OREGON KELP ALLIANCE
2025 - 2026 Update
Ocean Policy Advisory Council
April 21, 2026
Tom Calvanese, Executive Director

Photo: Brandon Cole

THE OREGON KELP ALLIANCE: WORKING FOR HEALTHY KELP FORESTS

About Us: The Oregon Kelp Alliance (ORKA) unites diverse stakeholders passionate about kelp forest ecosystems, including commercial urchin divers, marine scientists, resource managers, conservationists, tribal communities, tour operators, recreational divers, students, culinary professionals, and coastal residents.

Together, we confront an urgent ecological crisis: the disappearance of two-thirds of Oregon's vital kelp forests since 2010.

THE OREGON KELP ALLIANCE: WORKING FOR HEALTHY KELP FORESTS

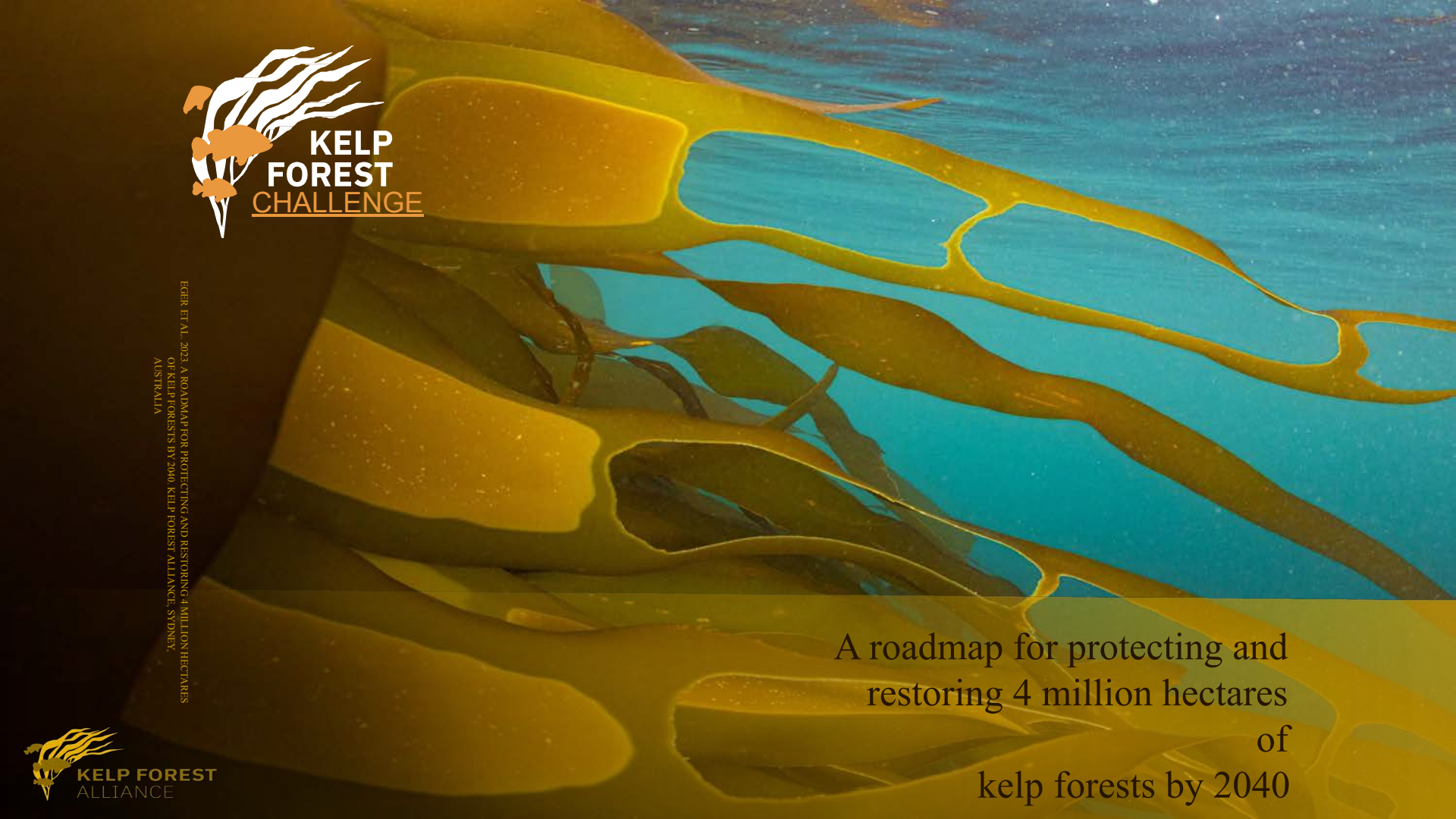
Our Vision: We envision thriving, resilient kelp forest ecosystems along the Oregon coast that support biodiversity, sustainable livelihoods, cultural practices, and coastal resilience for generations to come.

THE OREGON KELP ALLIANCE: WORKING FOR HEALTHY KELP FORESTS

Our Mission: ORKA is committed to reversing kelp forest decline through community-led conservation, scientific research, policy advocacy, and education. We work to preserve, restore, and sustainably manage Oregon's kelp forests through collaborative initiatives that honor indigenous knowledge, advance scientific understanding, and empower coastal communities as effective stewards of these critical marine habitats.

- Kelp Forest Challenge
- EO 25-26
- 2024 Status Report
- Oregon Kelp Forest Stewardship Initiative
- 2025 Summary
- 2026 Early work
- Long Term Vision
- Q & A

Photo: Dr. Sara Hamilton



A roadmap for protecting and restoring 4 million hectares of kelp forests by 2040

EGER ET AL. 2023. A ROADMAP FOR PROTECTING AND RESTORING 4 MILLION HECTARES OF KELP FORESTS BY 2040. KELP FOREST ALLIANCE, SYDNEY, AUSTRALIA

KELP FOREST
ALLIANCE

The Kelp Forest Challenge was created to illustrate what **needs** to happen to save our kelp forests as opposed to what **is** currently happening. Although it's ambitious, the goal is achievable, but it will require advances in policy, funding, technical capacity, and reconnections to the sea.

KELP FOREST ALLIANCE

Partnerships and Collaboration

Forge new and innovative partnerships among academia, government, industry, communities, and NGOs. Initiatives such as the Kelp Forest Alliance can act as hubs.

Increasing Connection

Create and grow people's connections to kelp forests through art, food, education, media, and community engagement.

Conservation Finance

Explore innovative finance mechanisms and incentives to fund kelp conservation projects.

Business Opportunities

Encourage businsses to engage in kelp conservation with innovative practices.

Promoting kelp-based products or services, sustainable aquaculture, or eco-tourism ventures.

Research and Development

Prioritize new research into kelp mapping, management tools, and autonomous technologies, to lower costs and increase scale of conservation.

Active Restoration

Develop and advance new active kelp restoration methods.

Seeding, pest-species removal, and leveraging technological advancements.

Policy Changes

Create new and more powerful policies specific to kelp forest conservation from the local to the international level.

Indigenous Land and Sea Management

The building of earnest, genuine partnerships, that recognise, empower, and collaborate with Indigenous communities to incorporate their values and conservation practices.

Stressor Management

Enable healthy kelp forests by creating healthy oceans and mitigating large scale pressures.

