

Alien Invasive Algae Control in Kaneohe Bay, Oahu

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Invasive Algae Threats in Hawaii



Leather Mud Weed
(*Avrainvillea amadelpha*)



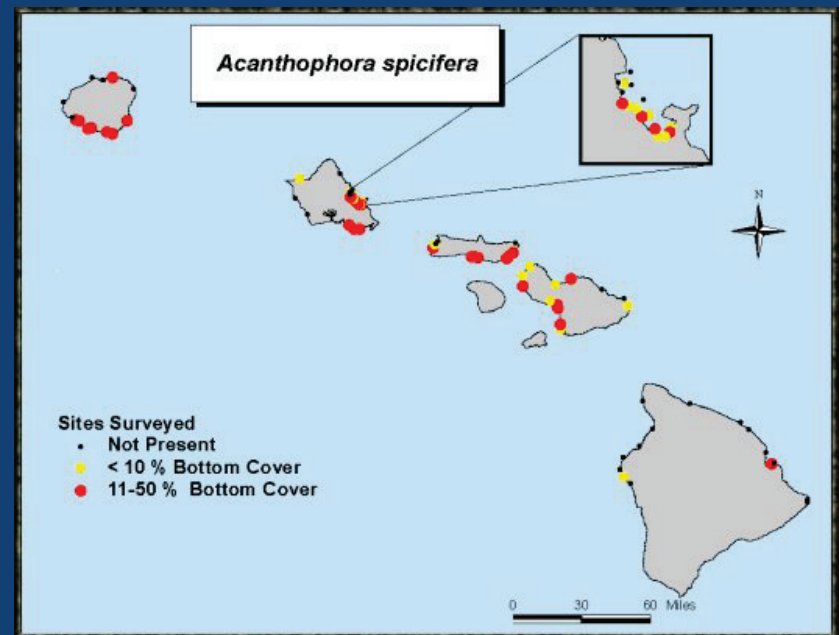
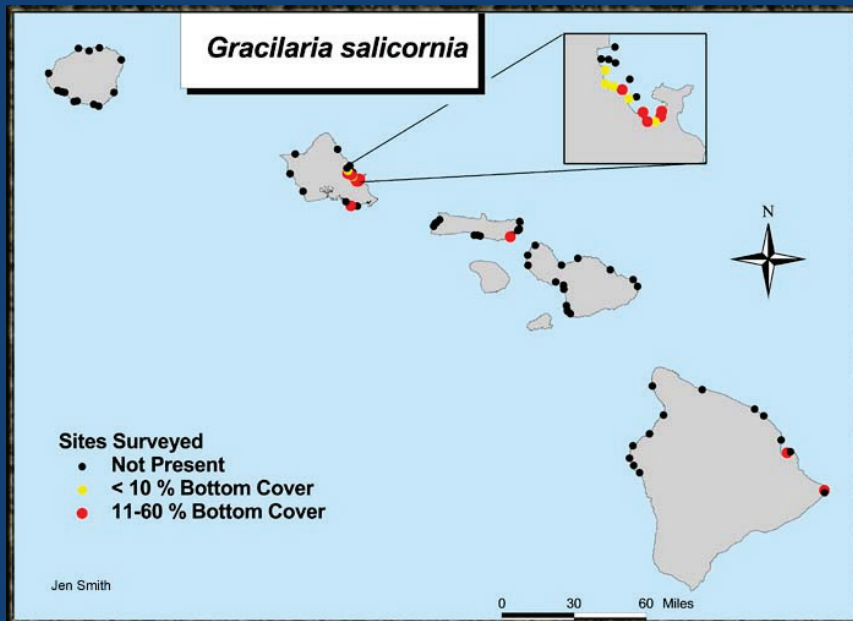
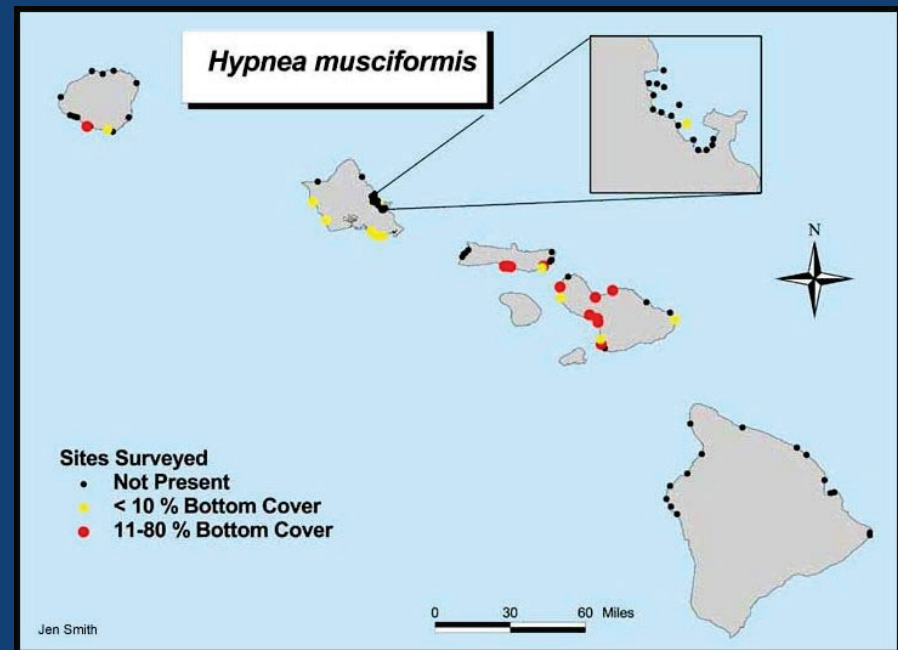
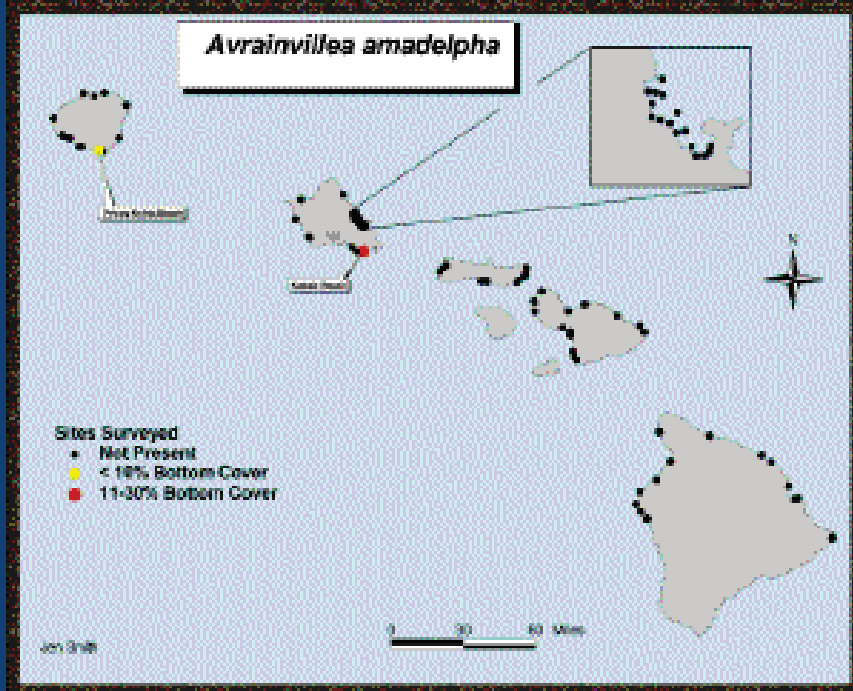
Hook Weed
(*Hypnea musciformis*)



