

Marine Managed Area Mapping

Visualization Testbed

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Depicting Marine Managed Areas

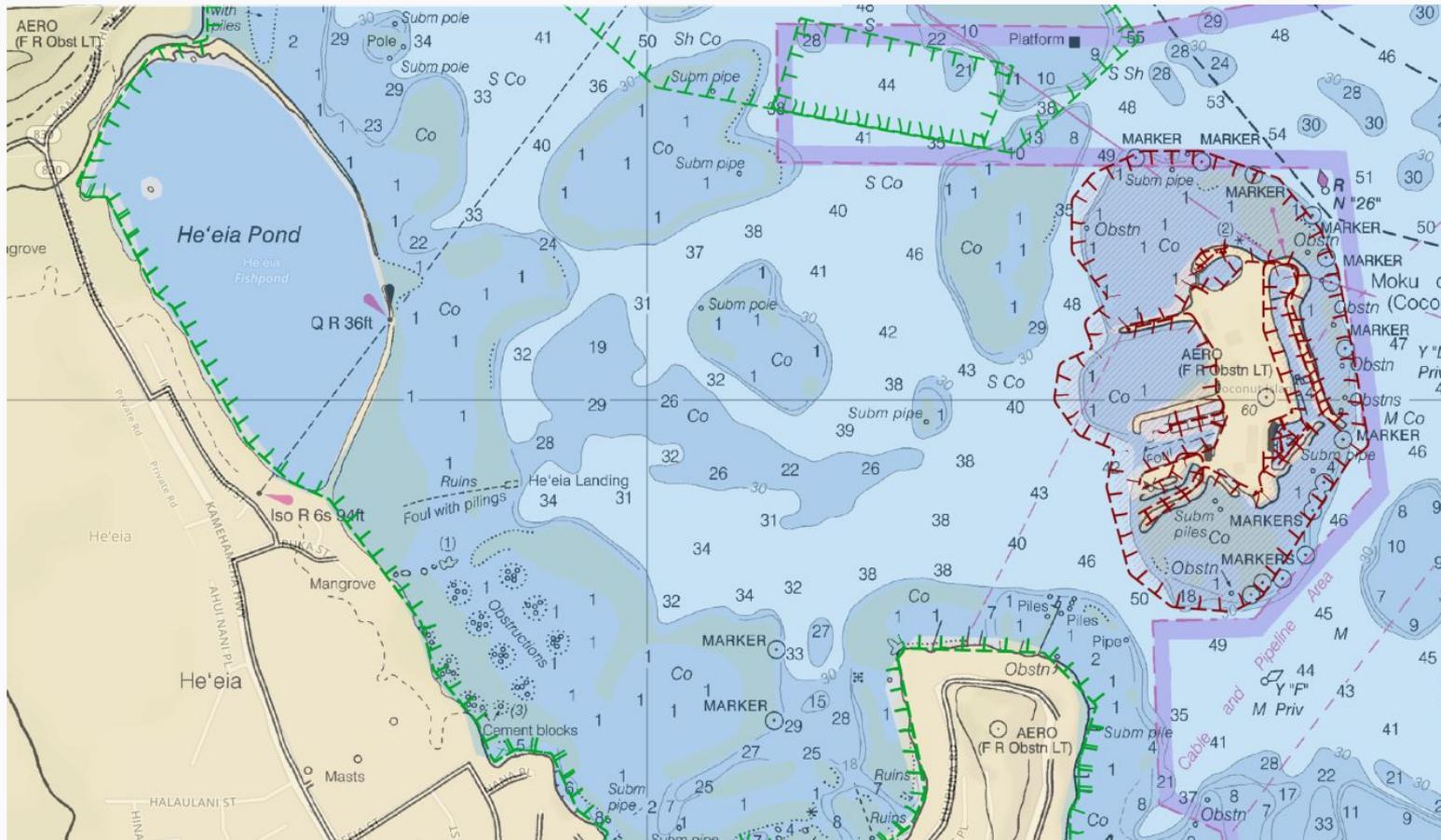
- Leveraged Anthropocene Institute's Marine Managed Area Mapping project and online visualization
 - <https://mpa.protectedseas.net>
 - ~3500 US protected or otherwise conservation managed areas in coastal waters
- Focused on Hawaii region for experiments
 - Large scale variation in surface area of zones
 - Large variation on zone restrictions at different scales
- Built using Leaflet / PostGIS / Mapbox for quick prototyping
- NOAA RNC tile service used as background layer to simulate charts

NIPWG Prototype - Focus on Depicting MPAs in Navigation

- Removed fill colors to reduce clutter over charts
- Used a red hatching pattern for no-take areas -- these are the most restrictive short of entry restrictions
- Changed all but no-take areas to green outlines
- Use of 'T' lines for boundaries at small map scales

Interactive Demo at: <https://mpa.protectedseas.net/north-america/iho>

New Map - Small Scale



MPA Attributes Available by Clicking into Areas or Text Search

Northwestern Hawaiian Islands Marine Refuge

Managed By: Hawaii Department of Land and Natural Resources

Purpose: To establish a marine refuge in the Northwestern Hawaiian Islands for the longterm conservation and protection of the unique coral reef ecosystems and the related marine resources and species, to ensure their conservation and natural character.

 Feedback

Restricted: 1. Entry into the refuge is prohibited without a permit.
2. Fishing or taking of marine life within the refuge is prohibited.

Allowed: Persons may enter the refuge to engage in activities that do no harm to the coral reef ecosystem for the following purposes:

1. Scientific or education purposes;
2. Non-extractive purposes undertaken to further the knowledge of resources or which provide for enhanced resources protection or benefit resource management; and
3. Subsistence, traditional and customary practices by Native Hawaiians.

Governing Regulation: HAR § 13-60.5

Effective: Year-round

Report Violations to: (808) 643-DLNR (3567)

Latest Updates:

For the latest fishing regulation information:

Check the [the Western Pacific Regional Fishery Management Council](#)

In season changes to commercial and recreational fishing regulations, call the Hawaii Department of Natural Resources, Division of Aquatic Resources, at (808) 587-0100 or visit the DLNR [website](#).

Announcements by the Division of Aquatic Resources are made available [here](#).

- Site name
- Managing authority
- Purpose
- Restrictions summary
- Exceptions summary
- Governing regulation citation (s)
- Seasonality (if any)
- Violations reporting
- Sources for news & updates (phone, web, email, ...)
- URL links to official 'homepages', regulation full text, ...

- Are there other ideas for MPA map depiction?
 - We can easily create variants with different styling
 - Which S-122 attributes are mostly likely valuable for depiction rules?
- What methods of text presentation would be most useful to mariners?
- Should shipboard systems expose MPA data to text-based search for lookup / planning?

Thank you!

