovative research programs focused on understanding and sustaining the marine environment.

SHOALS Marine Laboratory

shoalsmarinelaboratory.org

The Shoals Marine Laboratory is operated jointly by Cornell University and the University of New Hampshire.

Cornell University

University of New Hampshire