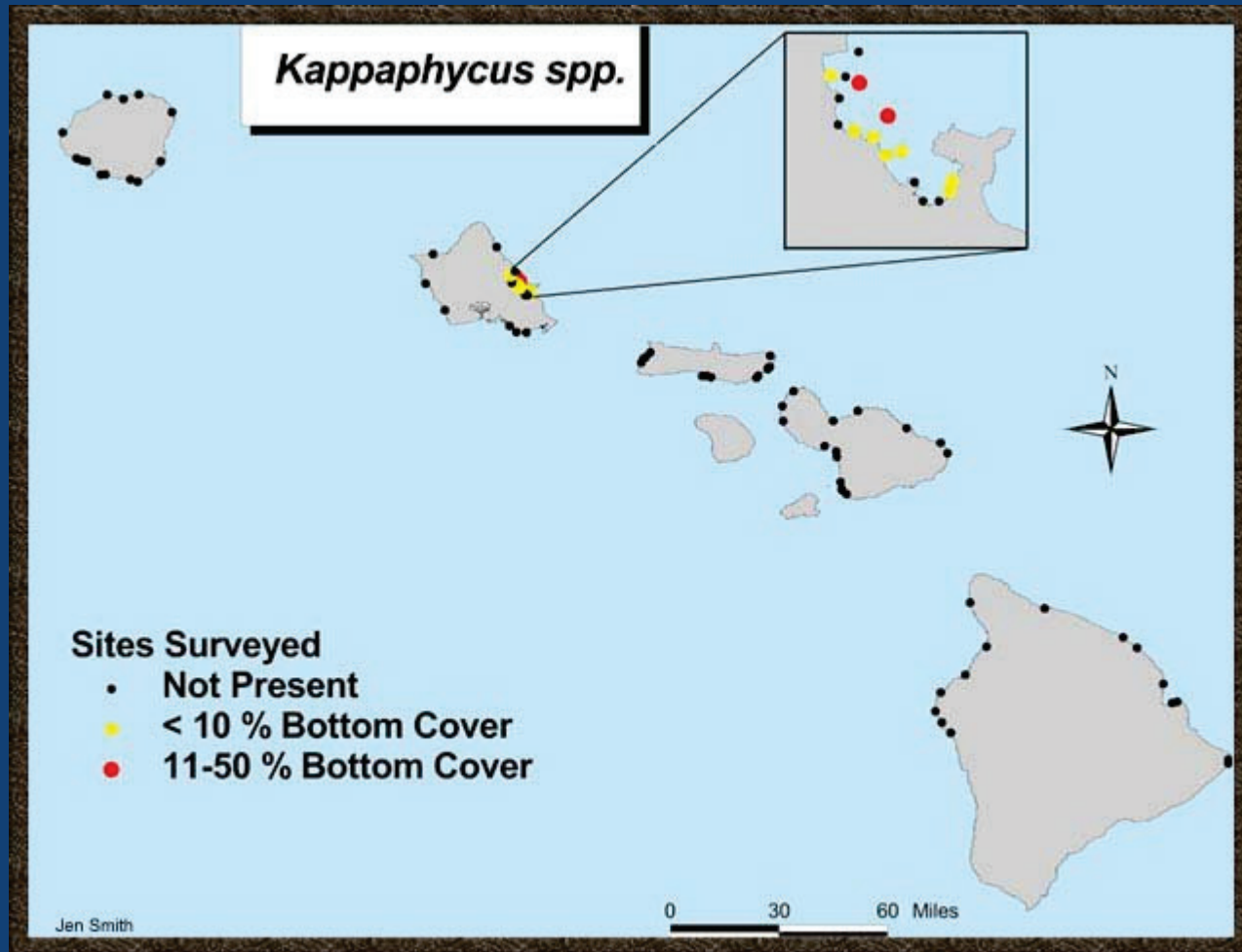
Gorilla Ogo
(*Gracilaria salicornia*)



Prickly Seaweed
(*Acanthophora spicifera*)