740 MILLION PEOPLE

US$500 BILLION / YEAR

- Kelp forests are essential for healthy oceans, coastal communities, fisheries, economies, and marine biodiversity.
- Their benefits are connected to over 740 million people.
- Their economic potential is valued at least 500 billion USD per year.

4 MILLION HECTARES

2040

The Kelp Forest Challenge aims to accelerate investment and action for kelp forest ecosystems by promoting the restoration and protection of 4 million hectares of kelp forests, globally, by 2040.

HELP THE KELP

CREATING A GLOBAL MOVEMENT

To save our kelp forests, we will need substantial investment, collaboration, and innovation across different sectors, countries, and philosophies; equitable and large-scale success for kelp forests will only be achieved by bringing together the diversity of solutions outlined here and creating a sustainable ocean for everyone.

GOVERNOR'S EO 25-26 & THE KELP FOREST CHALLENGE

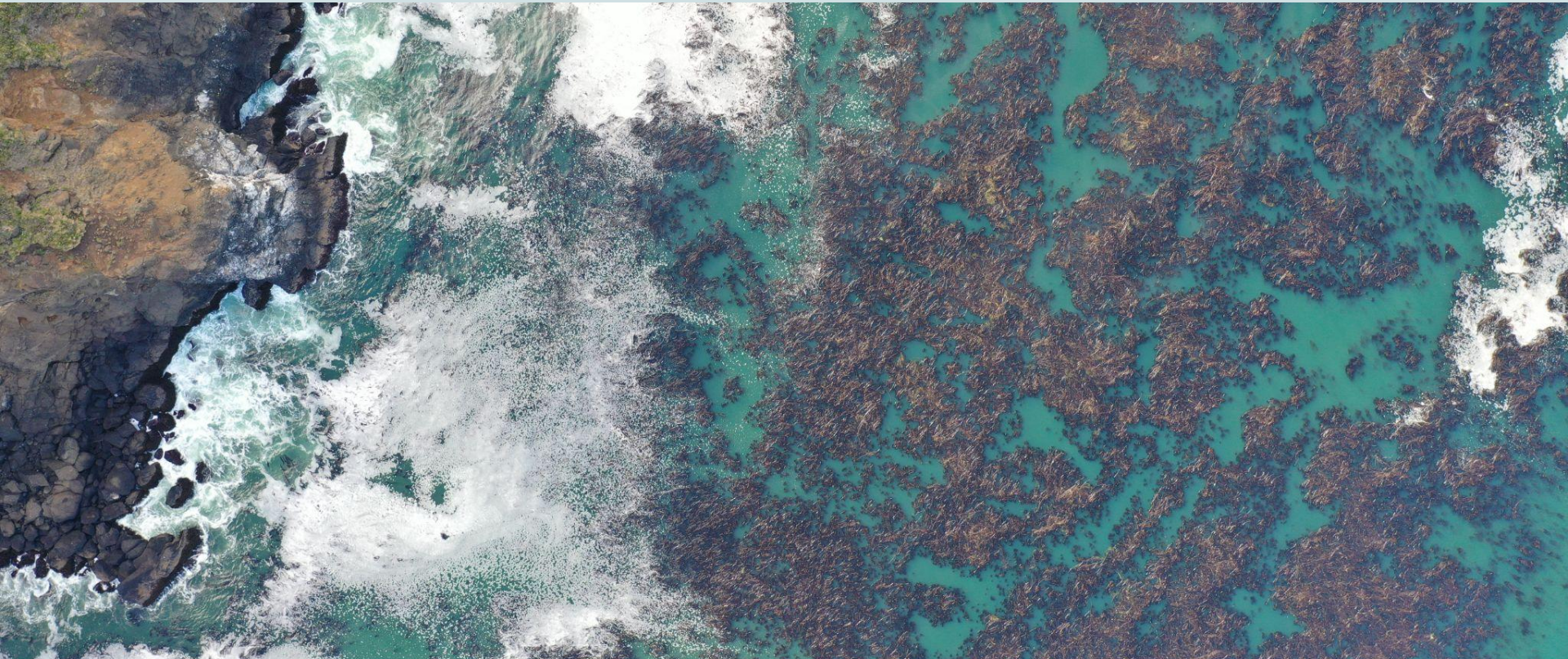
- EO 25-26 elevates coastal resilience as a statewide priority — kelp forest restoration is a science-ready response
- Oregon coast kelp forests deliver storm buffering, carbon absorption, and essential fish habitat — core resilience outcomes
- ORKA's six active DSL kelp forest restoration sites position Oregon to participate in the Global Kelp Forest Challenge
- $2.5M NOAA Stewardship Initiative + Builders Vision demonstrate how aligned policy and practice can attract resources for implementation
- OPAC can champion kelp forest restoration as flagship EO 25-26 implementation strategy

Photo: Justin Myers

STATE AGENCY PARTNERSHIPS

- Support for urchin culling through ODFW Letters of Authorization
- Support for kelp enhancement through DSL Site Registrations
- Support for kelp enhancement through OPRD Scientific Research Permit
- Support for pycnopodia recovery through ODFW Scientific Take Permits
- Collaboration with ODFW on annual aerial fixed wing surveys beginning in 2026

How did ORKA come to be?



