

Aquatic Invasive Species

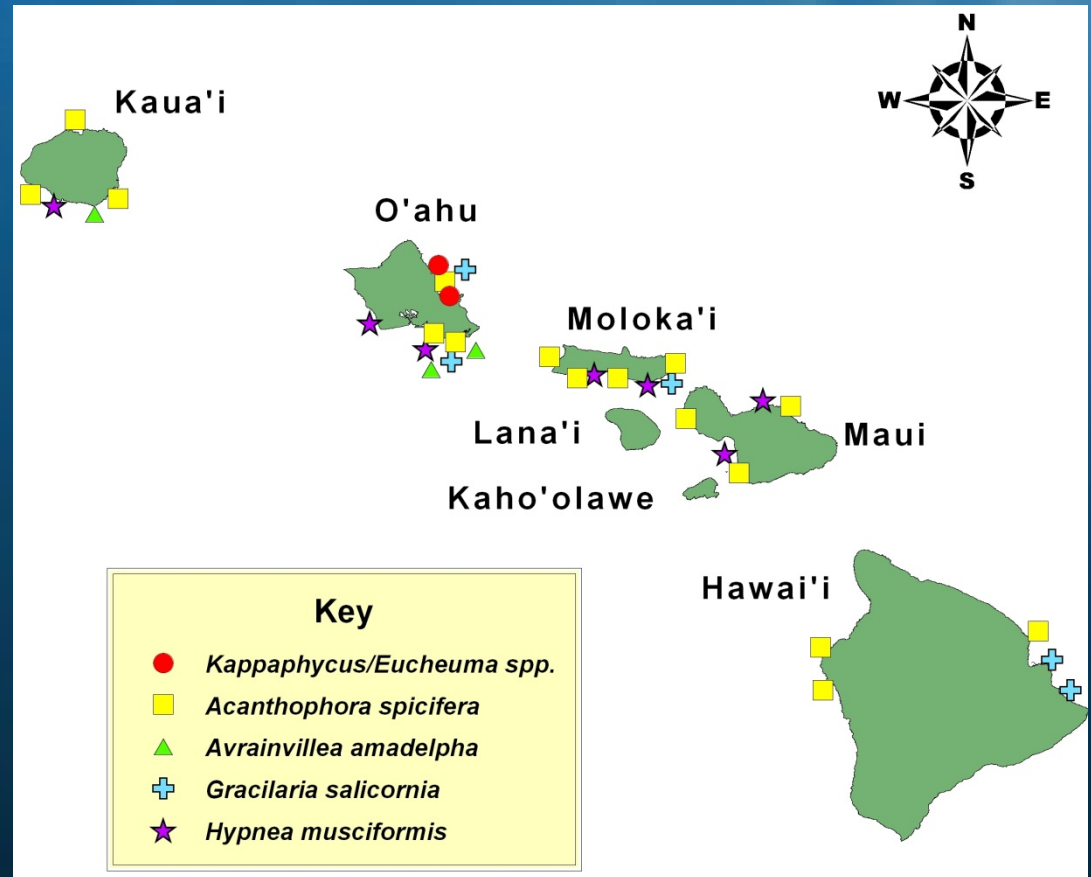
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Department of Land and Natural Resources

Division of Aquatic Resources

Alien Invasive Algae

- Smothering seaweed
 - *Kappaphycus/Eucheuma*
- Prickly seaweed
 - *Acanthophora spicifera*
- Leather Mudweed
 - *Avrainvillea amadelpha*
- Gorilla Ogo
 - *Gracilaria salicornia*
- Hookweed
 - *Hypnea musciformis*



Main Species of Interest

- *Gracilaria salicornia*



- *Kappaphycus / Eucheuma* spp. Complex

- Both species spread through fragmentation
- Quick growers: outcompete native algae and smother coral
- Reduces habitat for fish and other inverts



