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Office of the President

TO MEMBERS OF THE ACADEMIC AND STUDENT AFFAIRS COMMITTEE:

DISCUSSION ITEM

For Meeting of July 16, 2024

SCIENCE, SOLUTIONS, SANTA CRUZ: HOW THE SEYMOUR MARINE DISCOVERY CENTER POWERS COMMUNITY-DRIVEN CLIMATE RESILIENCE THROUGH RESEARCH

EXECUTIVE SUMMARY

The Seymour Marine Discovery Center at UC Santa Cruz exemplifies how a public university can turn research into relevance—linking scientific discovery with civic priorities, climate action, and educational inclusion. Through its "Science. Solutions. Santa Cruz." framework, Seymour Center has created a replicable model for public engagement that is local in focus, interdisciplinary in design, and actionable in practice.

Researchers at UC Santa Cruz are advancing the collective understanding of the impacts of climate change on coastal communities. While local public agencies, nonprofits, and community groups are developing and implementing salient and legitimate solutions, local families do not fully grasp what is happening in their own community, available solutions, or how they can help.

This item highlights several examples—rapid-response exhibits, a climate-progressive blue whale skeleton restoration, and cross-sectoral community events—which demonstrate how Seymour Center has evolved into a dynamic platform for community-connected science, student development, and applied climate education.

At a time when scientific truth is contested, young people are overwhelmed by eco-anxiety, public trust is fraying, Seymour Center offers an inclusive, participatory community hub where academic research becomes accessible, trusted, and actionable. In doing so, the public discovers something rare and vital: hope grounded in action.

BACKGROUND

History

As the public education and outreach arm of the Science Division at UC Santa Cruz, the Seymour Marine Discovery Center has served as a bridge between university research and public understanding of the ocean for 25 years.

Established in 2000, Seymour Center is a public science center and aquarium located on UCSC's 100-acre Coastal Science Campus alongside the Long Marine Lab, Younger Lagoon Natural Reserve, and State and federal research partners. Seymour Center is open daily to the public and is the only science center in California that offers access to a working research laboratory. Through bilingual exhibit-based experiential learning programs, school field trips, youth summer camps, volunteer opportunities, and student employment and internships, Seymour encourages curiosity, sparks creativity, and contributes to creating future generations of scientists.

Seymour Center supports extensive collaboration among students, faculty, and the community—providing UCSC undergraduates with internships, design opportunities, and storytelling experience, while engaging faculty across marine sciences, engineering, climate resilience, and digital media. Visitors encounter science through interactive exhibits, field-based learning, and civic-oriented experiences that build science literacy, community trust, and a sense of agency.

By the Numbers

Since its opening in 2000, Seymour Center has welcomed 1.4 million people through its front doors, including 190,000 K–12 students coming through the formal youth education programs. 2,500 unique community members have volunteered their time to the mission. 350 unique undergraduate students have taken on high-impact roles and have found degree-defining experiences at Seymour Center as paid employees in the aquarium, youth education, private event, volunteer, and visitor experience programs.

Stories of Impact

Seymour Center has proven its impact on young people and their pursuit of higher education and careers in the sciences. Roxanne Beltran, UC Santa Cruz Professor of Ecology and Evolutionary Biology, said that Seymour Center "helped her find her passion for science" during her time as a student employee. Alissa Ganley, a professor at Virginia Institute of Marine Sciences. Having participated in Seymour Center's summer camp more than a decade ago, she said, "Seymour Center is the reason I'm a professor now."

A New Vision

In 2022, the Seymour Marine Discovery Center published a Master Visitor Experience Plan to reimagine how the Center could serve as a living interface between UC Santa Cruz research and the public. Grounded in the Center's guiding framework—"Science. Solutions. Santa Cruz."—the plan set a vision for public science engagement that is participatory, locally grounded, and solutions-focused. Over the past two years, that vision has moved into execution, resulting in a series of highly visible and replicable initiatives that center community needs, elevate UCSC research, and inspire collective climate action.

