

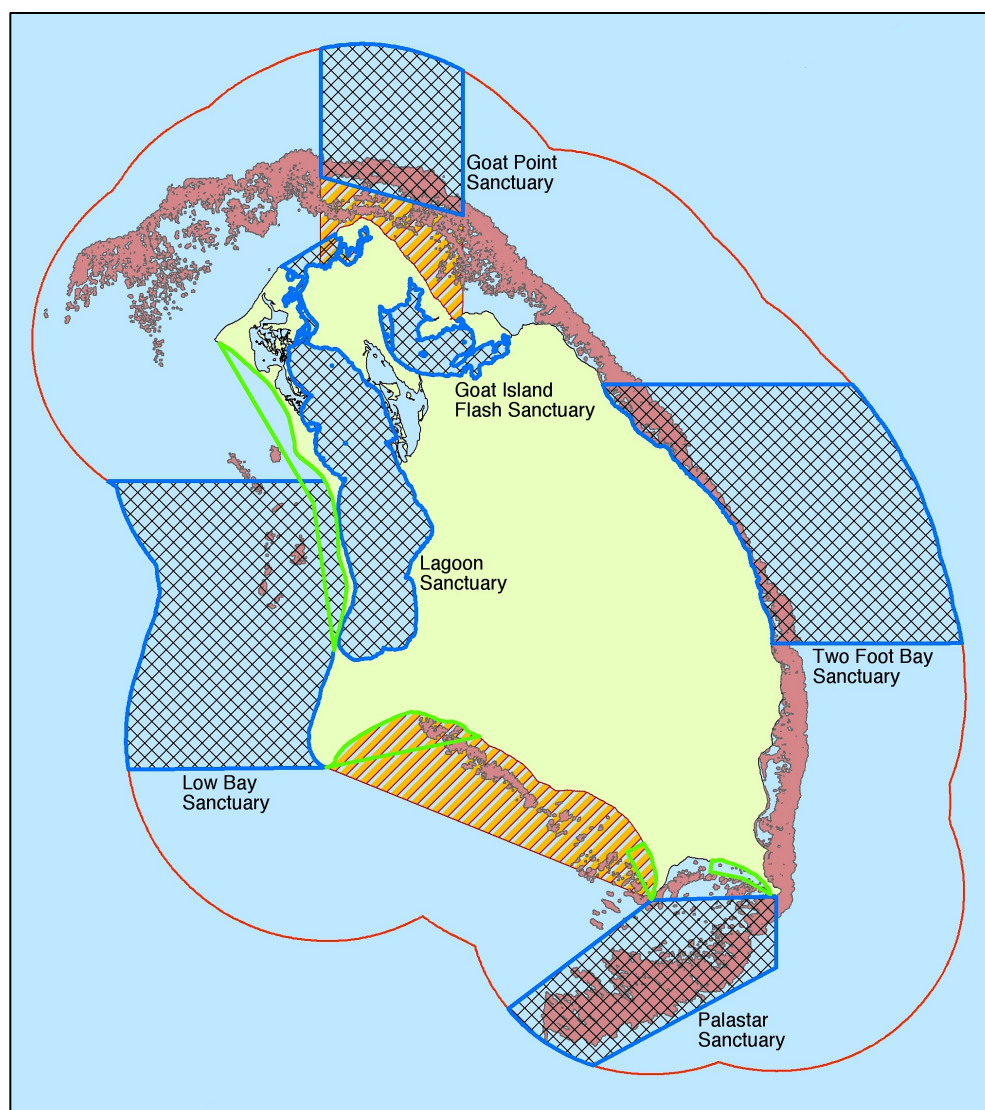
Summary of: Enforcement Recommendations for the Barbuda Blue Halo Initiative