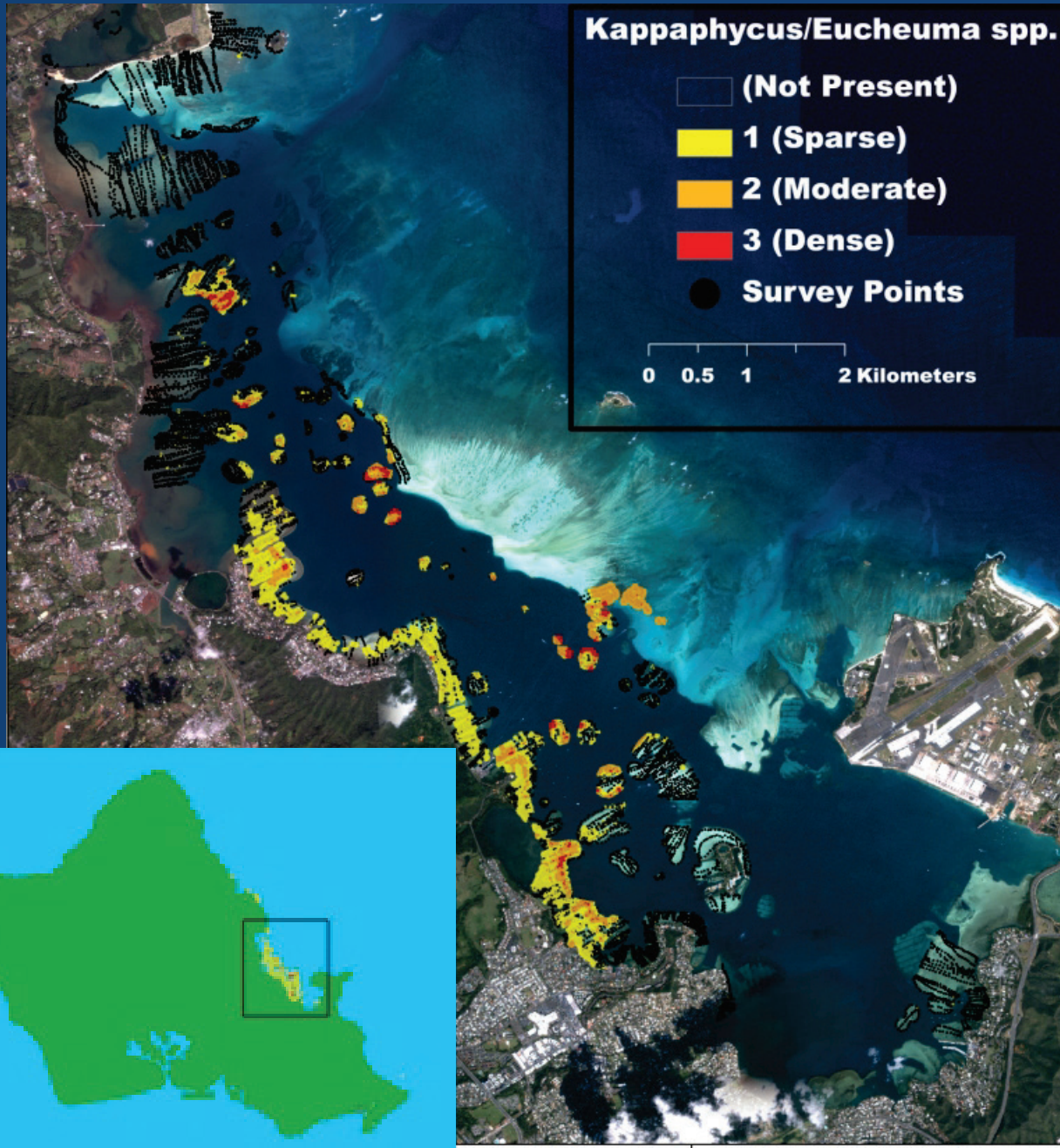
UH Botany Dept surveys



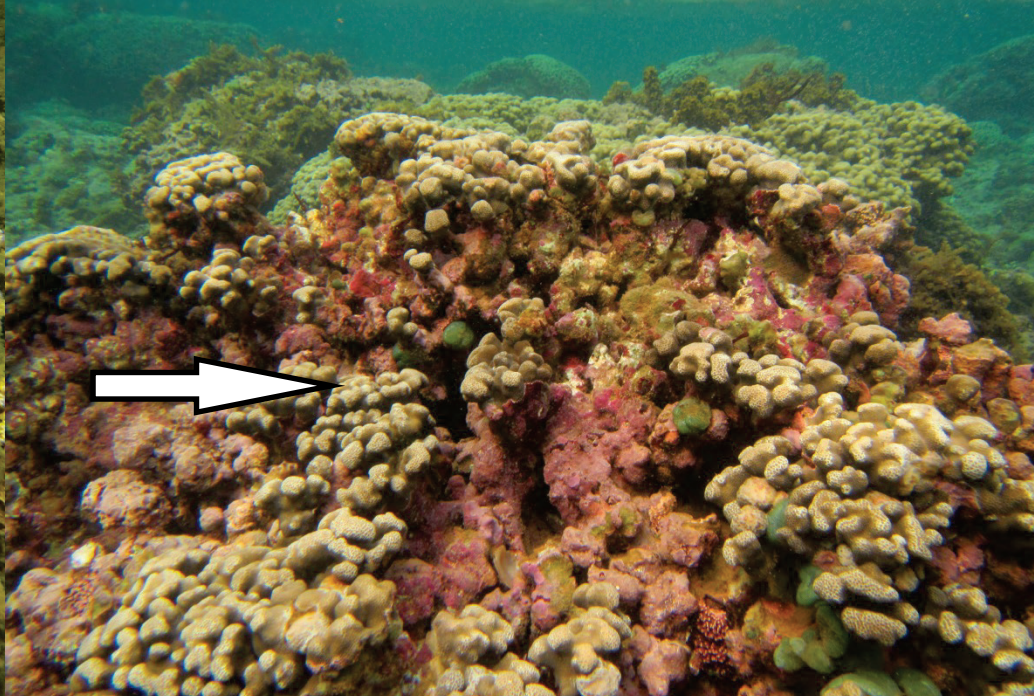
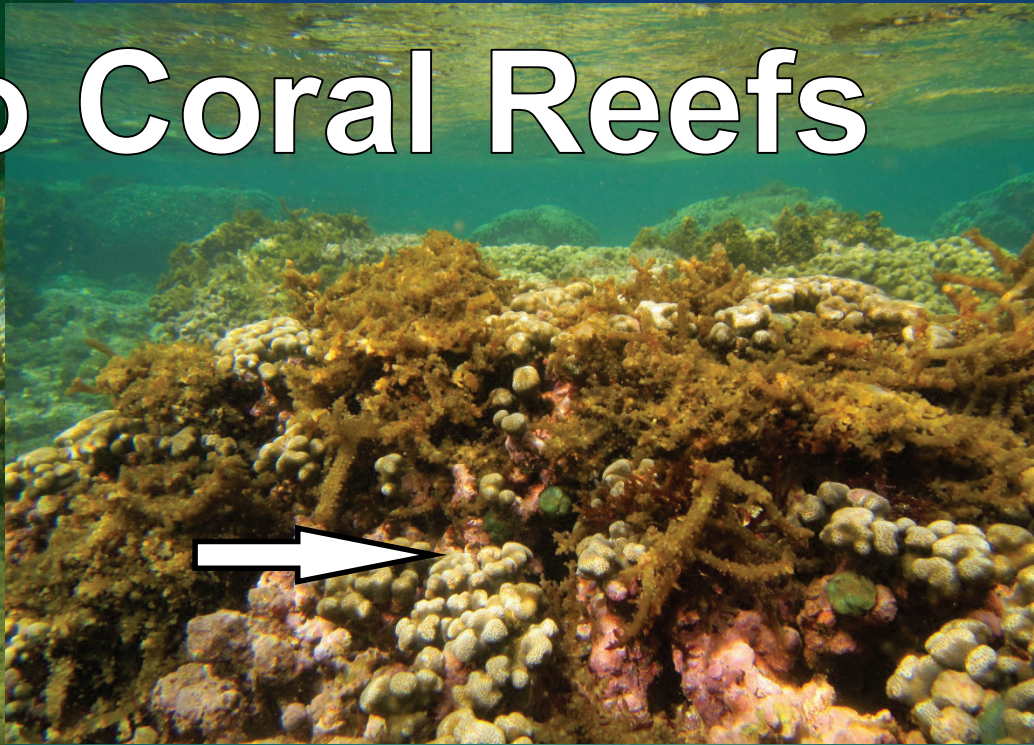
Kappaphycus/Eucheuma spp.



Kappaphycus/Eucheuma spp. Distribution



Impacts to Coral Reefs



"It takes a Village"



