

CORAL BLEACHING RECOVERY PLAN

1 In 2014 and 2015, the Hawaiian Archipelago suffered the consequences of extreme coral bleaching spurred by high ocean temperatures.



Coral bleaching in Kona.
photo credit: DAR

2 Coral Bleaching is a stress response where the coral animal will expel dinoflagellates called zooxanthellae that live within their tissue.



3 Coral mortality caused by the 2015 event was estimated at 50% in the West Hawaii region, which holds some of the state's richest coral reefs and unfortunately also experienced the highest sustained ocean temperatures.

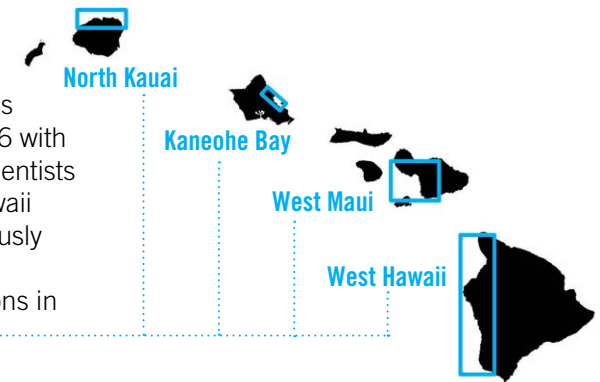
4 DAR's work to identify effective management actions to promote coral recovery following these events began by gathering information including a global survey to collect opinions from over 80 coral bleaching scientists and a review of all existing scientific literature—a synthesis of over 200 articles.



Molokini bleaching.
Photo credit: DAR

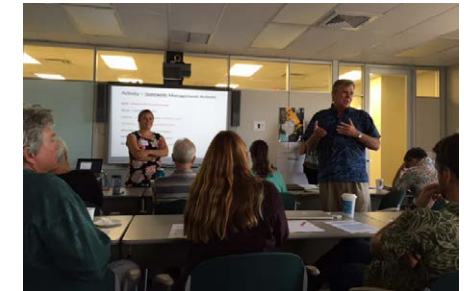
5 Most recently, a workshop was convened on August 11, 2016 with a total of 44 Hawaii-based scientists and managers to apply a Hawaii lens to the information previously gathered as well as identify management recommendations in **four priority locations**.

These areas were chosen because they were exposed to the most severe thermal stress over the 2014/2015 coral bleaching event.



6 THE TOP RATED MANAGEMENT ACTIONS FROM THE WORKSHOP:

- 1 Establish a network of permanent, fully protected, no-take Marine Protected Areas (MPAs)
- 2 Reduce land-based stressors
- 3 Effectively manage herbivore populations



7 Development of a decision-making process of where and how DAR implement management actions was a clear next step.

8 DAR is committed to timely implementation of management actions to promote the recovery of coral reefs severely affected by the most recent bleaching event.