Testimony of
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Prevention, Control, and Mitigation of Alien Algae Invasions

Chairman Gilchrest and members of the Subcommittee on Fisheries Conservation, Wildlife and Oceans, thank you for the opportunity to testify before you. My name is Cindy Hunter and I am Interim Director of Waikiki Aquarium and an Assistant Professor in Biology, University of Hawaii. It is my role this morning to provide you with a sense of the feasibility of managing the very serious threat that invasive alien algae pose to Hawaii's reefs, and to emphasize the need for public education and outreach in meeting management goals.

As you will hear next from Athline Clarke, Hawaii's Aquatic Invasive Species (AIS) Management Plan identifies seven important objectives to prevent and manage the introduction and spread of aquatic invasive species within the state. Efforts specifically targeting management and control of alien invasive algae that are rapidly overgrowing critical coral reef habitat have been on-going for the past five years.

- **RESEARCH**: An interdisciplinary research team first conducted surveys and experiments that defined the distribution and attributes of alien algae on reefs throughout the state. The results of these studies have set the stage for management actions.

- **COORDINATION and COLLABORATION**: Alien algae issues in Hawaii have been addressed by an inter-agency and interdisciplinary team of researchers, educators, NGOs, and managers (HIMAG=Hawaii Marine Algae Group). Coordination and collaboration were initiated early on by oral agreements among the principals in each group, and continued through frequent planning sessions. Management-driven research and mitigation efforts have largely been funded through NOAA (Hawaii Coral Reef Initiative), EPA, and USFWS.

- **PREVENTION**: Formal and informal discussions among researchers and state agencies have raised the awareness of inspectors and importers to the threats of AIS introductions. In addition, members of HIMAG have presented workshops on Oahu, Maui, Molokai, and the Big Island to community-based monitoring groups (e.g. school groups, canoe clubs, Reef Check, Reef Watchers). These workshops train interested parties in the early detection and eradication of AIS in areas of special concern that have not been invaded.

- **MONITORING and EARLY DETECTION**: Similarly, community and science-based groups are conducting on-going surveys of affected areas and perimeters to monitor the rate of spread of alien invasive algae.

- **RESPONSE, ERADICATION and CONTROL**: HIMAG has developed and tested two eradication and control methodologies that have been very successful in removal of alien algae from reefs in Waikiki and Kaneohe Bay. These methods now require a broad implementation and maintenance.

- **EDUCATION AND OUTREACH**: Volunteer cleanup events, brochures, field guides, underwater i.d. cards, numerous public and scientific presentations, and media coverage have broadened our education and outreach capabilities, both to the general public and to policy makers.

  In the initial efforts to develop manual removal protocols, raise public awareness and estimate removal effort and costs, seven volunteer clean-up events were held, With a total of approximately 3,000 man-hours, 35 tons of alien algae were removed from the reef near the Natatorium and recycled into greenwaste compost. That's a cost of about $3/pound of alien removed. In addition, hundreds of community members received a hands-on education about the threat that aliens pose to Hawaii's reefs.

Clean-up Events:	Volunteers	Total Aliens Removed
24-Aug-02	62	2,406
21-Sep-02	82	3,084
16-Nov-02	105	4,993
1-Feb-03	118	5,607
5-Apr-03	120	4,410
17-May-03	54	4,482
13-Sep-03	220	6,609 kg
Total to date:	500+	31,594 kg
		69,508 lbs
		35 tons

- **POLICY**: There is now a need for inter-agency staffing and funding to conduct broadscale and long-term alien algae eradication efforts.

In conclusion, the issue of alien invasive algae and the negative impacts they are having on Hawaii's reefs can have two basic outcomes:

- we can do nothing and as recent trends suggest, alien algae will become the dominant component of shallow reefs in the main Hawaiian Islands, causing catastrophic loss of habitat, loss of native biodiversity, and loss of the attendant values of these, OR

- we can continue to work collaboratively to further develop and apply effective mitigation measures to prevent spreading to unaffected areas and conduct removal efforts in targeted areas.

Thank you for the opportunity to make this presentation to you today.