

CARE Committee

From: Amy Hodges <amy@mauireefs.org>
Sent: Tuesday, February 02, 2021 4:55 PM
To: CARE Committee
Subject: Fwd: CARE-1(1) presentation

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----- Forwarded message -----

From: **Amy Hodges** <amy@mauireefs.org>
Date: Tue, Feb 2, 2021 at 2:44 PM
Subject: CARE-1(1) presentation
To: <care.committee@mauicounty.gov>

Please see attached

 **210203_Maui County Council CARE Committee_MNMRC...**

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Actions to Improve the Impaired Status of Māʻālaea Bay

Prepared for Maui County Council
Climate Action, Resilience and Environment Committee
February 3, 2021

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The Problem



Pohakea
October 2019
4,100 acres



- **11 Fires in 20 years**
- **Env. damage**
- **Threatens human life, property, access routes, energy, and economy**
- **Major harbor and visitor attractions**

The Problem

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Solutions



Reduce & Slow Fire

Control Erosion – direct flow & plant



2020



Repair kickouts and waterbars



Improve existing roads for accessibility. Grade and widen for fire/fuel breaks.

Spencer Rd



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MECO access road



Strategic planting of fire resilient plants at erosion hotspots - 2021

**The
Problem
downhill**

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Erosion hotspots - headcuts



taken
1/18/21

Drainages culminate at
harbor and bay

Sediment flows to the ocean

Headcut Erosion Monitoring

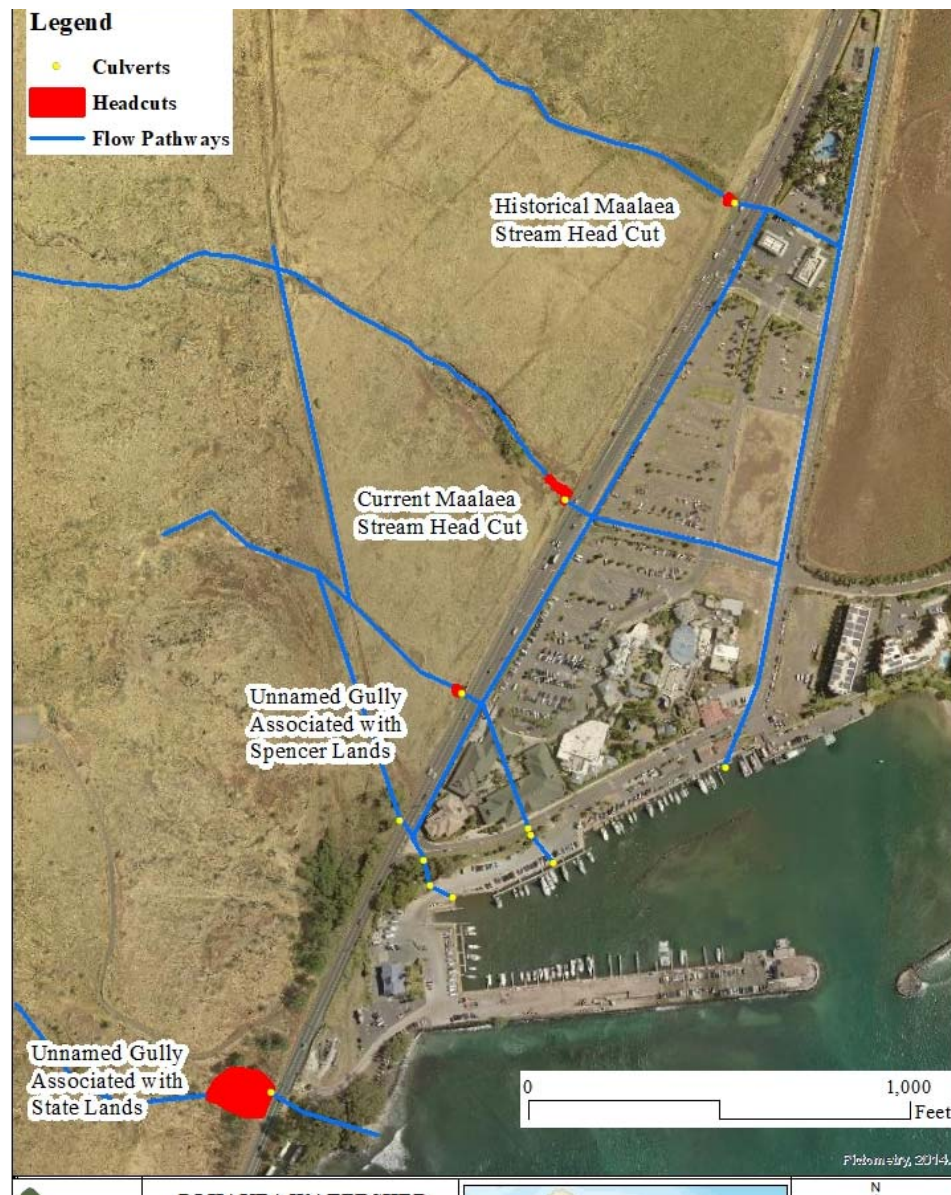
This photograph shows a headcut erosion site. A deep, dark, vertical erosion gully is visible on the left side of the frame. The surrounding area is covered with dry, yellowish-brown grass and some green shrubs. Several pink monitoring pins are visible on the ground surface, with one specifically circled in pink.

