

Channel Islands National Marine Sanctuary

Invasive Species

Management Issue

Invasive species in the Channel Islands National Marine Sanctuary (CINMS or Sanctuary) need to be tracked, monitored, and studied so that impacts to resources can be assessed and potential management actions, such as eradication, can be evaluated.

Description

The CINMS location near a major metropolitan area adjacent to commercial shipping lanes, and the fact that it is frequented by commercial and recreational boaters makes it vulnerable to introduced marine invasive species. Invasive species have the potential to degrade habitat, outcompete native species, and disrupt ecosystem processes. Protection of sanctuary resources requires the sanctuary to be vigilant for invasive species so that they can be discovered when present, monitored, and studied so informed management



Juvenile Sargassum horneri. Photo Credit: Jack Engle.

decisions regarding control and mitigation can be made. The CINMS needs a plan to address invasive species in general, and has information needs for a recent arrival in particular. Specifically, *Sargassum horneri*, a non-native alga, was discovered in the Sanctuary in fall 2009, and there are multiple information needs to guide appropriate management responses. In addition, the brown alga *Undaria pinnatifida* is currently found in mainland harbors and is a potential colonizer in the Sanctuary.

Questions and Information Needs

- 1) Questions regarding *Sargassum horneri*:
 - a. What is the spatial extent and density?
 - b. What is the best way to monitor the spread of species?
 - c. What is the rate of spread?
 - d. What are the habitat requirements or limitations?
 - e. What are the current or potential ecosystem effects?
- 2) What is the likelihood of *Undaria pinnatifida* arriving at the Sanctuary and what are the habitat requirements and potential effects?
- 3) What are effective ways to receive information and communicate information among various groups (researchers, visitors, public)?
- 4) Recommendations and a plan are needed for an “early warning system” and action plan for future occurrences of invasive species.

Scientific Approach and Actions

- SCUBA surveys for *Sargassum horneri*
- Mapping extent and spread
- Studies for ecosystem effects
- Evaluation of mitigation or restoration actions
- Development of action plan and communication plan

Current as of 11/28/2012

For More Information -- <http://www.sanctuaries.noaa.gov/science/assessment>

Key Partners and Information Sources

Channel Islands National Park, UC Santa Barbara, recreational dive groups

Management Support Products

- Data and reports on extent, rate of spread, and ecosystem effects of invasive algae
- Cost/benefit analysis of restoration efforts
- Action plan for identifying, tracking, and management analysis

Planned Use of Products and Actions

- Evaluation of habitat and resource quality
- Focus research and resource protection efforts on potentially altered ecosystem
- Incorporate information into adaptive management
- Collaborate with partners on research and monitoring activities

Program References

CINMS Management Plan

- Management Plan Resource Protection Action Plan RP.1, RP.2

CINMS Condition Report

- What is the condition of biologically-structured habitats and how is it changing?
- What is the status of non-indigenous species and how is it changing?
- What is the status of key species and how is it changing?
- What is the condition or health of key species and how is it changing?

ONMS Performance Measures

- Number of sites in which living marine resources, based on long-term monitoring data, are being maintained or improved
- Number of sites in which habitat, based on long-term monitoring data, is being maintained or improved



Undaria pinnatifida. Photo credit SIMoN/MBNMS.

Current as of 11/28/2012

For More Information -- <http://www.sanctuaries.noaa.gov/science/assessment>