Oregon's Kelp Forests

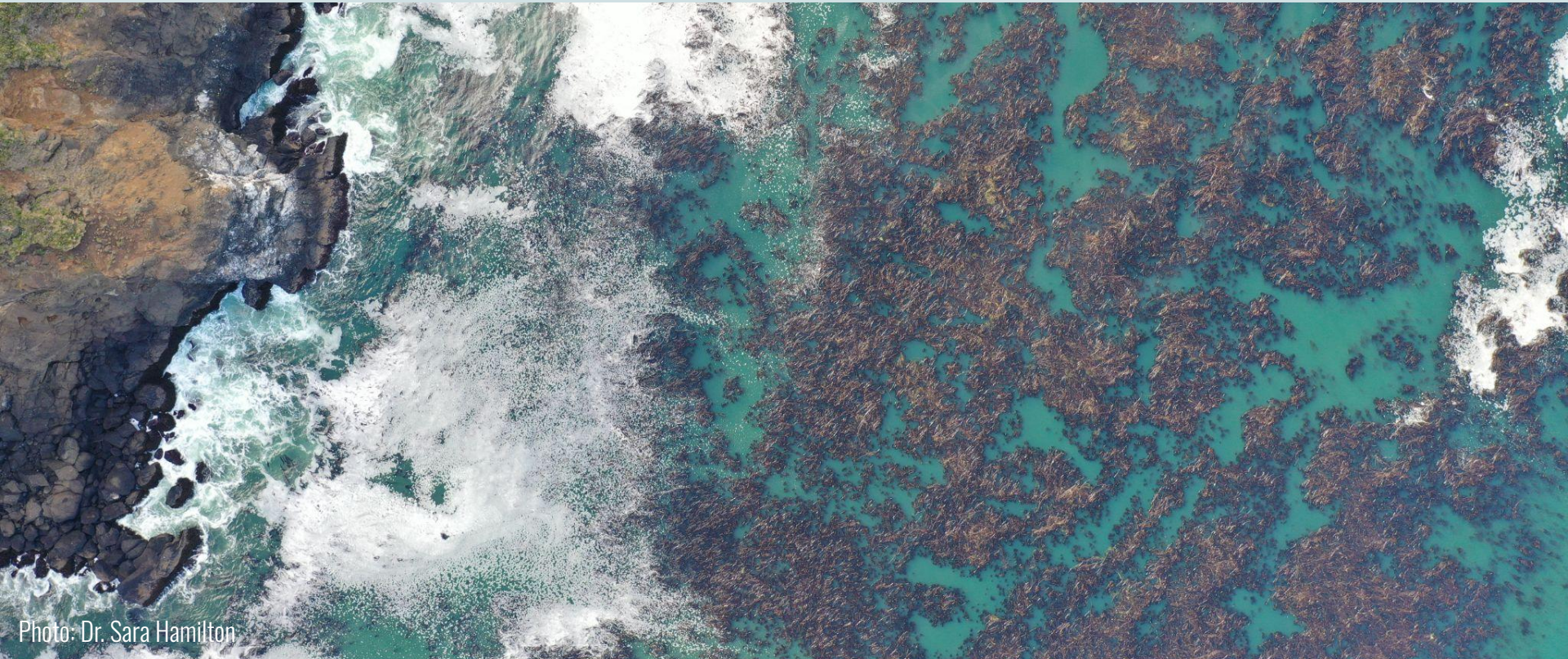
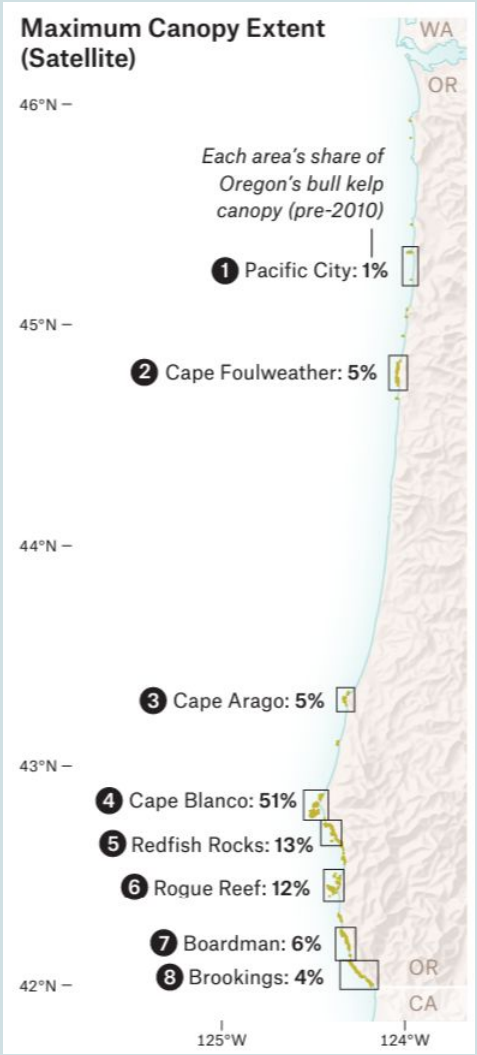


Photo: Dr. Sara Hamilton

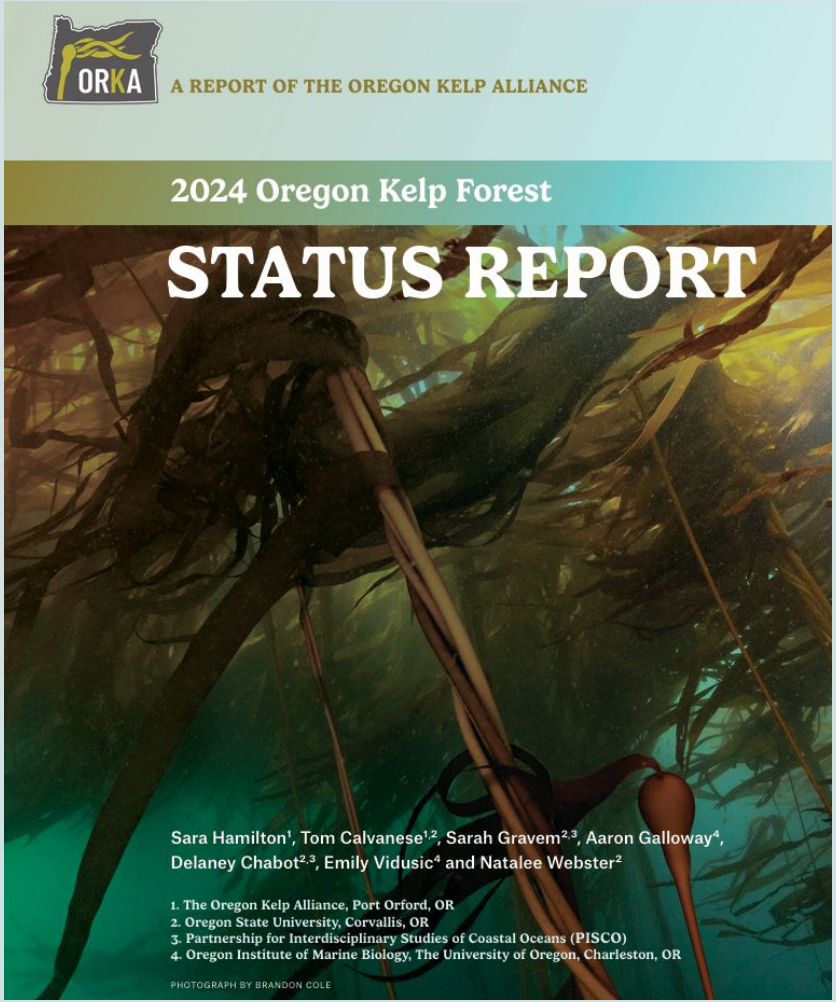
Oregon's Kelp Forests

- Can only grow on rocky substrate
- Patch forests in Pacific City, Cape Lookout, Depoe Bay, Newport
- Extensive forests lining the south coast from Cape Arago to Brookings



Documenting the problem

With support of Sen. Merkley and Sen. Wyden and RFep DeFazio, ORKA received NOAA - NCCOS funding ($945,000) to assess the status of Oregon's Kelp Forests