Examples of the "Science. Solutions. Santa Cruz" Framework

A cornerstone of this work has been the development of the Climate Resilience story booth exhibit series—a prototype exhibit model designed to test whether climate science could be translated quickly and effectively into public storytelling and civic participation. Each story booth tackles a local climate issue (from whale entanglement to urban flooding), and connects it to a UCSC research insight, a timely Santa Cruz–based story, a spotlighted scientist or community leader, and a call to action. These low-cost, rapid-response booths were researched, designed, built, and evaluated by UCSC undergraduates, graduate students, and interns across a range of disciplines.

With proven community and institutional support, that prototype is evolving into a permanent exhibit: SeeMore HQ (opening 2026). SeeMore HQ will deepen and digitize the story booth approach, featuring real-time environmental data, bilingual storytelling, researcher profiles, and interactive tools co-developed with UCSC, including Institute of Marine Sciences, Science Communication, Games & Playable Media, Environmental Master of Fine Arts, and the Center for Coastal Climate Resilience, and local partners like the Land Trust of Santa Cruz County, the City of Santa Cruz, and the Amah Mutsun Land Trust. This immersive exhibit will allow the public to see the newest, most impactful science coming out of UCSC and the community. They will engage with climate science and solutions as both knowledge and practice.

The Center has also hosted an exhibit showcasing research conducted by Caroline Casey and Colleen Reichmuth, pinniped researchers at the Long Marine Lab. They study how seals hear and the effects of ocean noise on seal feeding behaviors. Their research informs efforts like the California Marine Sanctuary's *Blue Whales, Blue Skies* campaign to reduce whale strikes by large shipping vessels entering major ports like San Francisco and Santa Barbara. The Seymour Center exhibit *On the Move* taught people how scientists tag and track wildlife, and connected that work to the *Blue Whales, Blue Skies* campaign. Center visitors were invited to write postcards to corporate stakeholders, which generated thousands of letters in support of the campaign.

Alongside its exhibit innovations, the Center has reimagined its public programming. Annual community festivals—such as Blue Innovation (a climate tech and ocean science event co-hosted with nonprofit Santa Cruz Works) and the upcoming NEXTies: Earth & Sea (a new community celebration of environmental leadership in collaboration with nonprofit Event Santa Cruz)—serve to elevate UCSC science in public culture. These events bring together students, faculty, entrepreneurs, educators, activists, and families, creating space for interdisciplinary celebration, dialogue, and inspiration.

In parallel, the climate-progressive restoration of Ms. Blue, the Center's beloved 87-foot blue whale skeleton, has become both a symbolic and practical demonstration of climate-progressive materials and technology. Seymour Center is collaborating with Dr. Marco Rolandi, UCSC Engineering professor, and his team of undergraduate and graduate students to invent a bone-repair putty made of shrimp shells. Seymour Center is also partnering with local start-up, SwellCycle, to 3D print high-fidelity replicas of deteriorated bones made of recycled hospital

trays. The restoration of Ms. Blue models a science-informed and locally-centered path toward climate-positive public future.

Together, these initiatives reflect Seymour's transformation into a platform where UC research, student creativity, and public imagination converge—offering a scalable, values-aligned model for academic-public engagement across the UC system.

CONCLUSION

At a moment when public institutions are being asked to do more, connect more deeply, and demonstrate more clearly the value of their research, Seymour Center is building a replicable model and UC-wide strategy for making science not just excellent, but also present, participatory, and public.

The Climate Resilience story booth exhibit series, SeeMore HQ, and exhibits tied to the *Blue Whales, Blue Skies* campaign are flexible, student-driven format for translating complex science into public understanding. They demonstrate how UC research can accelerate public understanding of impacts of climate change and participation in their solutions in a rapidly responsive, locally-relevant, and actionable way.

Meanwhile, community festivals like Blue Innovation and the forthcoming NEXTies: Earth & Sea extend the UCSC's reach beyond its campus—celebrating scientists alongside educators, artists, activists, and entrepreneurs. These events uplift the broader ecosystem of environmental work, placing UC science at the heart of public life in UC communities.

Projects like the restoration of Ms. Blue show how sustainability can be built into the very infrastructure of public education. By using climate-progressive materials, showcasing student-faculty innovation, and partnering with local businesses, the exhibit itself becomes a model of climate-conscious practice. Young people will walk away inspired by the idea that they can become solution-makers of tomorrow.

KEY TO ACRONYMS

3D	Three Dimensional
HQ	Headquarters
UC	University of California
UCSC	University of California Santa Cruz