KEY Project

Hui Ulu Mea



KĀKO'O 'ŌIWI

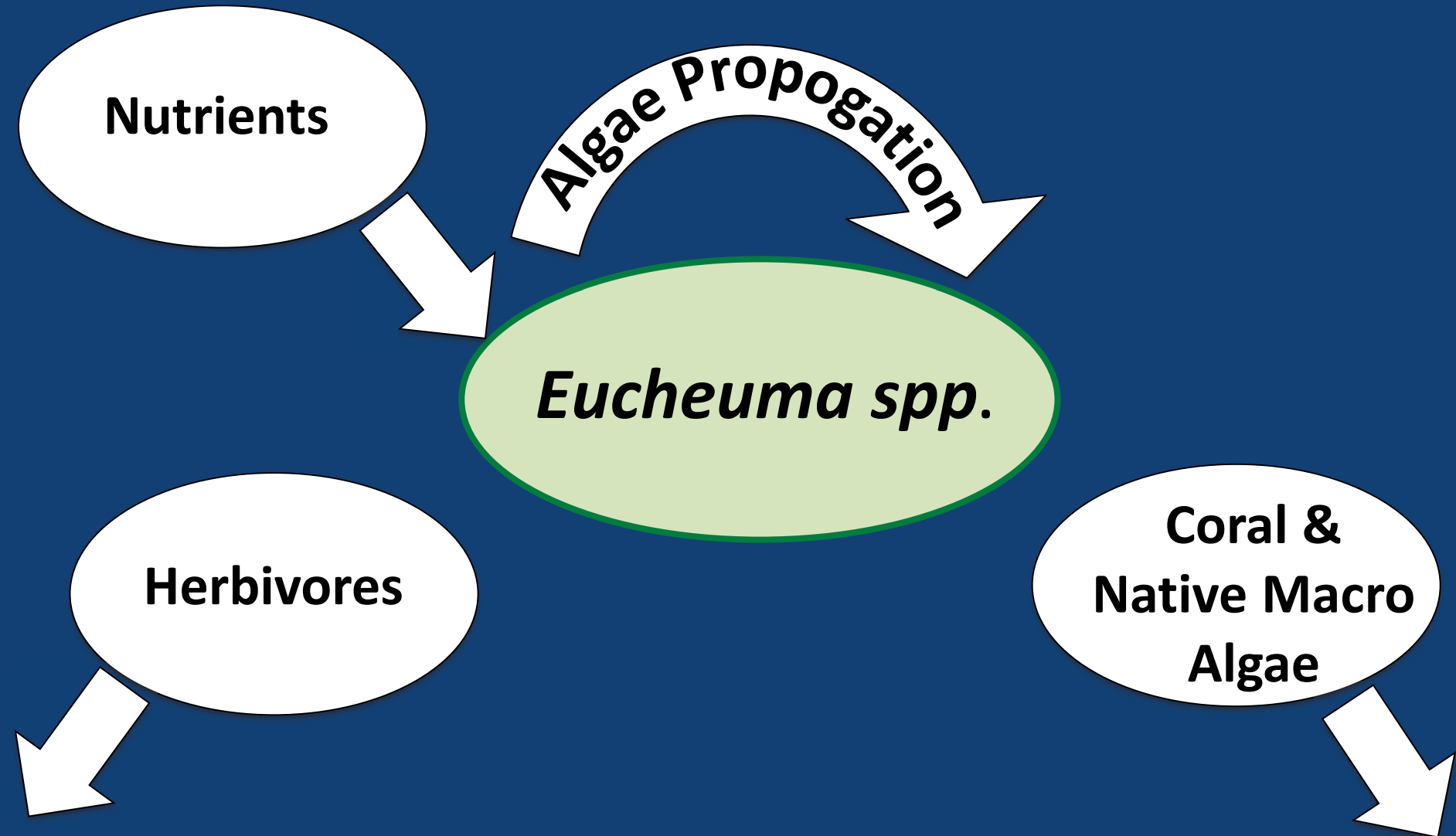


The Nature Conservancy

Protecting nature. Preserving life.™



Invasive Algae Drivers



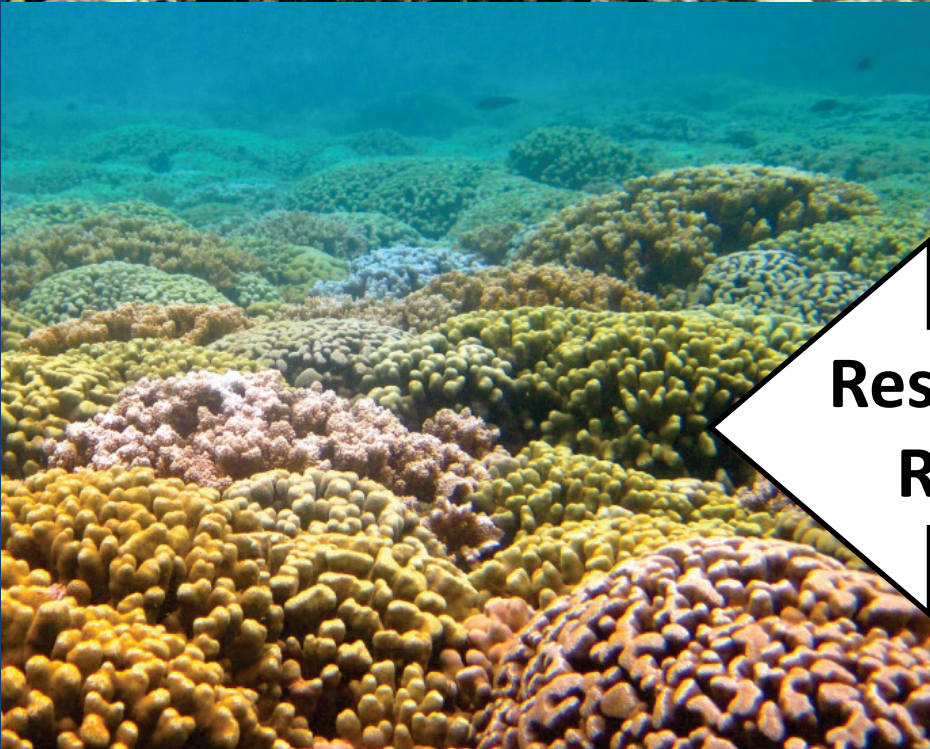
Invasive Algae Management