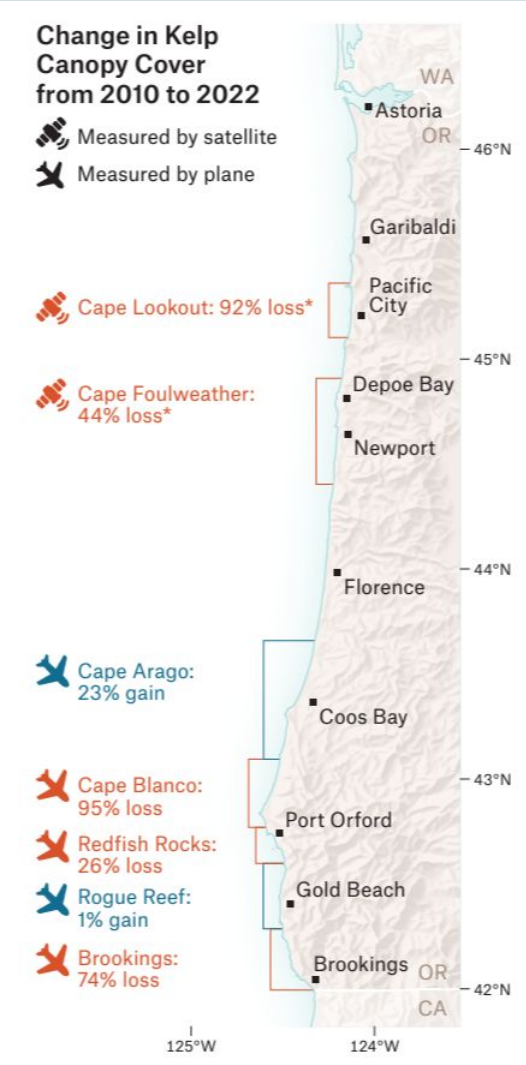


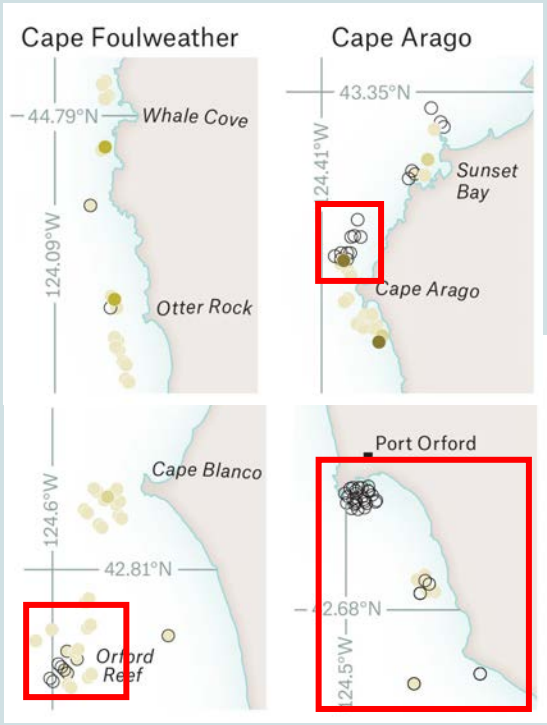
Report Takeaways

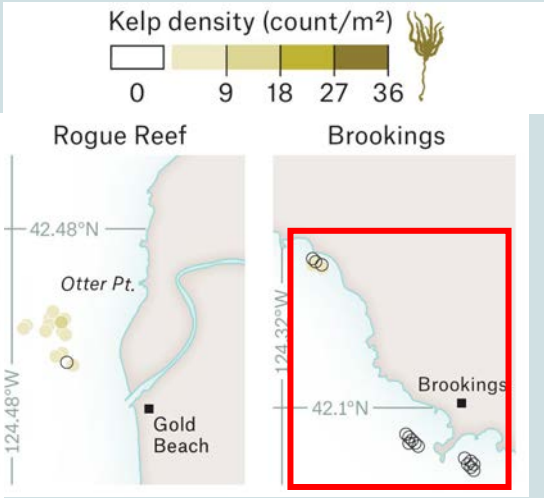
1) ~70% less bull kelp in 2022 than 2010
2) As of 2023, large swaths of historic kelp forest habitat supported little to no kelp (Port Orford to Brookings)
3) Increasing purple urchin densities a key driver
4) In addition to loss, we found exciting signs of resilience

~70% less bull kelp in 2022

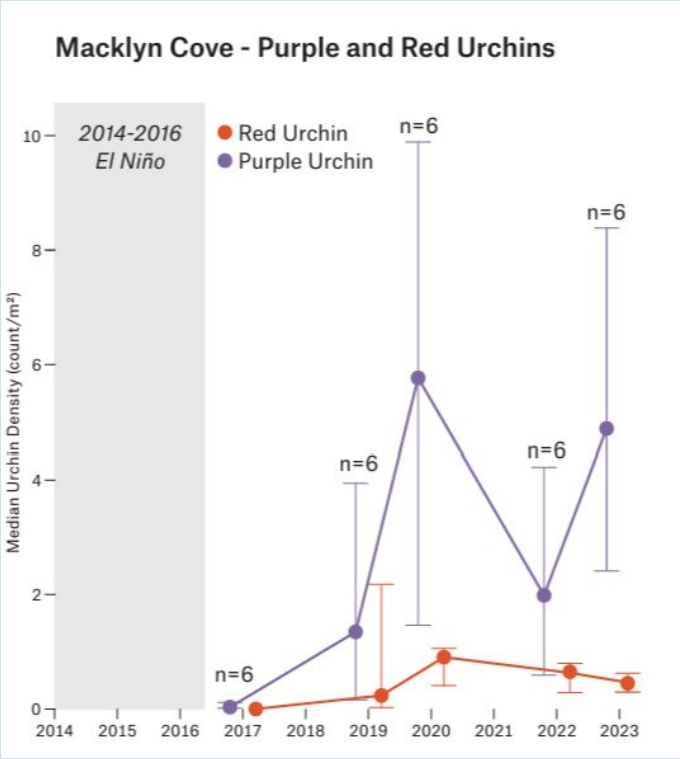
In much of Port Orford + Brookings area we found little to no kelp in dozens of surveys