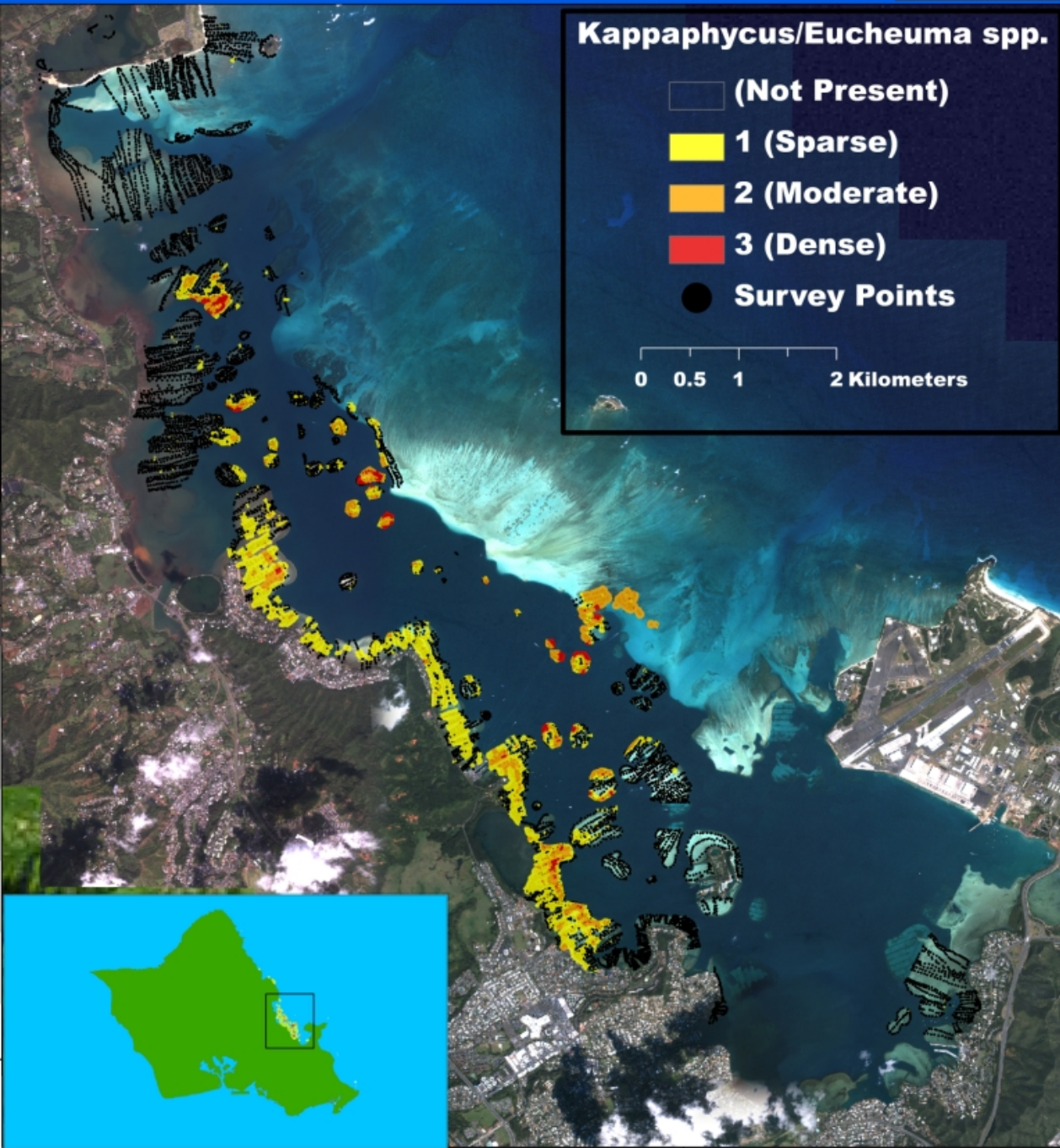
Kaneohe Bay 2009, Oahu



Kappaphycus/Eucheuma spp.

