

NEWSLETTER

SPRING/SUMMER 2020, ISSUE 6



Close up of a watercolor piece from 2019 MSI Summer Art Intern at Hatfield Marine Science Center, Shoshana McClarence.
View the whole collection here: beav.es/4DW

FROM THE EXECUTIVE DIRECTOR'S DESK

Greetings as we head into another wonderful Oregon summer, albeit one in which we'll work together to overcome the challenges of COVID-19. Our efforts to promote marine studies continue, as the Marine Studies building in Newport nears completion and our new undergraduate marine studies degree goes through final approval. The Marine Studies Initiative (MSI) team is supporting students and offering marine digital resources to stay connected to our ocean and coasts. See the article about our student club, Ocean11, and stories throughout this newsletter of how we are adapting to this new challenge. Please join us as we celebrate World Oceans Day on June 8th with a virtual science pub (details below). Even in these difficult times, let's remember the importance of the ocean to the health of our planet and to all of us who inhabit it.

I'm pleased to share about a recent review article in *Conservation Letters* (beav.es/4bS) led by several of our MSI and OSU faculty. Steve Dundas, Angee Doerr, Ana Spalding, Will White, and co-authors argue the importance of including the ocean in any comprehensive policy to address climate change, for example, any green new deal. The ocean is too important to ignore so any policy path must integrate both terrestrial and ocean solutions. The authors propose "any green new deal needs a splash of blue," something they call a "Teal Deal."

Here's to working together on collaborative marine studies, especially those that renew and bolster our coastal communities and economies.

- Jack Barth, Marine Studies Initiative Executive Director



Jack Barth,
*Marine Studies Initiative
Executive Director*



Left: Taylor Chapple diving with a whale shark. Middle: Taylor Chapple driving a research boat. Right: Bull kelp underwater.

Sarah Henkel and daughter being recorded for a virtual field trip to key habitats.

FACULTY SPOTLIGHT

Taylor Chapple is a new Assistant Professor for the Department of Fisheries and Wildlife and the Coastal Oregon Marine Experiment Station. Taylor earned his PhD from the University of California, Davis, as a population modeler with a focus on data-poor marine species, notably sharks.

Over the past 15 years, Taylor has been studying sharks and other large marine predators around the world - focused on their movements, behaviors and population dynamics. From South Africa to Australia to California, using state of the art technology, Taylor electronically tags animals to gain insights into their lives. At OSU, Taylor is most excited to study the sharks off our coasts and work with local communities towards a better understanding of sharks in

Oregon. Relatively little is known about how white, salmon, and thresher sharks affect our coastal ecosystems, but Taylor plans to change that.

When he isn't working, Taylor enjoys exploring the outdoors with his wife (Dr. Jamie Cornelius in Integrative Biology) and two kids, Cash and Huck. Taylor is an avid surfer as well, sharing space with the animals he studies.

RESEARCH & INNOVATION

Kelp forests are beautiful and critical ocean habitats, home to an amazing diversity of sea life and key to coastal fisheries and ecotourism. The balance of marine plants and animals maintains kelp forest health, but recently that balance has been upset by a number of ocean changes, including warmer waters, seastar wasting disease, and a drastic increase in the population of purple sea urchins that feed on and decimate kelp forests in some areas.

In Port Orford, Oregon's sea urchin capital since the initiation of Oregon's commercial urchin fishery in the early 1990's, urchin divers began to bring attention to the emerging urchin population boom and bull kelp disappearance in 2014. The divers have worked with Oregon Department of Fish and Wildlife shellfish biologists to monitor and survey urchin populations. A 2019 survey revealed a preliminary estimate of ~350 million purple sea urchins, a more than 10,000-fold increase on Orford Reef since 2014. The emergence of a local ecotour business (beav.es/4bq) and the establishment of the OSU Port Orford Field

Station (beav.es/4bc) have led to an increase in investigation of kelp forest ecology and interest in the health of this essential habitat. These developments led to the establishment of the Oregon Kelp Alliance (ORKA) (beav.es/4bp). Station Manager Tom Calvanese is leading an effort, with support from Oregon Sea Grant, to organize a targeted bull kelp restoration plan that aims to apply an ecosystem-based approach to this complex problem along the southern Oregon coast. Stay tuned for news about this ongoing effort, and visit the ORKA website for information and updates!

ACADEMIC PROGRAM NEWS

Each of our journeys in study, work, and societal life has changed abruptly since the winter newsletter. Institutions nationwide, including OSU, moved to remote delivery of instruction to reduce the spread of COVID-19. Faculty facilitated the remote delivery of their usual course instruction using tools such as Canvas and Zoom. Faculty and students pivoted in less than two weeks' time. It has been immensely challenging yet the actions taken across campus to create meaningful experiences have been amazing. Examples of Corvallis-based marine courses moved to remote platforms: "Introduction to Marine Biology" (BI 150) by Felipe Barreto, "Oceans, Coasts, and People (OC 333)" by Michael Harte, and "Food from the Sea (FW 324)" by Scott Heppell.