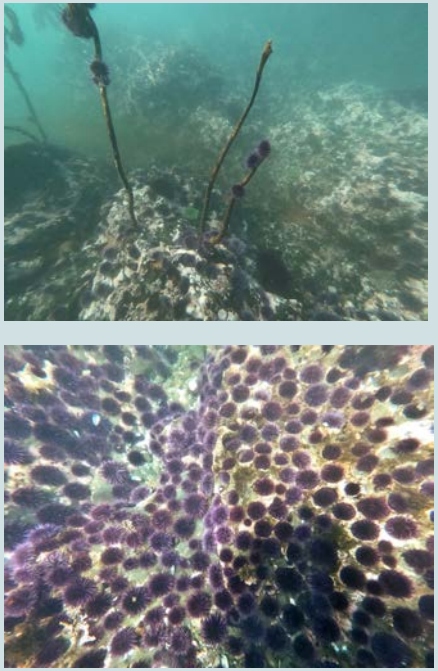


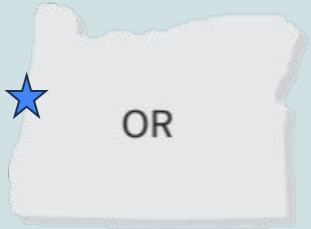




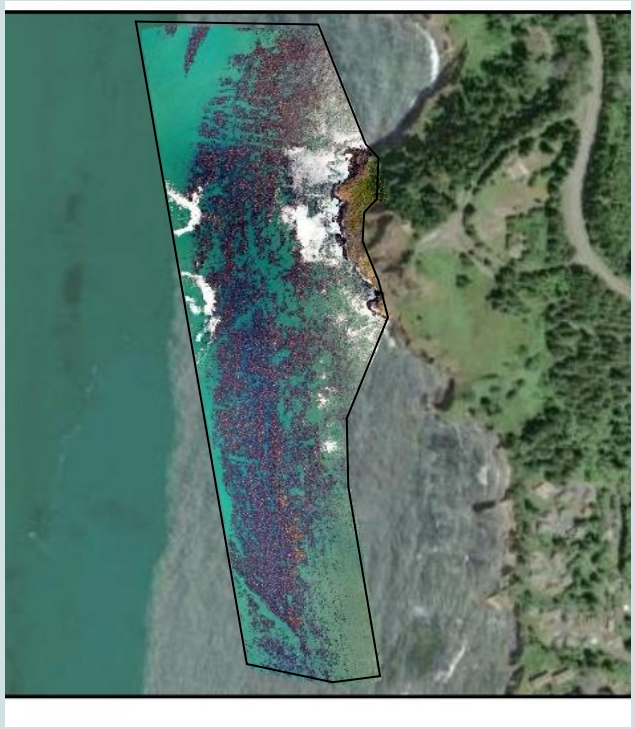
Purple urchins as a key driver

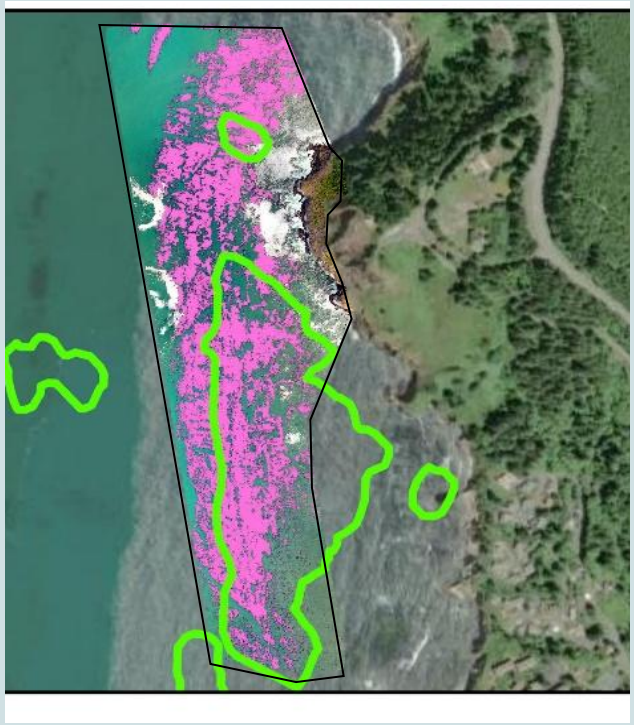






Signs of Life

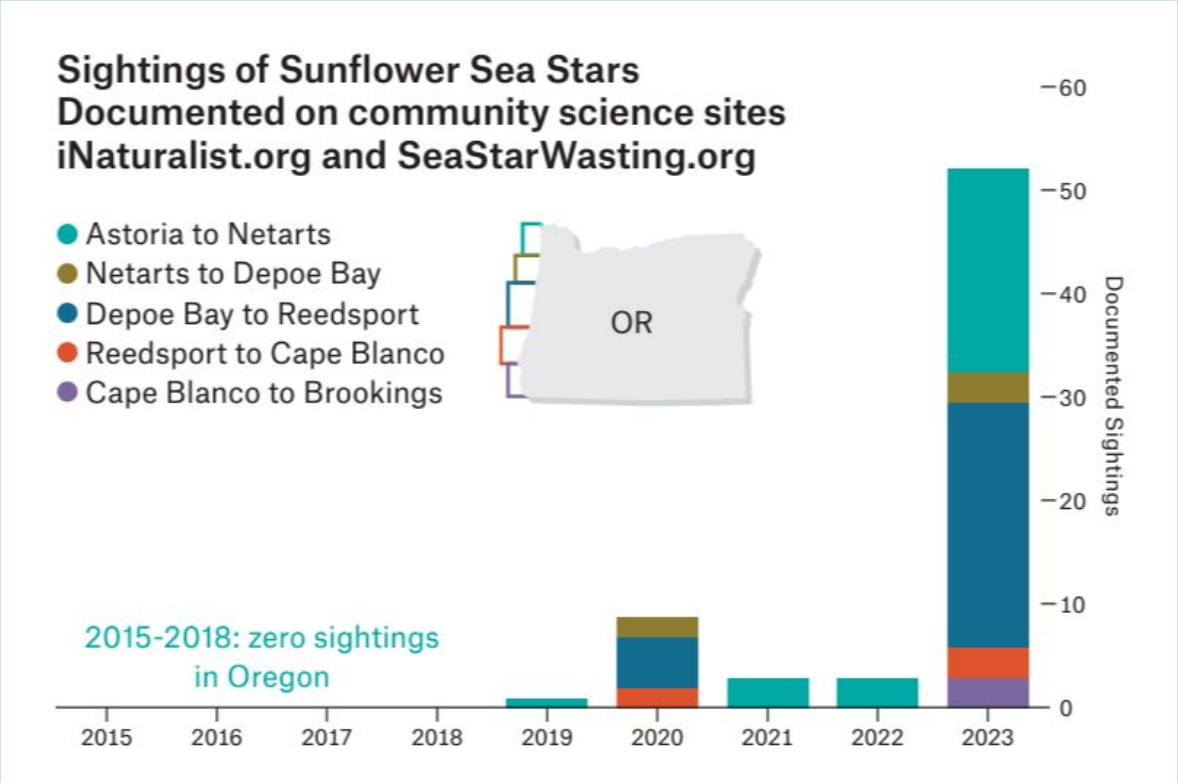




2023 was a historically good year for bull kelp around Cape Foulweather

2023 Otter Crest

Signs of Life



ORKA IN ACTION

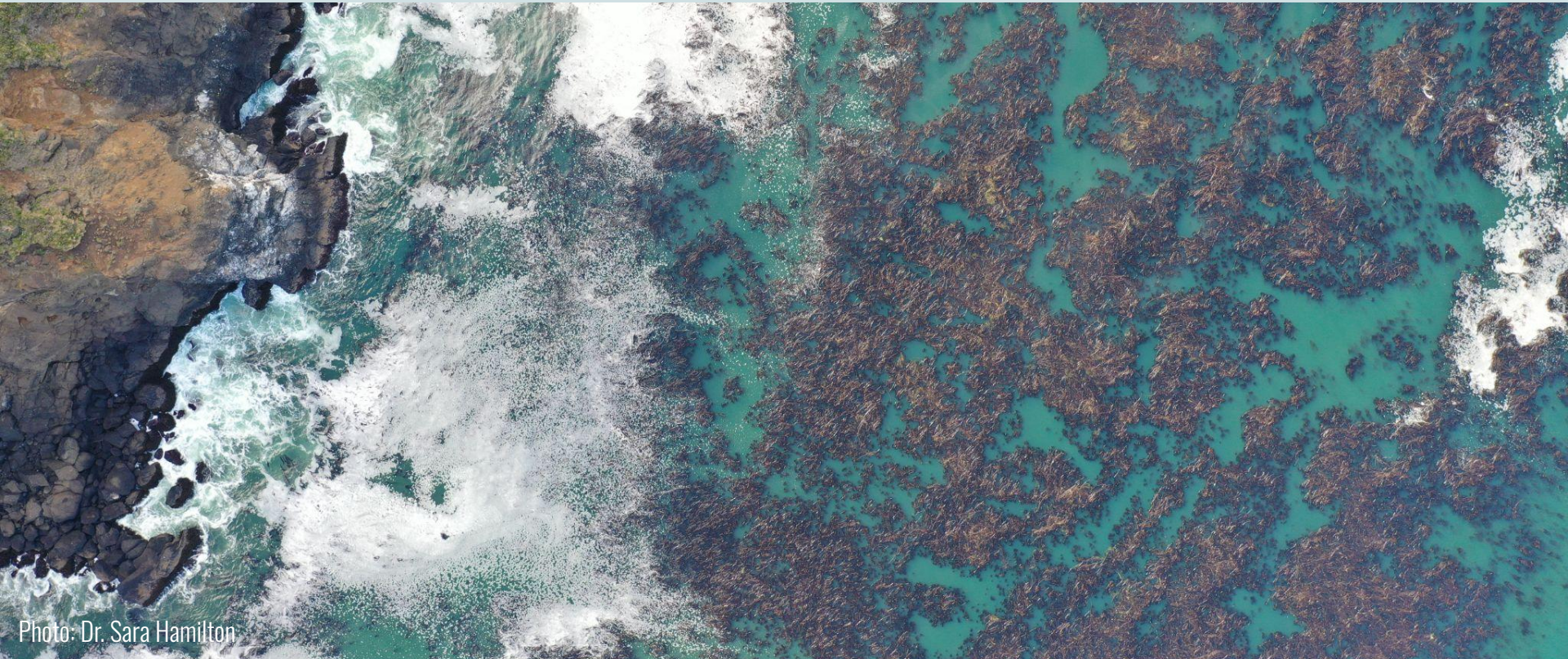
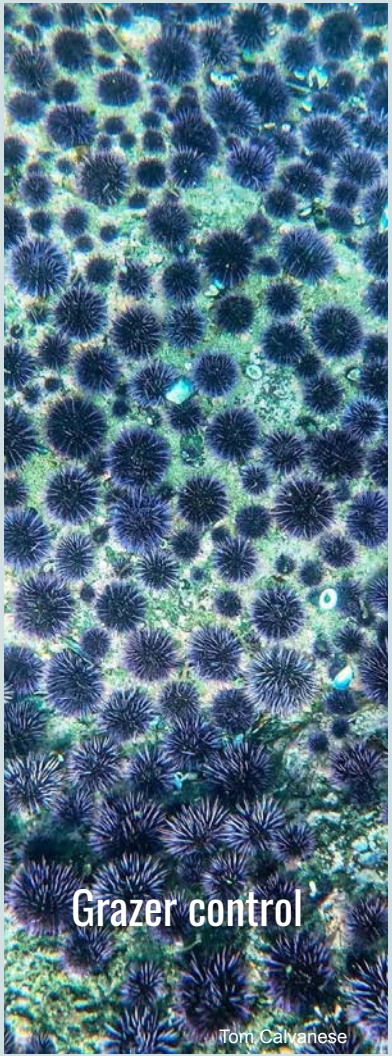