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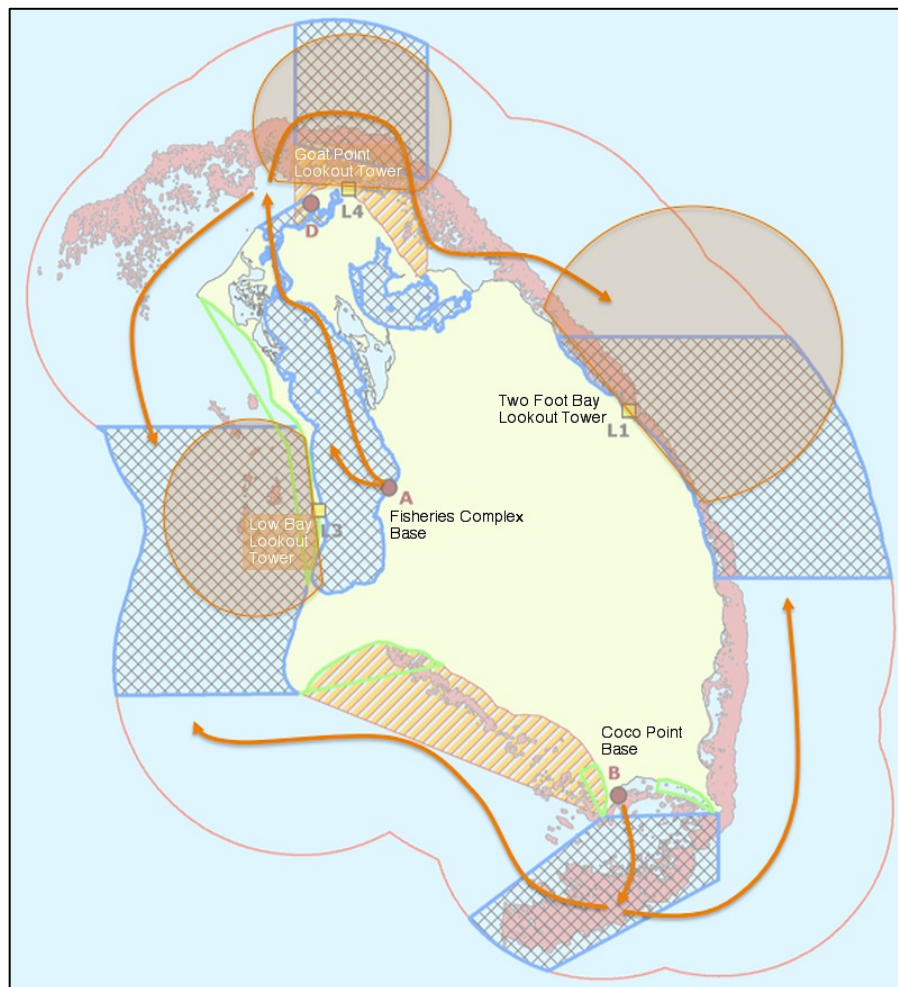
The report focuses enforcement needs associated with the draft plan agreed upon by the Barbuda Council on December 4th, 2013. This plan focuses on zoning for the coastal waters, within 1 league (3.45-miles) of the shore of Barbuda, where the Council has management authority. The plan includes 6 sanctuary zones (areas closed to all fishing, with the lagoon sanctuary opening after an amount of time defined by the Barbuda Council), 4 mooring/anchoring zones, and 4 no-net zones (3 coastal areas, and all reef with a 20 meter buffer around it).



Barbuda Proposed Sanctuary Zones

The current enforcement baseline assumes the Fisheries Complex as the primary base of operation (Base A) and the use of the existing Codrington Lagoon National Park (CNLP) boat for patrols. The recommended enforcement improvements include:

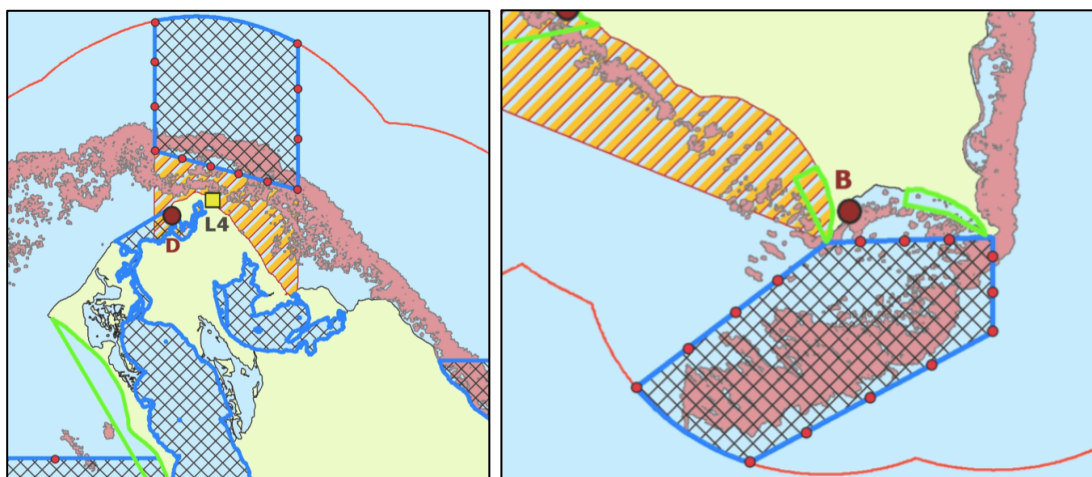
- The addition of another patrol boat or two (purchased and repaired/refurbished from Antigua or neighboring island)
- A second base at Coco Point (Base B)
- Lookout station for the Two Foot Bay sanctuary (Point L1) and Goat Point sanctuary (Point L4)
- Marking buoys for both Goat Point and Palastar sanctuaries
- Use of Guinness' Barbuda Outback structure for Low Bay L2 lookout (or at a point south of that if the structure there is not available for use)
- Text messaging (SMS) tipline for community/fishers (using short code)
- Evidence collection equipment (binoculars, cameras, GPS, and VHF radios) to support two patrols and two lookout towers
- Uniforms for the enforcement officials
- Training by ABDF Coast Guard in boat handling skills, marine safety, nautical navigation, tactical interception procedures, evidence collection, and boarding preparations and procedures