- (Not Present)
- 1 (Sparse)
- 2 (Moderate)
- 3 (Dense)
- Survey Points

0 0.5 1 2 Kilometers



Kaneohe Bay 2009, Oahu



Gracilaria salicornia

Not Present

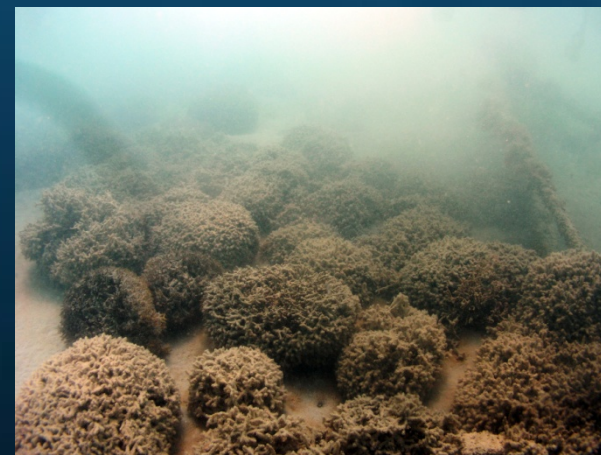
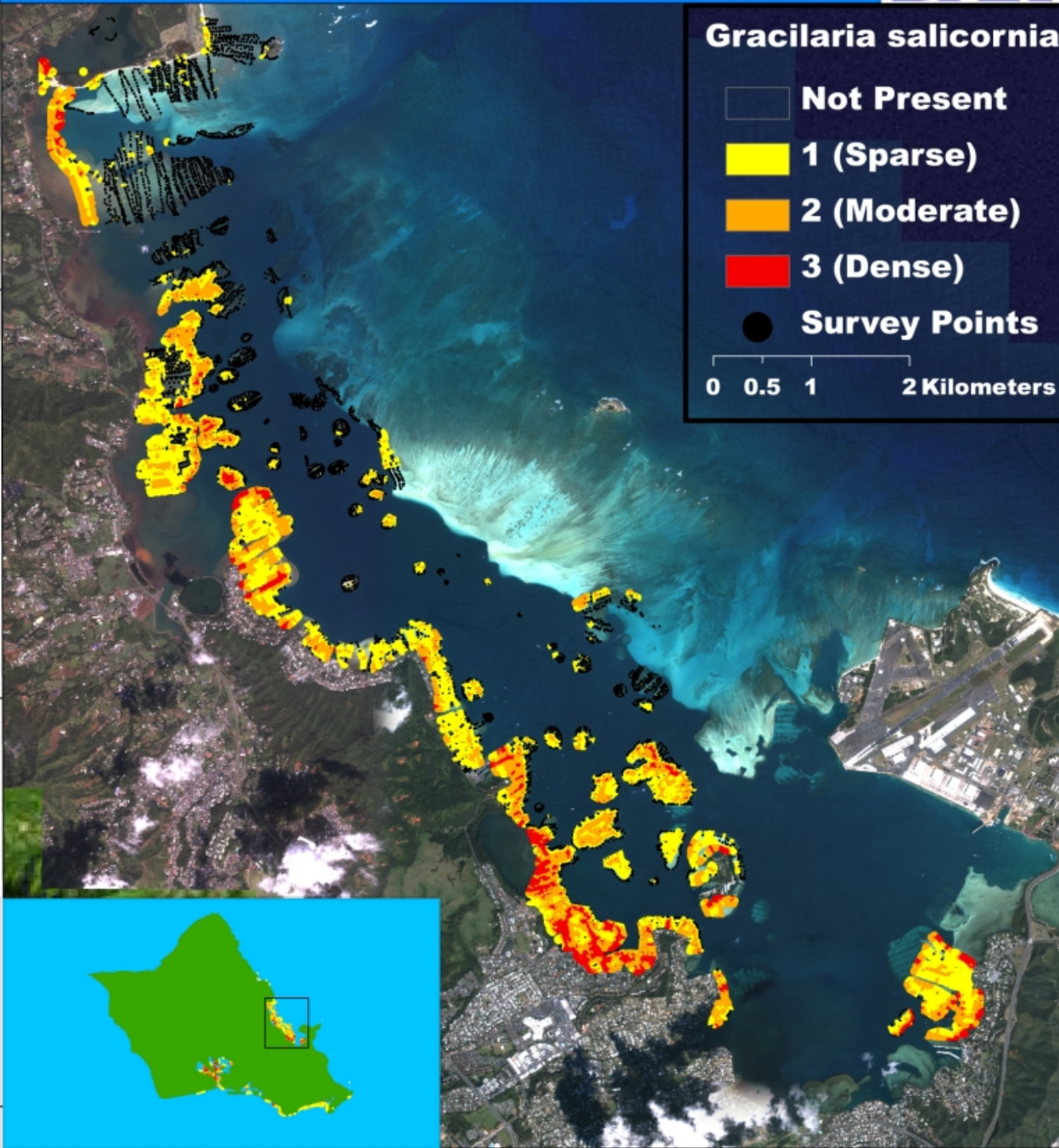
1 (Sparse)