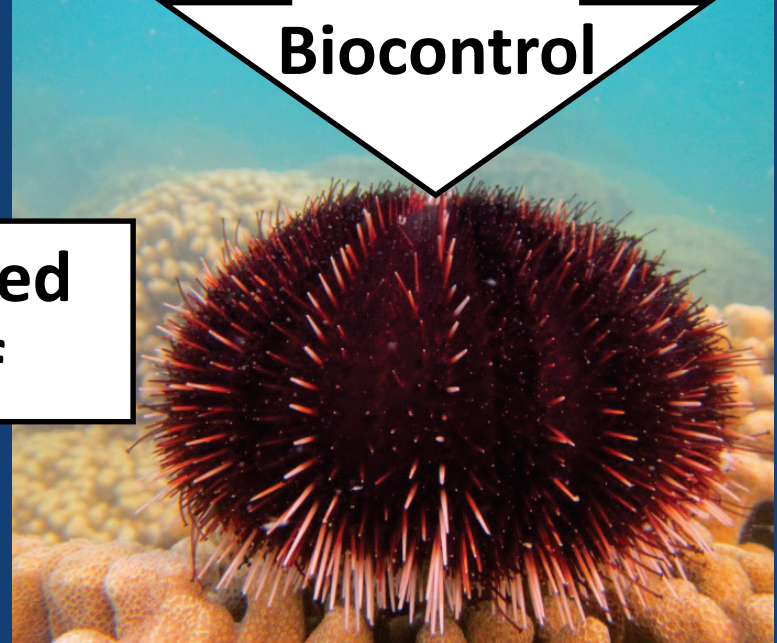
**Mechanical
Removal**



Biocontrol



**Restored
Reef**



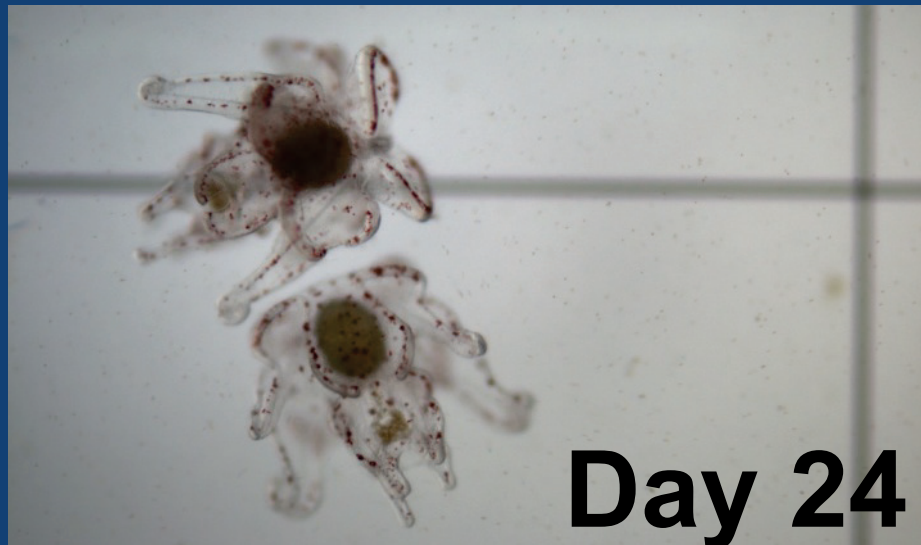
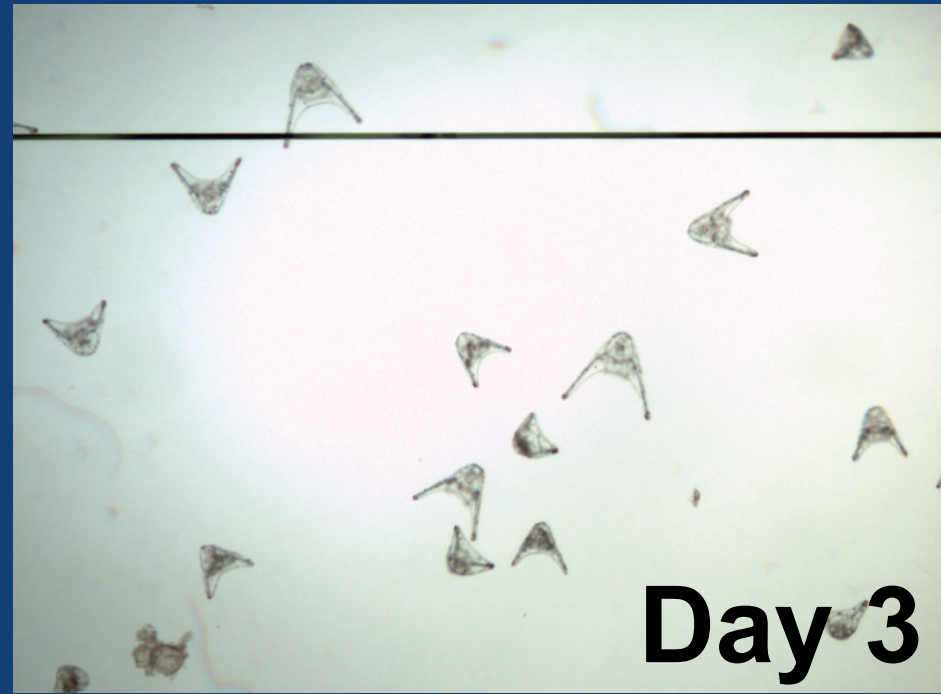
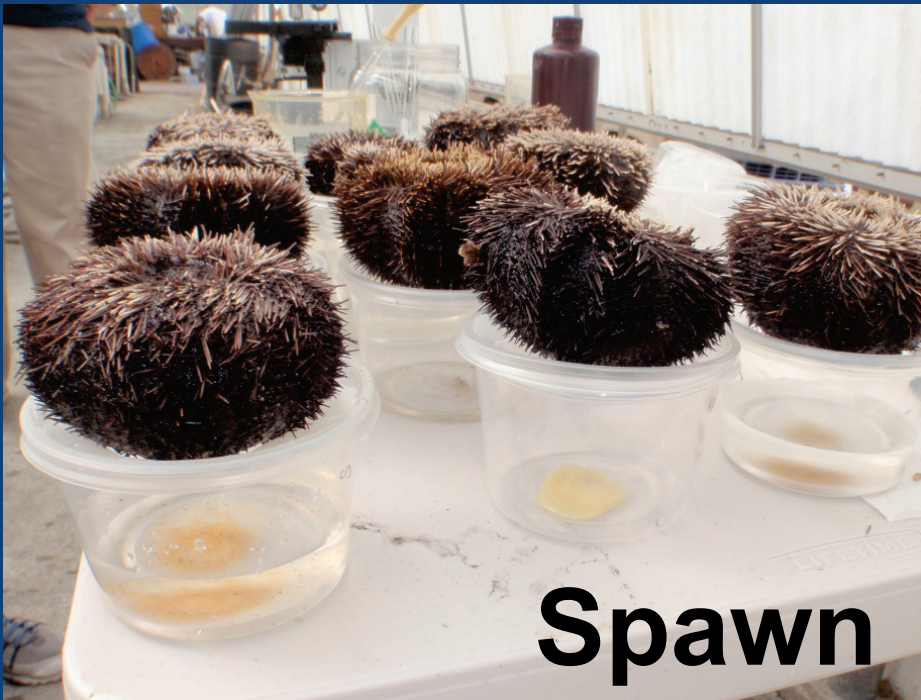
Mechanical Removal: The Super Sucker