Photo: Dr. Sara Hamilton

DEGRADED KELP FORESTS NEED DIRECT REHABILITATION EFFORTS, WITH AN EMPHASIS ON TECHNIQUES SUCH AS SEEDING, PEST-SPECIES REMOVAL, AND LEVERAGING TECHNOLOGICAL ADVANCEMENTS TO INCREASE THE SCALE AND EFFICIENCY OF RESTORATION INITIATIVES.



Oregon Kelp Forest Stewardship Initiative

2025 - 2027

2 years
ecosystem protection enhancement & restoration

NOAA Fisheries Habitat Restoration Center

Oregon Kelp Forest Stewardship Initiative

- ORKA project funded by NOAA Fisheries from 2025-2027
- Restoration and preservation at six sites
- Urchin removal, kelp spore enhancement, and sunflower sea star translocations

NOAA FISHERIES

OREGON KELP ALLIANCE

F/V Good News
F/V Mach I

CAL POLY

Reef Check OREGON

OREGON COAST AQUARIUM

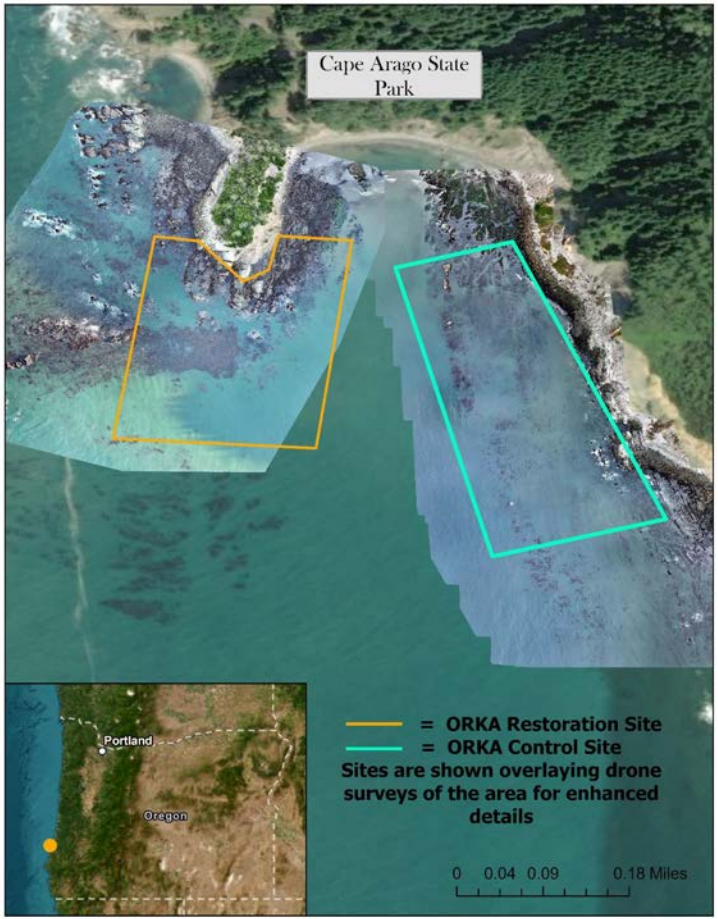
OREGON INSTITUTE OF MARINE BIOLOGY

Cape Lookout Stewardship Area

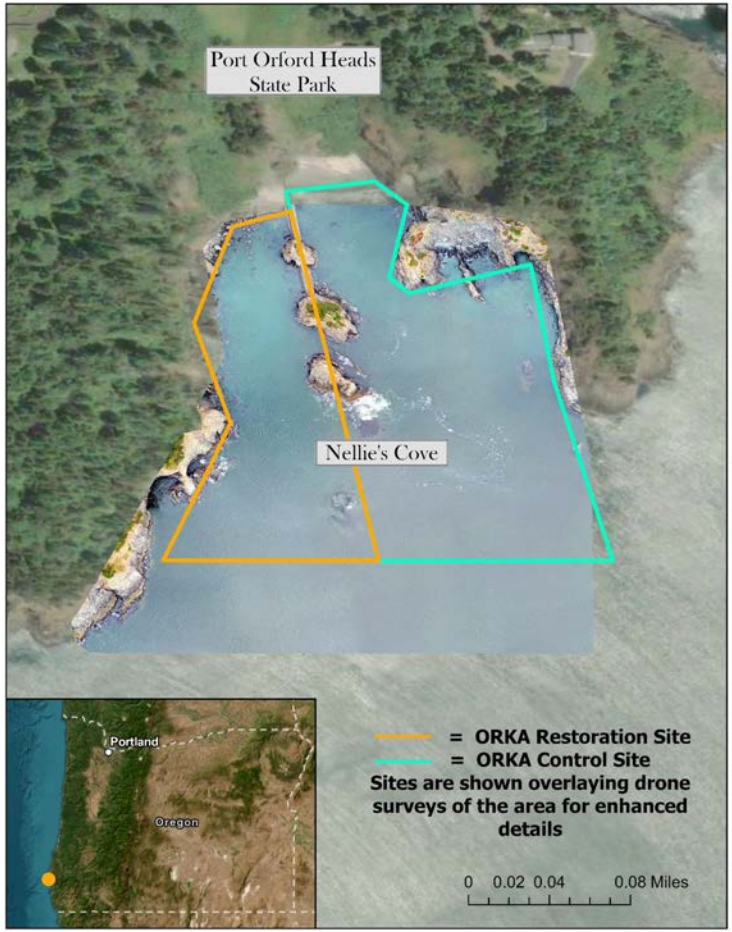
Kiwanda Rock Stewardship Area

Cape Foulweather Stewardship Area

Drake Point Stewardship Area



Nellie's Cove Stewardship Area



Macklyn Cove Stewardship Area

Oregon Kelp Forest Stewardship Initiative 2025 Highlights

Focused work at 3 sites in 2025:

1) Kiwanda Rock (culling)
2) Nellie's Cove (culling, spore enhancement, translocations)
3) Macklyn Cove (culling, spore enhancement)

OR Kelp Forest Stewardship Initiative 2025 Highlights - Urchin Removal

1) Working under Letters of Authorization from ODFW
2) Commercial and volunteer divers
3) Over 363,000 urchins culled
4) 47K from Kiwanda, 216K from Nellies, 100K from Macklyn

Urchin diver Jaxon Holms strikes a pose before culling work at Macklyn Cove off the FV Good News (Image by Tom Butterbaugh)

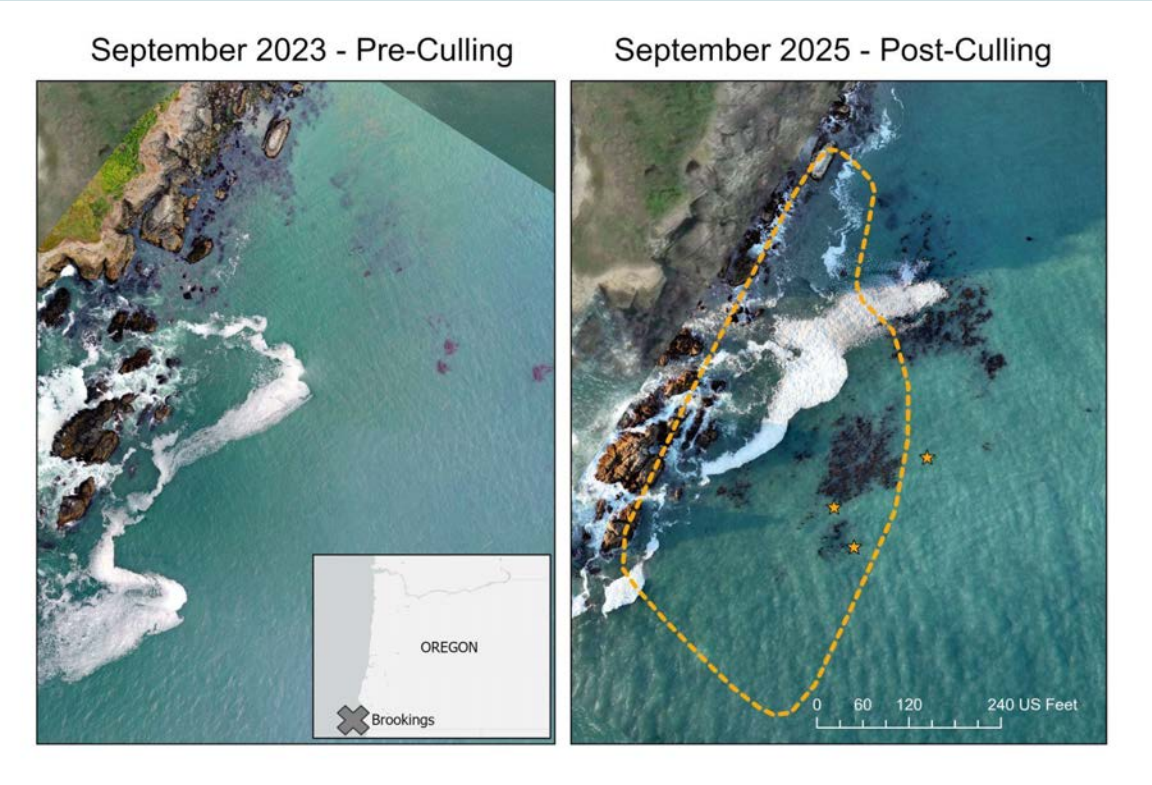
OR Kelp Forest Stewardship Initiative 2025 Highlights - Spore Enhancement

1. Tried two new methods
2. Grew kelp on Kelp Restoration Platforms (aka ARKEVs - TNC/Moss Landing) at Nellie's Cove
3. Refillable spore bags at Macklyn Cove

Both sites had new kelp recruits within 2-3 months of urchin removal!

Divers measuring growth of outplanted bull kelps on Kelp Restoration Platform at Nellies Cove (Image by Oriana Poindexter, www.orianapoindexter.com)

OR Kelp Forest Stewardship Initiative
2025 Highlights - Spore Enhancement



Right: New bull kelp forest 2 months post-culling at Macklyn Cove

Top: Nereocystis kelpling in Nellie's Cove in Sept 2025

(Image by Faith Townsend)

OR Kelp Forest Stewardship Initiative 2025 Highlights - Sunflower Sea Stars

1) 24 Pycnos collected from wild, held for month at Oregon Coast Aquarium.
2) Outplanted in cages for observation of survivorship, disease and impacts on urchins
3) Released in Nellie's Cove & observed for several days afterwards

Three sunflower sea stars in an observation enclosure alongside dozens of urchin tests (Image by Miles Rough)

Oregon Kelp Forest Stewardship Initiative
2026 Plans

- SCUBA + Drone + Aerial (fixed wing) surveys
- Urchin removals at all sites - methods vary
- Kelp enhancement at all sites - KRPs or spore bags
- Translocating more sunflower sea stars
- Working to develop sunflower star captive breeding program

Oregon Kelp Forest Stewardship Initiative
2026 Efforts To Date

- 22,000 urchins removed from Macklyn Cove
- 6 KRPs with 60 juvenile bull kelps out at Nellie's Cove
- 6 sites (3 control + 3 restoration) surveyed with 36+ individual transects across all those sites,
- Reef Check has held at least 2 citizen science classes including one for Coquille Tribal members + staff.
- Working to develop sunflower star captive breeding program


Video from Reef Check Survey at Nellie's
Cove, April 4, 2026 - by Faith Townsend


Video from Reef Check Survey at Nellie's
Cove, April 4, 2026 - by Faith Townsend


Video from survey of Nellie’s Cove, April 15, 2026 -
by Carl Hendrickson, ORKA Program Assistant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Video from survey of Nellie’s Cove, April 15, 2026 -
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Nellie's Site Map 20 April 2026