With virtual field trips and datasets for analysis, the spring 15-credit "Marine Biology and Ecology (BI 450)," normally of-

fered as a residency course at the Hatfield Marine Science Center, moved to remote delivery. Integrative Biology faculty stepped into action to re-design the intensive field course into a virtual offering for nearly a dozen students.

Rapid-response planning across departments revised the summer course schedule, combining Ecampus and the possibility for on-site courses later in the summer. See: (beav.es/Zza).

On other fronts, we look forward to the journey ahead for a new generation of liberal arts students and ocean stewards. The new Marine Studies undergraduate degree in College of Liberal Arts is moving along the proposal process at university and state-wide levels. The curriculum features nine new courses with liberal arts perspectives on issues of the coasts and ocean.

STUDENT AWARDS

MSI is excited to announce the 2020 recipients of our student awards program, which recognizes and rewards OSU undergraduates who demonstrate outstanding scholarship and pursuits consistent with the transdisciplinary, collaborative, experiential learning and outreach vision and mission of MSI.

The awardees are:

- Kristen Alvstad, a sophomore in Marine Biology, whose award will go towards travel costs for her Shark Conservancy Internship this fall in South Africa.
• Grace Doleshel, a junior in Environmental Public Policy, whose award will go towards travel costs to Florida for a Youth Ocean Conservation Summit this December.
• Maia Insinga, a junior in Psychology, whose award will go towards travel and textbooks related to completion of her honors thesis.
• Tom McCambridge, a junior in Marine Biology, whose award will go towards housing costs at the Hatfield Marine Science Center when he takes BI 450 there in the spring of 2021
• Kendal Oetken, a sophomore in Marine Biology, whose award will go towards textbooks, course fees, and online access codes.
• Alexander Shoulders, a sophomore in Fisheries & Wildlife, whose award will go towards an application fee and travel costs to Mexico for a summer study abroad program.
• Bethany Whitten, a sophomore in Ocean Science, whose award will go towards class fees for a scientific diving course she will take in the 2020-2021 academic year.

Thanks to our generous donors for supporting this program.

GLADYS VALLEY MARINE STUDIES BUILDING



Top left: Lab space, Bottom left: View of ramp and building, Right: Auditorium

The **Gladys Valley Marine Studies Building** houses innovative classrooms and labs designed to foster collaboration between disciplines and nurture the next generation of problem solvers. Historically, academia has been committed to producing specialists. Today, we recognize the need for training in transdisciplinary approaches to address the issues of our day. With this in mind, spaces are built for students and faculty from different disciplines to innovate, collaborate, and create and answer the call for the next generation's needs. Here are a few key highlights about the upcoming building:

Innovation Lab

A new 2563 sq foot Innovation Lab is one of the gems of the

Marine Studies Building. This large workshop is filled with equipment for electromechanical design, CNC and manual machining, welding and fabrication; 3D design, modeling, printing and laser cutting; audio and video systems to support innovation in the marine sciences.

Expanding Footprint

The new building expands Hatfield's footprint, offering new spaces for meetings, workshops, conferences and classes at the coast including three classrooms, two new meeting rooms and a 250-seat auditorium.

Vertical Evacuation

The building is also engineered to be a vertical evacuation structure with supplies on the rooftop to

support over 920 people for up to two days post a Cascadia-level event. The addition of this building thus improves the safety of those that work and play at the Hatfield Marine Science Center and in the surrounding South Beach community.

Artist Studio

A new artist studio, overlooking the Innovation Lab, will provide artists and scientists a collaborative workspace to explore the passion of the marine world in new ways.

Thanks again to all our generous donors, OSU, and the state for their support! Stay tuned for the Marine Studies Building Grand Opening. Visit (beav.es/4wi) for updates and more information!



Hummingbirds nesting in the trees on Hatfield's campus, photo taken by Mark Farley.

HATFIELD NEWS

Marine Studies Building

Construction of the Marine Studies Building is nearing completion. Faculty selected to relocate will begin moving into the new building by late summer 2020.

Due to COVID-19 related delays, the Marine Studies Building Grand Opening has been postponed to a later date. Visit: hmsc.oregonstate.edu/marine-studies-building for Marine Studies Building Grand Opening updates.

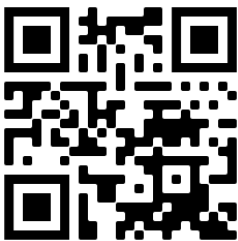
Research Seminars

HMSC Research Seminar Series will be happening throughout the summer. HMSC Research Seminars take place every Thursday from 3:30-4:30 PM. Visit the OSU Events Newport Calendar at

events.oregonstate.edu/Newport for seminar schedule.