Algae Composting



Biocontrol: Urchin Hatchery



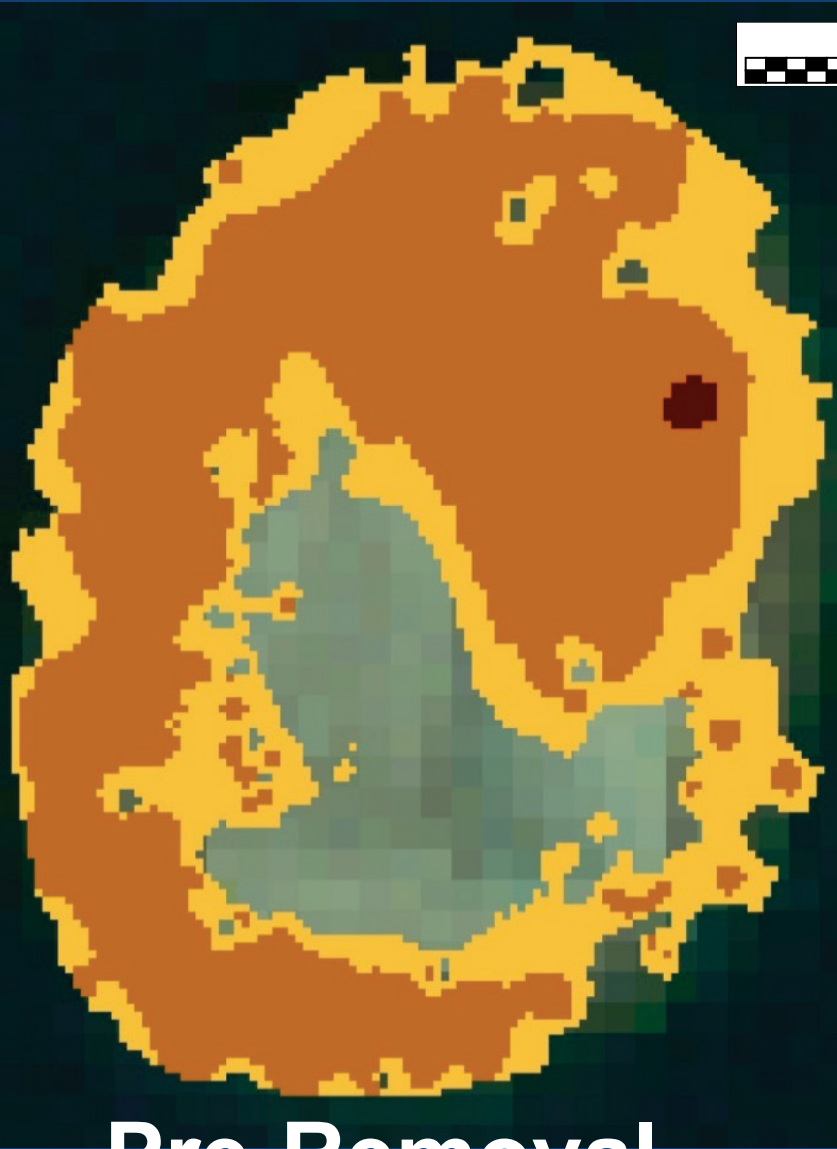
Urchin Release



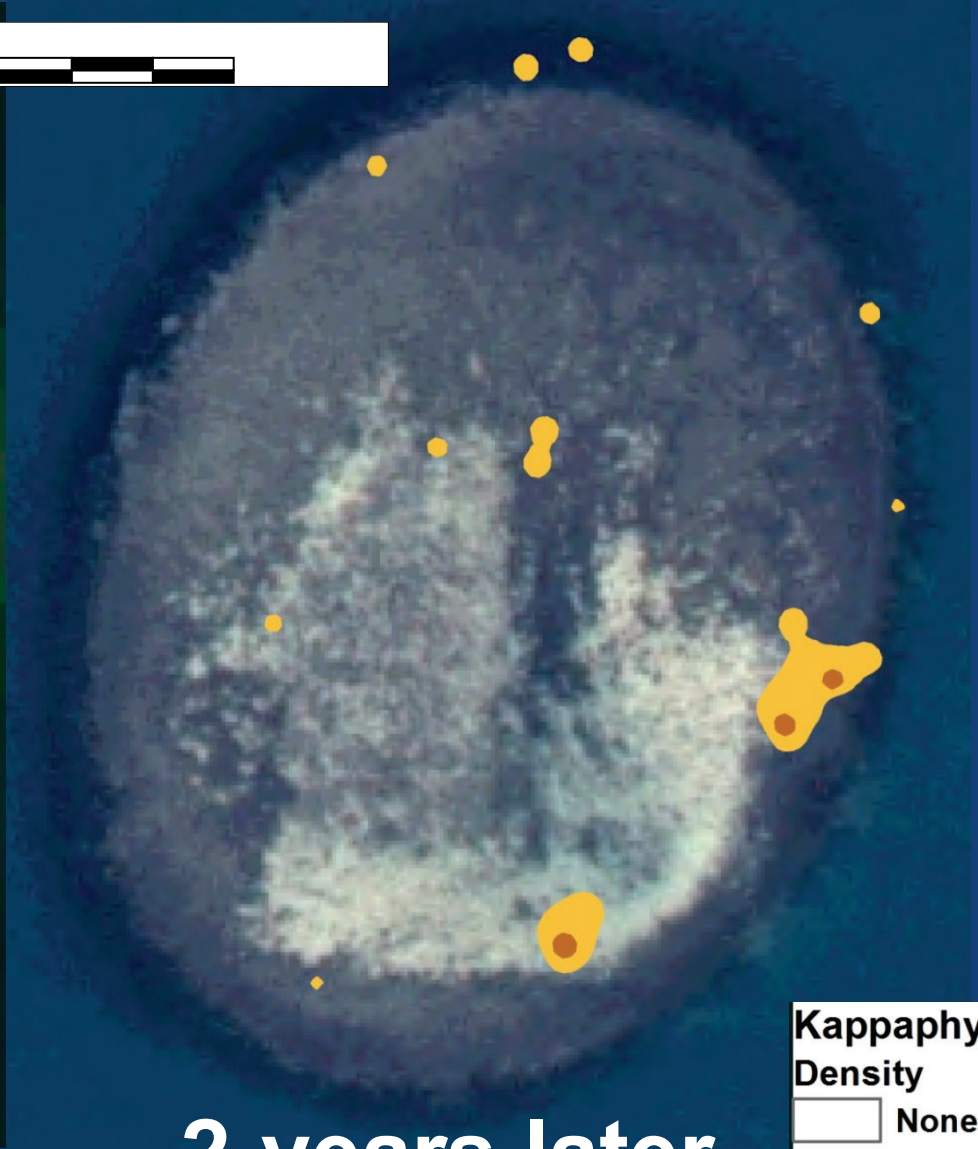
4-6 Months



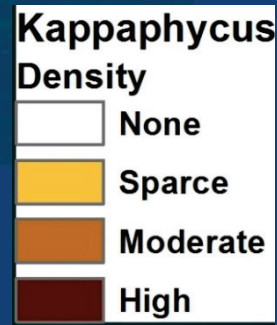
Measures of Success: Reef 27



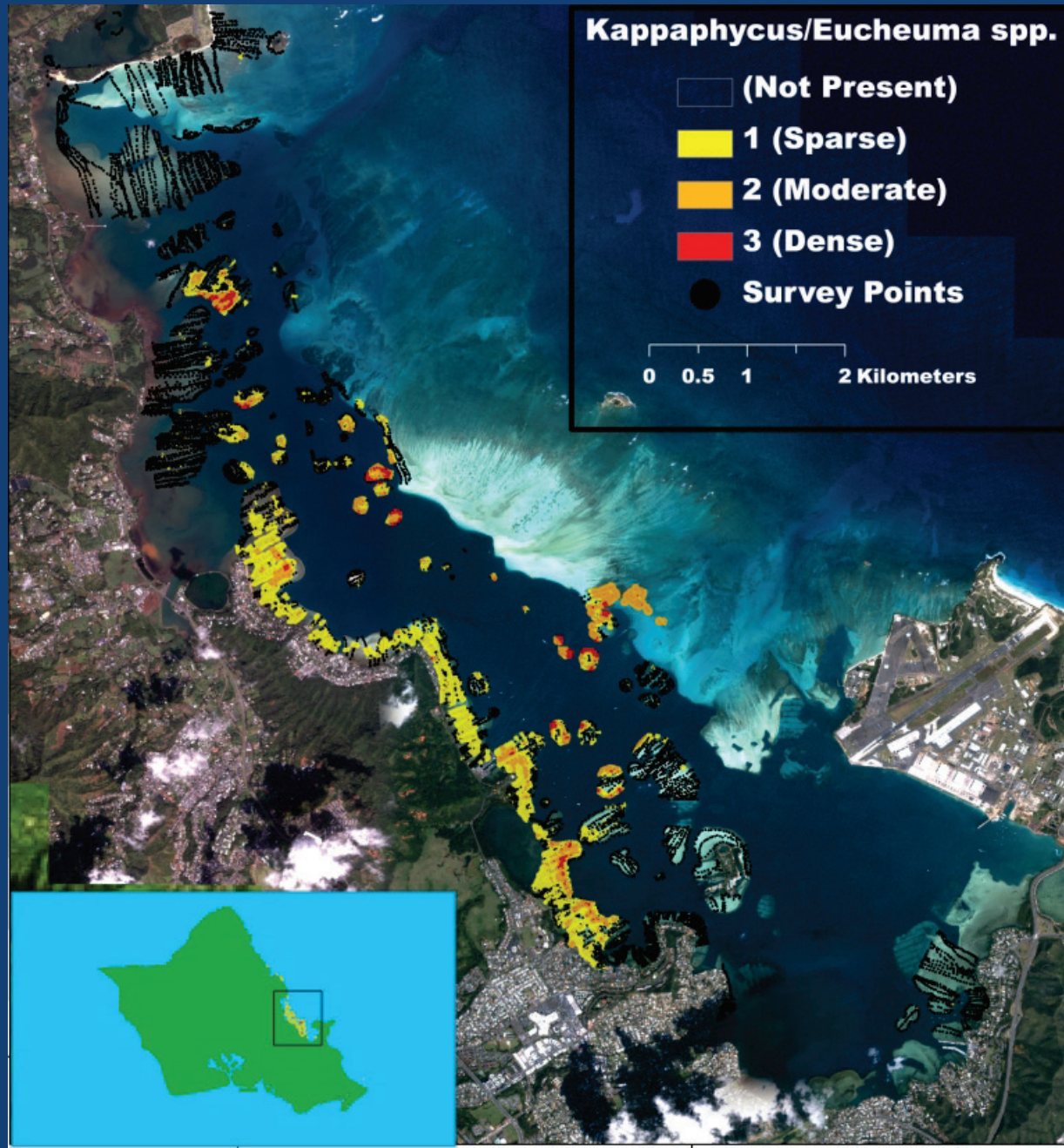
**Pre-Removal
(2012)**



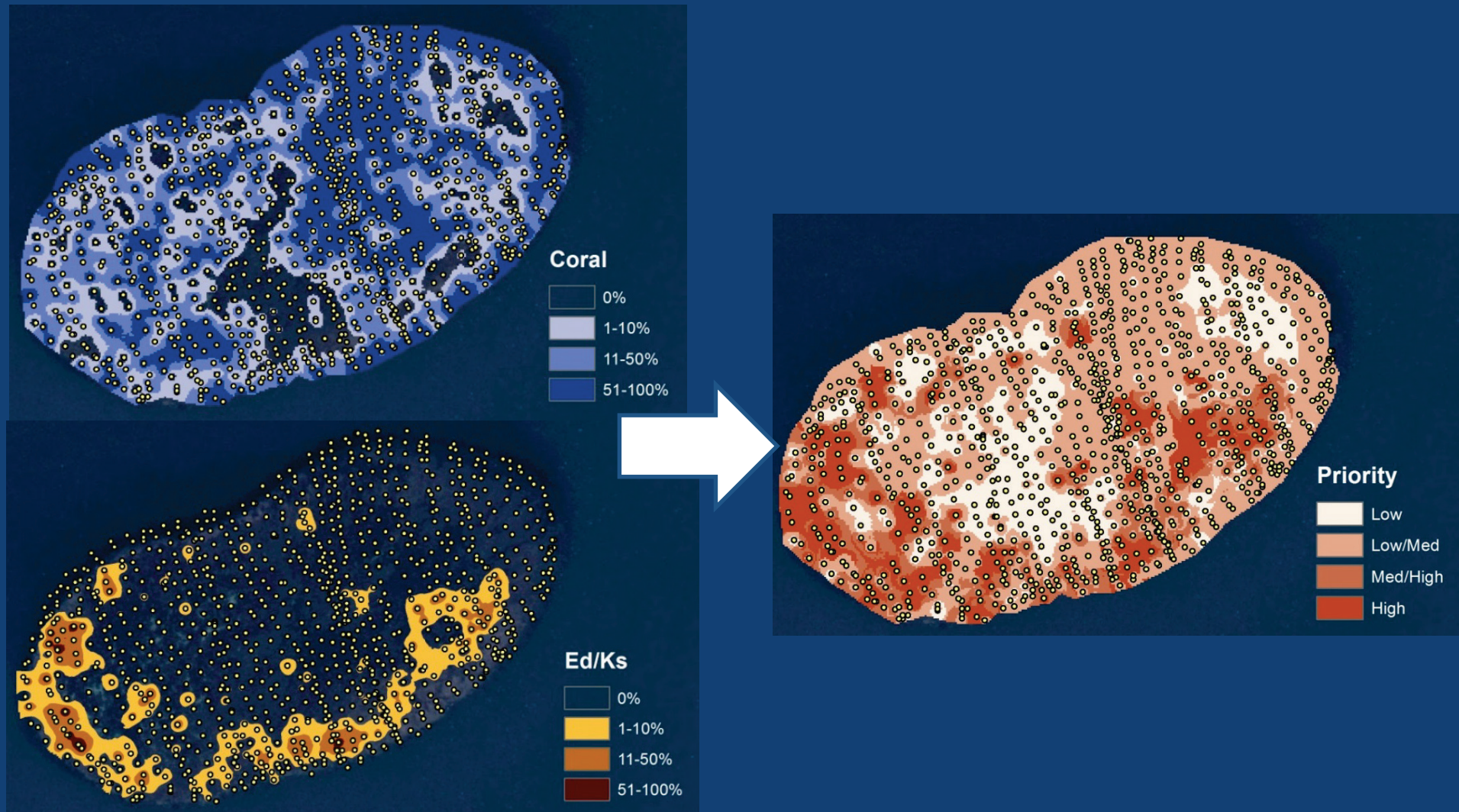
**2-years later
(2014)**



Invasive Algae Management Strategy