2 (Moderate)

3 (Dense)

Survey Points

0 0.5 1 2 Kilometers

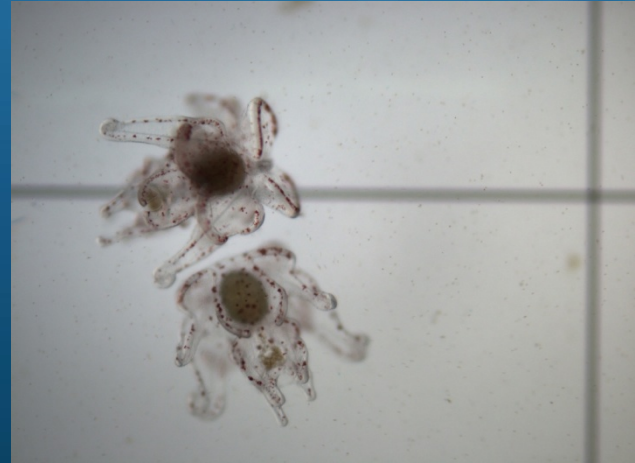


Super Sucker Barges



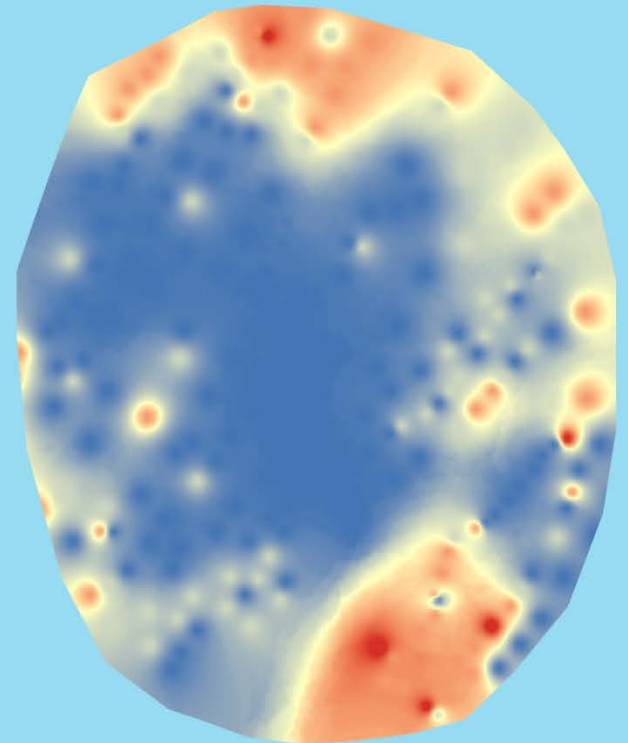
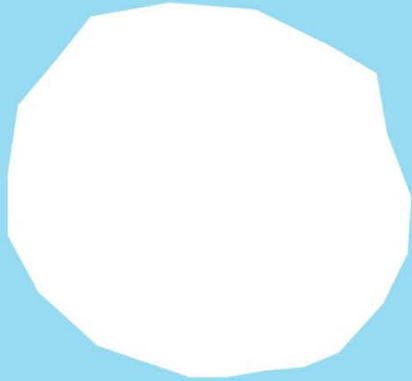
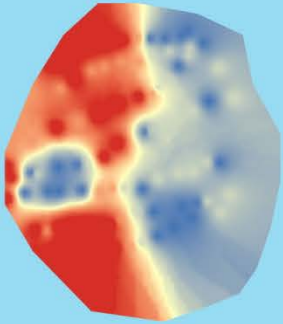
Sterling Kaya

