



Hawaii Division of Aquatic Resources

Anuenue Fisheries

Sea Urchin Hatchery Program



Hawai'i's coral reefs have many threats to their health - marine debris, climate change, and invasive algae, just to name a few.

To address the invasive algae issue Division of Aquatic Resources (DAR) has developed programs to remove invasive algae mechanically (photo of Super Sucker above) and keep it under control naturally with native Collector Urchins.

DAR Raises Native Collector Urchins to Reduce Invasive Algae on Hawai'i's Reefs

Native Hawaiian Collector Urchins are spawned and raised in captivity at the DAR Anuenue Fisheries Research Center. They are propagated as a tool to fight invasive alien seaweeds in Hawai'i. In most situations, the invasive seaweed is removed by hand or by mechanical means from the troubled areas. But without a strong population of native herbivores the seaweed will grow back.



Juvenile Urchins at the Hatchery

After the seaweed is removed the sea urchins are brought in for the maintenance work. They nibble away at the invasive seaweed as it starts to regrow. The urchins act like gardeners pulling weeds, or goats eating away on unwanted brush. They keep the invading seaweed under control so the coral can thrive.



Photo's demonstrate the before (left) and after (right) mechanical removal. Images show the stunning comparison of a smothered coral reef and a reef with space for fish to thrive and habitat for new coral recruits.

Why use the Hawaiian Collector Urchin?

- 1. They are native.** *Hawa'e maoli* is the native Hawaiian Collector Urchin. By using this urchin we eliminate the chance of bringing in another alien invasive species .
- 2. They have relatively few predators.** Some wrasses and triggerfish like to eat them, but it is not their favorite.
- 3. They don't eat the coral.** Some kinds of sea urchins grind away at the coral, and that's okay because that's what they are supposed to do. But we want to protect the coral, so we don't want to introduce rock eaters to the coral habitat.
- 4. They won't swim away like a fish.** Urchins are pretty slow moving, which means we can put them where we need them and they will stick around to eat the invading seaweed.
- 5. They breed in captivity.** Biologists have learned how to grow them in tanks. That way we don't have to take them from other places in the wild where they are already providing valuable service to the ecosystem.



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