ORKA's Long Term Vision

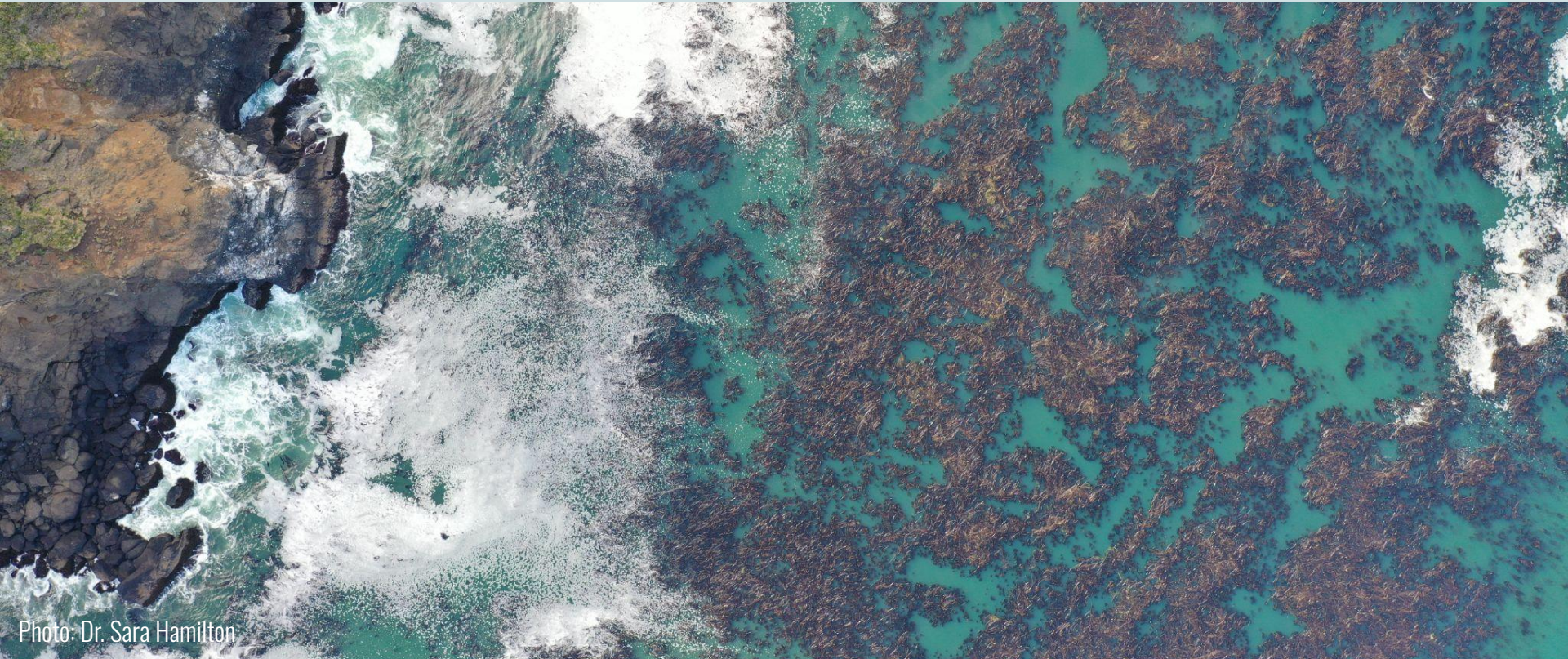

Photo: Dr. Sara Hamilton

Kelp Stewardship as a Cultural, Social, and Economic Endeavor

1) **Tribal Sovereignty**
2) Education and getting people involved
3) Jobs - Mariculture

Coquille Indian Tribe

Gathering Sea Urchins from South Cove

Preparing urchins

Uni Butter

Fry Bread

Chief Justin Futch tastes frybread with uni butter

Kelp Forest Stewardship as a Social and Economic Topic

Kelp Stewardship as a Cultural, Social, and Economic Topic

1) Tribal Sovereignty
2) **Education and getting people involved**
3) Jobs - Mariculture

Top: ORKA at West Albany High School Career Day.
Bottom: Reef Check community science SCUBA divers.

Kelp Stewardship as a Cultural, Social, and Economic Topic

1) Tribal Sovereignty
2) Education and getting people involved
3) **Jobs - Mariculture**

Top: Purple urchin ranching at the Port of Bandon.
Bottom right: Port Orford kelp mariculture crew preparing gear for deployment.
Bottom left: Juvenile kelpling benign spliced into mariculture mooring line.

CONSERVATION FINANCE

THIS INVOLVES THE EXPLORATION OF INNOVATIVE FINANCIAL MECHANISMS AND INCENTIVES TO FUND KELP CONSERVATION PROJECTS IN ORDER TO ENSURE SUSTAINABLE, LONG-TERM FINANCING SOLUTIONS.

Photo: Brandon Cole

TAKE HOMES

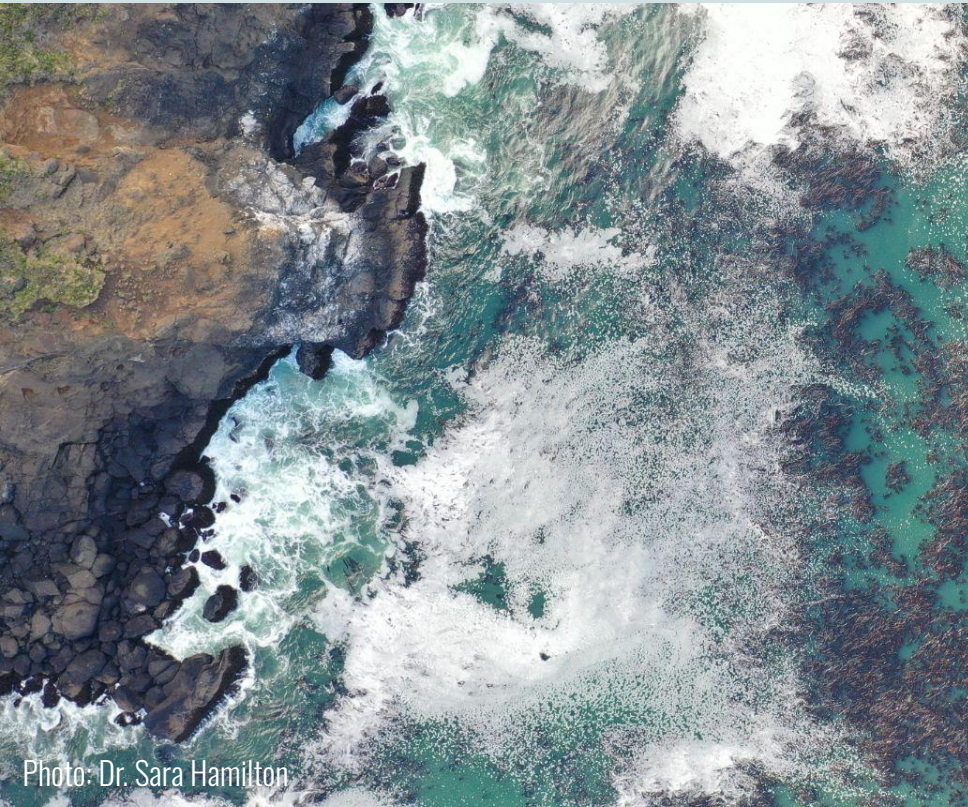

Photo: Dr. Sara Hamilton

1) Oregon has lost much of it's kelp forest habitat

2) That's a problem for coastal ecosystems and communities

3) Now is the time to work restoring what we've lost and protecting what we still have

4) We have to consider the ecological, social, and economic aspects of long-term stewardship

KELP FOREST
ALLIANCE

Oregon Zoo

NOAA
FISHERIES

CAL POLY

OREGON COAST
AQUARIUM

The Nature
Conservancy

THE OCEAN
FOUNDATION

OREGON
Department of
Land Conservation
& Development

BUILDERS VISION

OREGON
COASTAL MARICULTURE
COLLABORATIVE

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NCCOS
NATIONAL CENTERS FOR COASTAL OCEAN SCIENCE

THANK YOU!

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Photo: Dr. Sara Hamilton