Urchin Hatchery

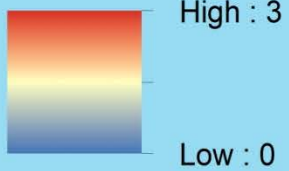


Relative Density: *Kappaphycus* sp.

July 2010



Score



0 50 100 200 Meters

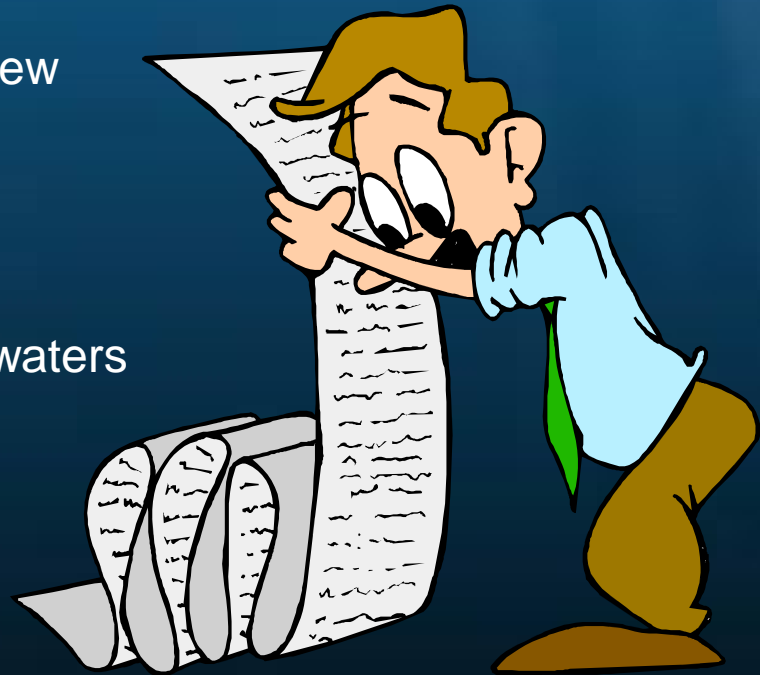
Ballast Water & Hull Fouling

- Monitor compliance of incoming vessels with the state ballast water requirements
- Participate in Pacific Ballast Water Group meetings, and maintain abreast of changes to BW regulations at the federal level
- Develop and assess options for managing biofouling risks to Hawai'i state waters.
- Engage stakeholders including the maritime industry, state and federal governments, the scientific community, recreational boat users and the public.



Future Needs & Requests of Legislature

- Currently funded through awards from the National Oceanic and Atmospheric Administration and the Hawaii Invasive Species Council. Need for more permanent and reliable funding.
- Support the Department of Agriculture to review and update their restricted species lists
- Work with Department of Health to permit appropriate methods for controlling biological pollution (Aquatic Invasive Species) in state waters



Future Needs & Requests of Legislature Cont.....

- Take more of a leadership role in aquatic invasive species prevention and control throughout the Pacific
- Pass administrative rules to stop the movement of invasive alien species between islands
- Develop the potential for culturing and/or outplanting additional native species for the purpose of aquatic restoration