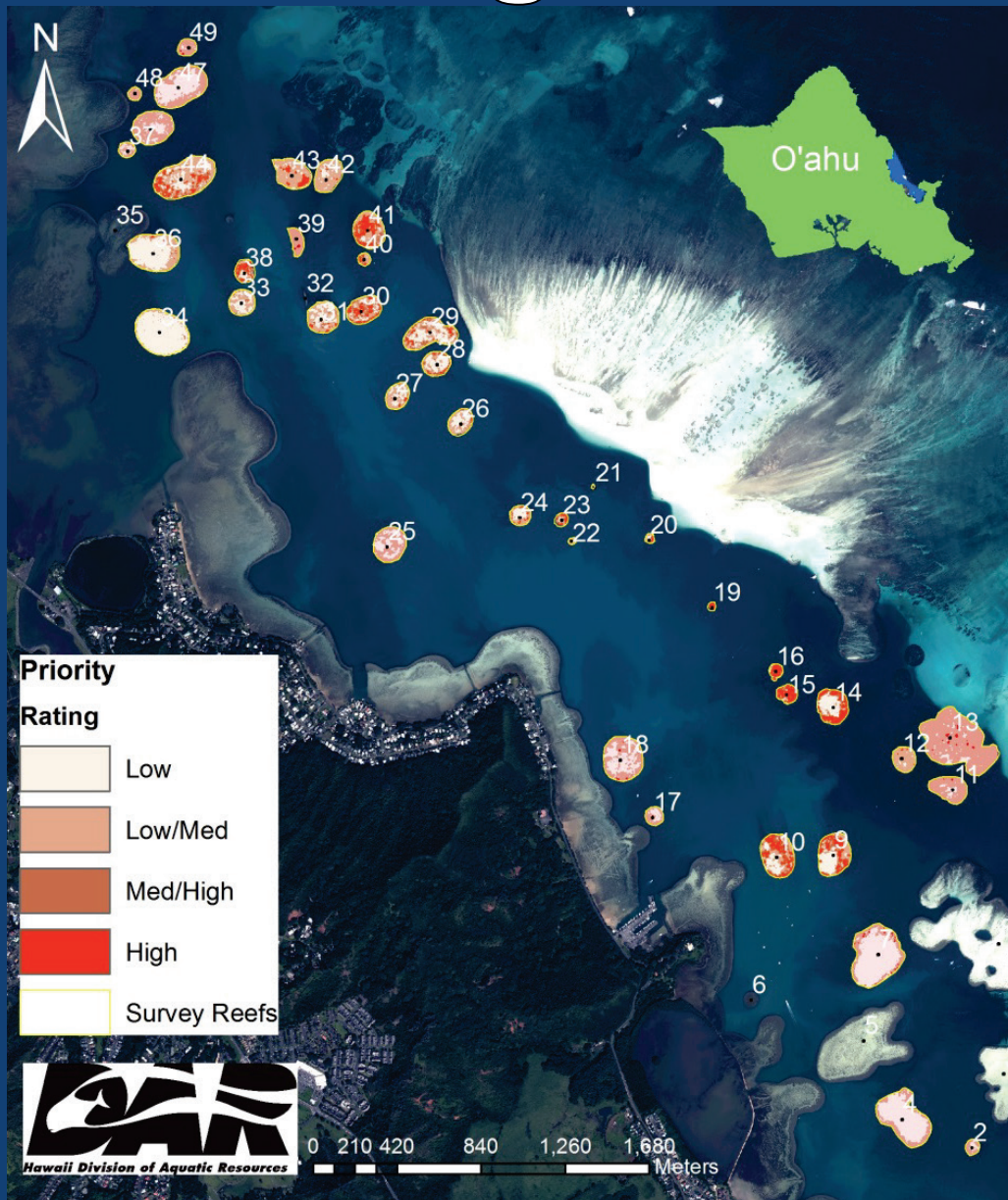


Coral and Invasive Algae Mapping



Reef 44

Management Prioritization



Lessons Learned: Implementing a Control Program

- Prevention is much cheaper
- Control is extremely costly and long-term
- Ecological, Socioeconomic costs are unmeasurable
- Takes away resources from other AIS



Lessons Learned:

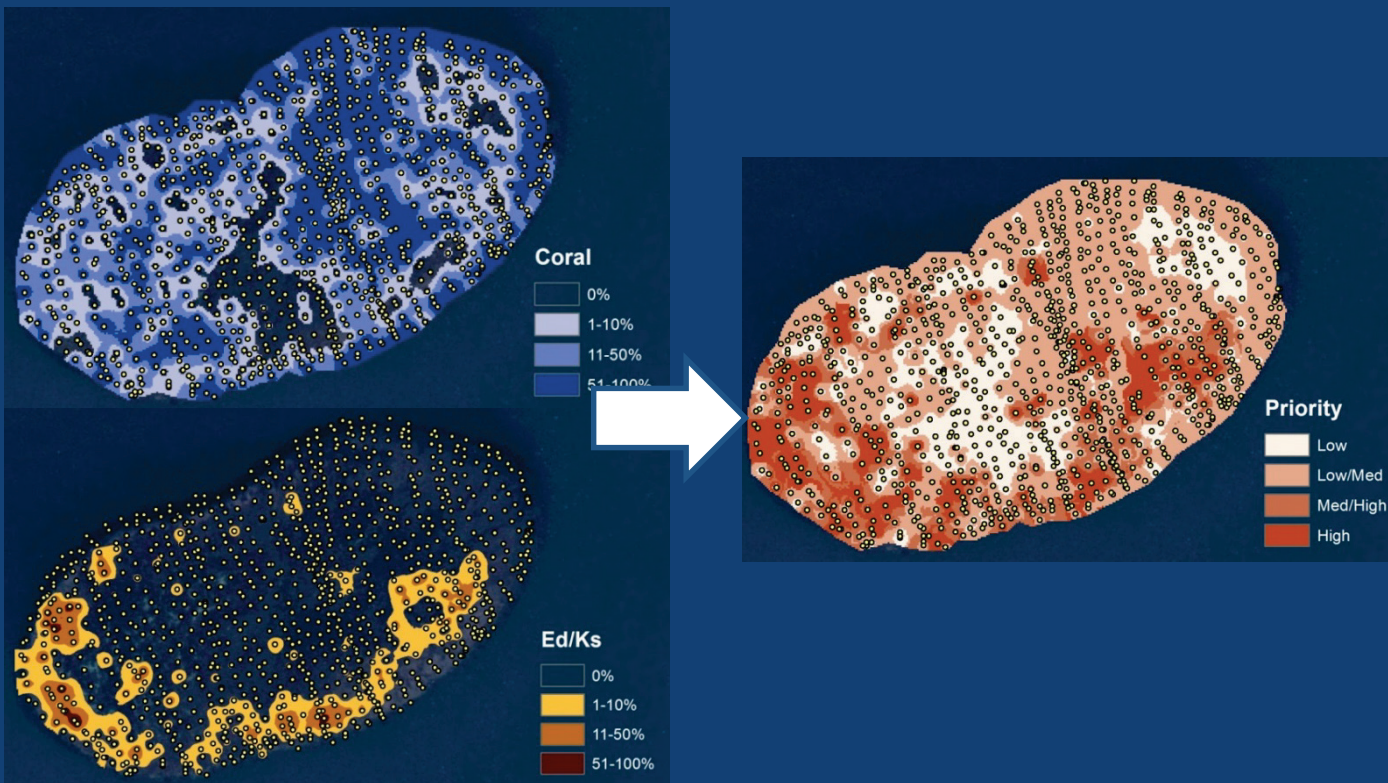
Could this happen again?

- DOA-Permitting for Plants and Aquaculture
- DAR-Special Activities Permit
- Early Detection: Eyes of the Reef Program
- Rapid Response Network



Lessons Learned: Planning

- Kaneohe Bay Action Plan (under development)
- Strategic planning and prioritization



Lessons Learned: Monitoring

- R&D: refine methodology
- Proof of concept
- Sharing results



Lessons Learned: Partnerships

- Researchers
- Community involvement
- Other management agencies and NGO's.