Monitoring pins

New erosion from 1/18/21 storm

This photograph shows a new erosion site resulting from a storm on 1/18/21. The image displays a large, exposed area of reddish-brown soil. A white oval highlights a specific area where a monitoring pin has fallen. Three white arrows point to different locations on the eroded soil face, indicating areas of new erosion. The background shows some green vegetation and a blue sky.

Fallen monitoring pin







**nutrient + pollutant laden
brown water**



**Currents carry the
damage**



Smothered coral



**Fine particulates
resuspended**

32 tons of soil loss documented after 1/18/21 storm at 2 headcuts

2021-2023: Headcut repair including associated detention basins

- **Complete monitoring**
- **Design & planning**
- **Engineering**
- **Permits**
- **Grading & slope layback**
- **Deploy geotextile for soil stabilization + allow permeability**

Ma'alaea Sites



★ HOKWO sites

★ Non HOKWO sites

HOKWO

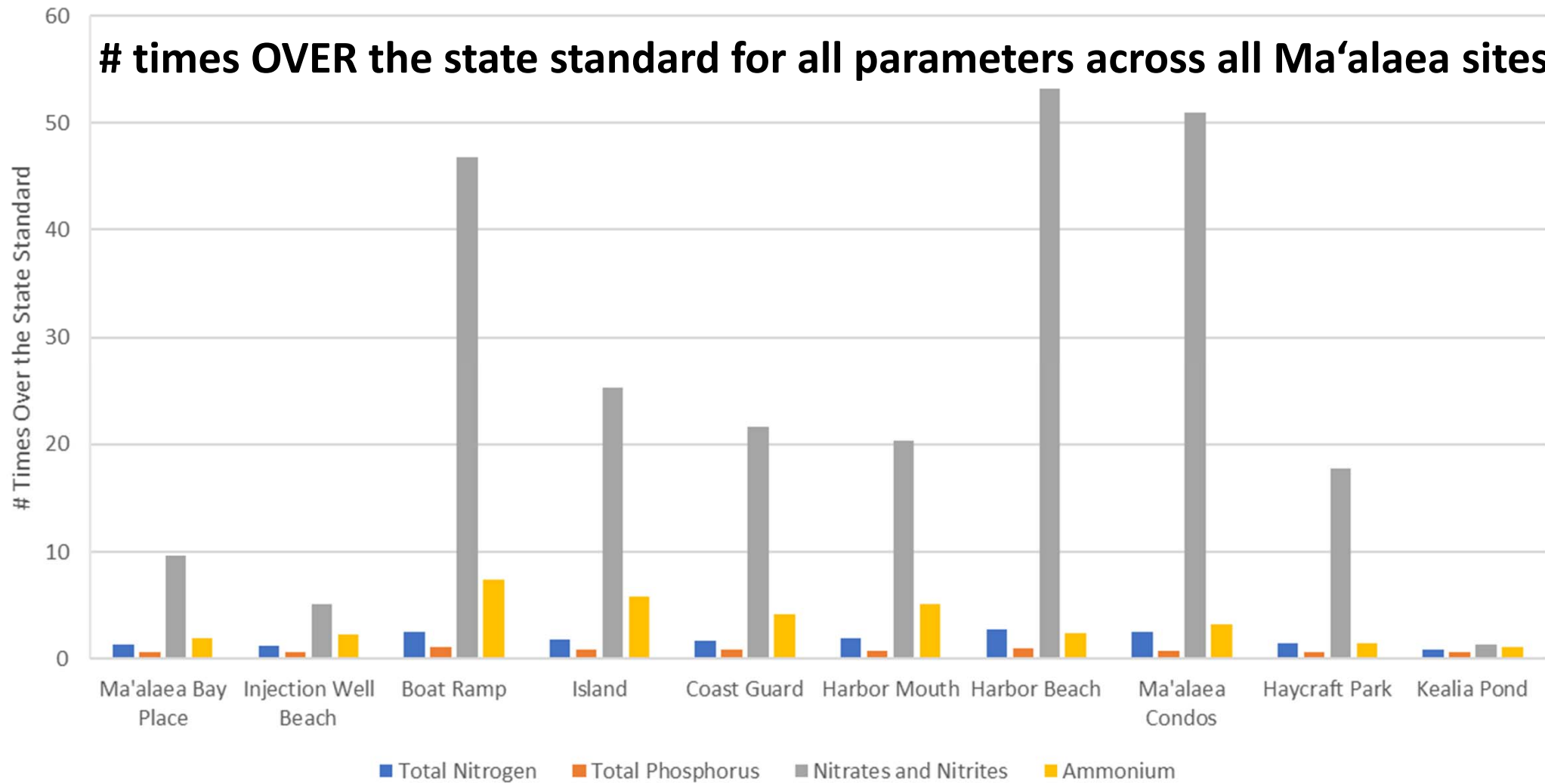
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2020:449 samples for leeward Maui