Enforcement Recommendations

The patrol path from each base is noted as the orange arrows. The orange circles demonstrate the visibility from each lookout tower, which is primarily driven by the height above sea level. There is an option to use River Wharf (Base C) as a supplemental base if necessary. Additionally, you can try to make use of the old dock in the cove outside of Codrington jetty for access to Lookout L4 for enforcement of that cove, Goat Point, and Goat Island Flash Sanctuaries.

As a result of the unique boundaries for both the Goat Point and Palastar Sanctuaries, marker buoys will be required in order to successfully identify the boundaries of the no take zones. This is an example of what that may look like:



Initial Marker Buoy Recommendations (Red Dots)

We recommend using low cost buoys like the version used by the Nature Conservancy in Jamaica. Those were made using PVC pipe, old tires, concrete, nylon rope, and rebar. A variation on this would work nicely for marking sanctuary boundaries in Barbuda and their construction and deployment could be used as a way to get the community and fishers involved in the protection of these no-take zones.



Nature Conservancy South West Cay Fish Sanctuary Buoys

The lookout for Two Foot Bay (L1) does not need to be built up high off the ground if it can be placed at the top of the cliff. That added height above sea level should give sufficient range for monitoring from that location. It is also recommended that lookout be located near year-round road access, since the southern section is inaccessible during bad weather. The lookout should also provide a structure that can shield the enforcement official from the weather and provide them a location to store equipment (binoculars, VHF radio, desk, solar panels, etc.). If potentially illegal behavior is observed, they will need to call it in to the nearby base, so those with access to a boat can investigate.

A second lookout (L3) can be located at Guinness' Barbuda Outback. There is a two-story structure there that can help to provide some higher visibility and it has easy access to the Fisheries Complex through use of the lagoon-side dock. For the lookout at Goat Point (L4), a structure would need to be built as there isn't an existing one there currently.

There is additional equipment necessary for the patrols to ensure that the officers can communicate effectively and are able to properly gather evidence of infractions. This includes VHF radios, GPS devices, and cameras (at least one per patrol vessel). If the camera has GPS functionality, then this is an added benefit because the photograph will have embedded information to act as a secondary validation of GPS coordinates. It is also important that the enforcement officials have some sort of a uniform. In dealing with individuals in those types of interactions, it helps to maintain the highest level of professionalism that is possible and a uniform can have a considerable impact on the outcome of that interaction.

A system can be set up to allow anyone to send text messages (SMS) confidentially from their phones to the enforcement officials and let them know about illegal fishing. The regional cellular network provider can provide a short code number to use. The enforcement officials can manage these text message reports through use of free software like FrontlineSMS or Twilio. This program could augment or replace the current Sea Warden program in allowing rewards to be offered to reports that result in verifiable information. The GPS coordinates for these sanctuaries should be distributed to the fishers (and general public) to know precisely where these protected areas start.

The Barbuda enforcement officials should work in collaboration with ABDF Coast Guard and the Police on Barbuda to ensure that they have support in their operations. This includes training by the Coast Guard in things like boat handling skills, marine safety, nautical navigation, tactical interception procedures, evidence collection, and boarding preparations and procedures.

When the final regulations are in place and the equipment outlined here is available, a detailed patrol plan can be developed. This plan should cover the frequency of patrols, paths to take, sanctuaries of focus, and required personnel. This planning should pay careful attention to the fishing seasons and the times of the year when the fishers will be out in the area, as to not waste resources. This updated patrol plan should include an official review and proposed improvements to the Sea Warden program.