Visitor Center

The Hatfield Marine Science Center Visitor Center remains closed due to COVID-19. Despite the closure, you can still get up close and personal with the facility's Giant Pacific Octopus. Virtual viewings are available as Aquarists feed the octopus at 1 PM, every Monday, Thursday, and Saturday. Visit the OCTO CAM by scanning the QR code below:



HMSC OCTO CAM

EVENTS

The United Nations celebrates World Oceans Day every year on 8 June. This year's theme is "Innovation for a Sustainable Ocean." We invite you to join us on **Monday, June 8, at 6:00 PM for a special OSU Science Pub World Oceans Day Virtual Event.** This evening event will feature screenings of OSU-Produced films Heceta Bank: Oregon's Hidden Wonder and Sense of Place, guest Q&A panel, trivia, art, music, and readings of children's marine storybooks.

Register here: beav.es/4ap

FALL COURSE UPDATES

OSU is developing plans to resume in-person teaching in late summer and for fall term, and enable a gradual restart of on-site university activities statewide.

To stay updated visit: covid.oregonstate.edu

Put the ocean in your major this fall by taking courses focused on the coasts and ocean. More information about Fall 2020 marine courses will be available early this summer on the Marine Studies Initiative website. Courses happen at Hatfield Marine Science Center, Corvallis, and Ecampus. Or, contact us at: beav.es/4Ej.

POETRY



Aerial photograph by Duncan Berry.

Excerpt from **"misbehaving"**
By Duncan Berry, local artist and co-founder of Fishpeople, a seafood company.

"...I spoke with another yoda of the sea who is a visionary oceanographer at Oregon State University he tells me that human contributions to CO2 emissions in the northern hemisphere

are absorbed into the sea north east of Japan's coastline traveling here underwater on a slow moving freight train of a current that takes over 30 years to arrive arrive in the form of hypoxic zones and increasing ocean acidification and this at levels that are so 1990 bigger and heavier carbon trains

already on the tracks in the seas coming at us"

Inspired, in part, by a conversation between Duncan and Jack Barth, and read by Duncan at the FisherPoets Gathering in early 2020 (beav.es/4RZ).

See more of Duncan Berry's art at bylandbyseabyair.com.



Ocean11 member Kelleigh Petersdorf has spent a lot of time in her backyard lately and this scrub jay has been a reoccurring character.

OCEAN11 UPDATE

Ocean11 loves the ocean and outdoors! Even in Spring quarantine they encouraged members to go outside via their "Quarantine Challenge". Every week students submitted photos, drawings or videos based on a theme: birds, pets, flora, the sky and more. Check out some of the great entries on Ocean11's social media pages. Looking ahead, our student leadership team held a Leadership Info Meeting for students showing commitment to Ocean11 this past school year. We've got a great

group of potential Ocean11 leaders for 2020-21!

Interested in learning more? Visit our website at: ocean11osu.wixsite.com/ocean11osu/





View of huge rocks jutting out of the ocean near Port Orford.

PORT ORFORD FIELD STATION UPDATES

Port Orford Field Station responds to COVID-19, looks to adapt to coastal community changes

On March 11th, we gathered at the Port Orford Station to say *bon voyage* to Jeff Miles, Port Orford commercial fisherman, Captain of the *F/V Top Gun*, research collaborator, and member of the station's advisory board. We gathered over pizza to share tales of fishing in Port Orford, local conservation efforts that led to the Redfish Rocks Marine Reserve (beav.es/4E8), the Port Orford Station, and collaborative research. This was our last gathering at the station for a while due to precautions resulting from COVID-19. We look forward to (safely) holding educational and other gatherings in the future - for now the station remains closed

for public gatherings. Visit our website (beav.es/4bc) or Facebook page (beav.es/4EX) for updates.

During this time, Station Manager Tom Calvanese has been active - as a member of the Oregon Marine Scientist and Educator Alliance (ORSEA) (beav.es/4EB), partnering with local middle school teachers to develop an ocean acidification curriculum. Tom acts as liaison to the Port of Port Orford (beav.es/4E2) during development of a new Port Orford Seafood Hub, focusing on enhancing direct access to markets for fishermen, and enhanced food security. He is Coordinator of the Oregon Kelp Alliance (ORKA) (beav.es/4E6), a group focused on a pilot kelp restoration project in Port Orford.

Tom is now working with students and researchers planning work in Port Orford later this summer to navigate these changes. These include the GEMM

Lab (beav.es/4EL), studying gray whale feeding behavior (now in its 6th year!), an Oregon Applied Sustainability Experience (beav.es/4Eb) intern who will be working with our neighbor, Port Orford Sustainable Seafood (beav.es/4UH) on reducing fish processing waste through alternate uses, and an MSI intern working in marine reserve interpretation in partnership with the Redfish Rocks Community Team (beav.es/4EE). Tom is developing protocols for station operations to safely support resumption of activities in a period of uncertainty. He is thinking a lot about how the pandemic is changing how we do science in partnership with communities as we forge this new path together.

Tom is working remotely and can be reached via email at tom.calvanese@oregonstate.edu

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