Ma'alaea Sites and Nutrients Compared to State Standards 11/15/18 - 9/30/20

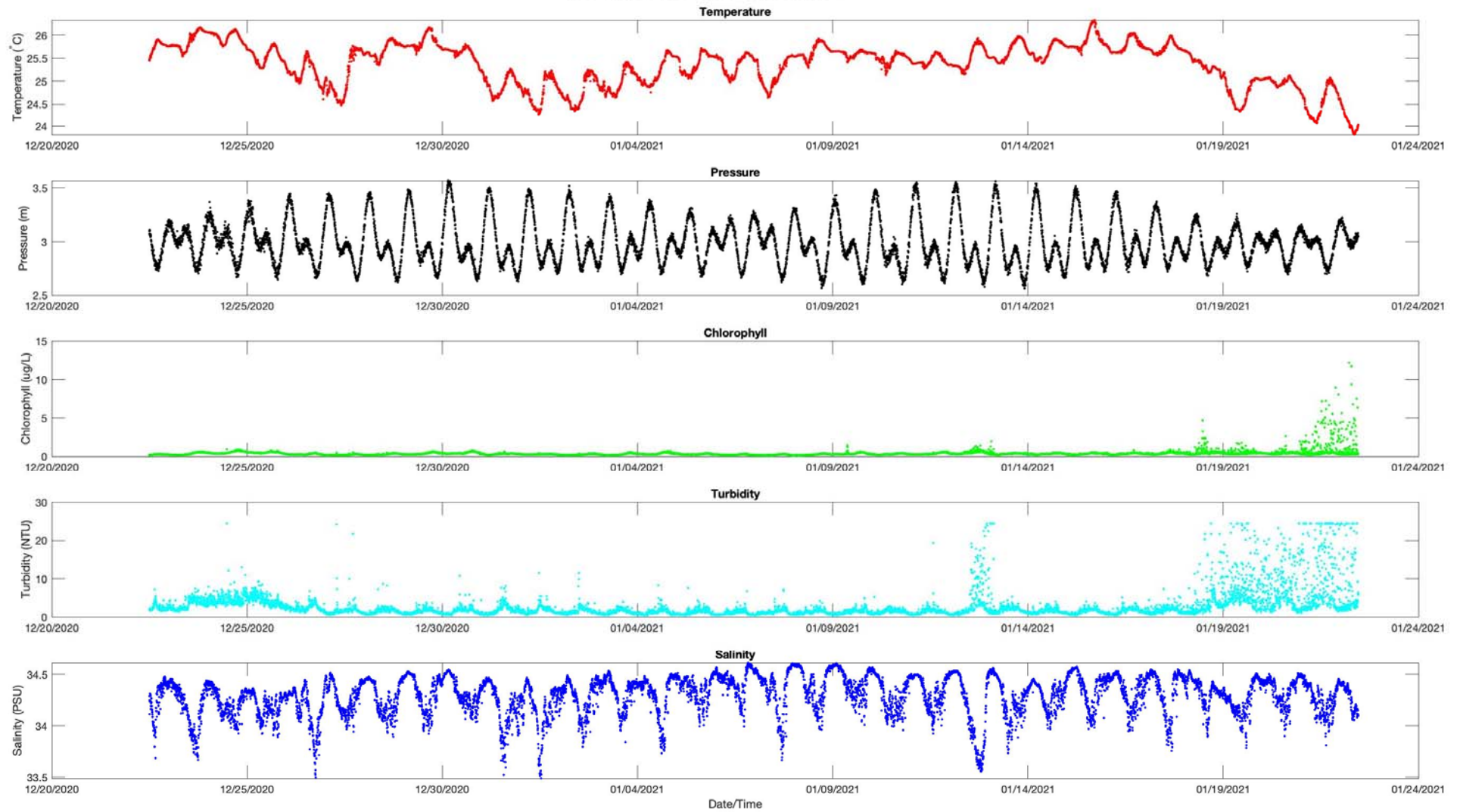
times OVER the state standard for all parameters across all Ma'alaea sites



PacIOOS Seabird Sonde: 6mos + 6mos

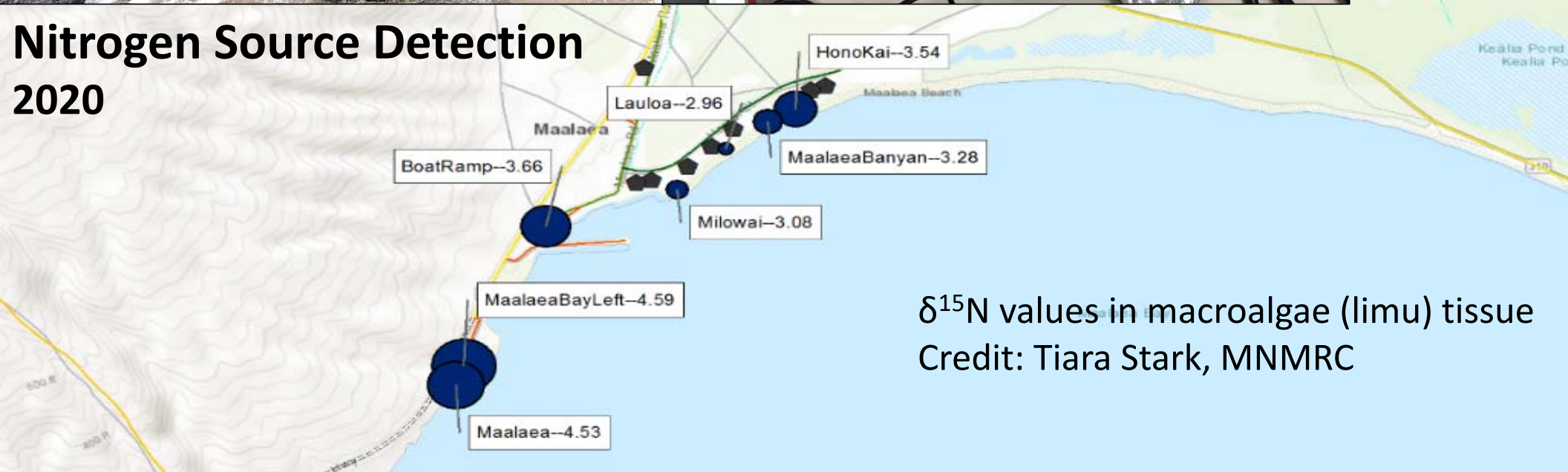


MNMRC: Dec 22, 2020 - Jan 22, 2021

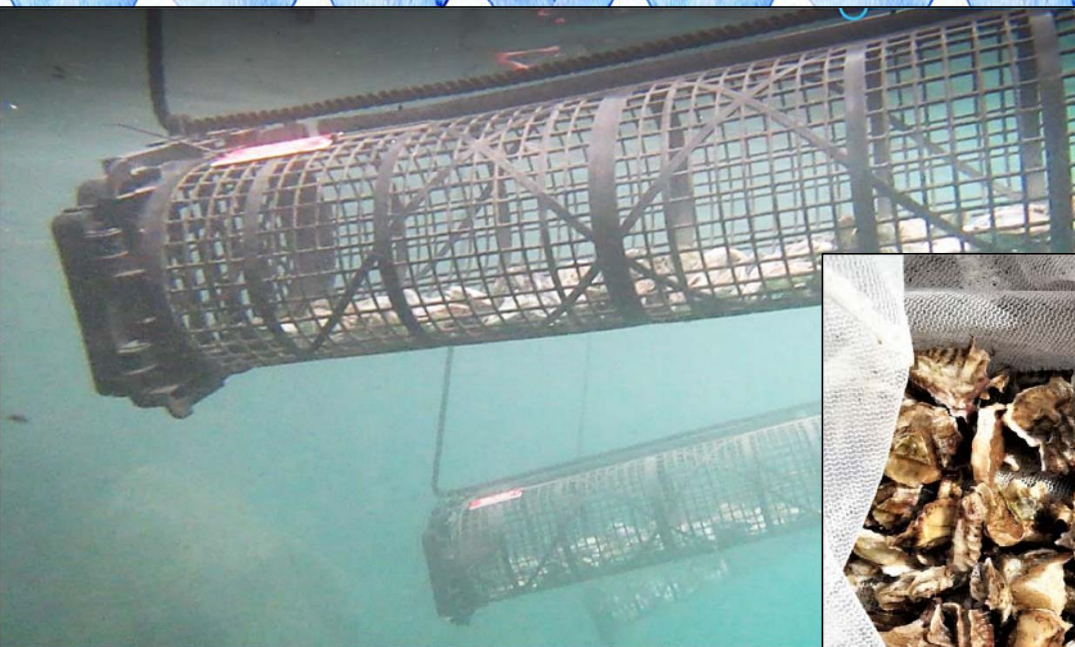




Nitrogen Source Detection 2020



$\delta^{15}\text{N}$ values in macroalgae (limu) tissue
Credit: Tiara Stark, MNMRC



2020: 10,000 oysters installed
Monitoring @ 2wks
Permits 😊😊😊
2021: More of both species



Native spp. Oysters
propagation: 3,000+



Host UHMC Water Resources class

Marine debris source tracing –
Dec. 2020 Ma'alaea ditch cleanup



Chaminade/Hogan Business
Plan Competition



2021+

New Monitoring Efforts

- **Coral/fish transects**
- **Groundwater samples – Kealia Pond and Spencer Rd well**
- **Aqualink Buoy**

Other

- **LID parking lot improvements at Ma‘alaea Triangle**
- **address dirt parking lots**
- **Kealia Pond water control structures**

Mahalo

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