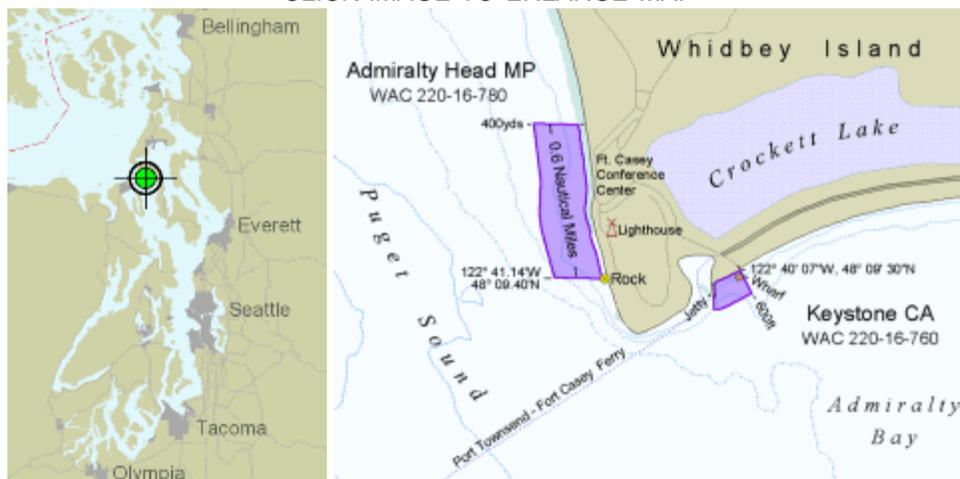


Keystone Conservation Area

[WAC 220-16-760](#): "Keystone Conservation Area' is defined as all bedlands and tidelands and the waters over these starting at the extreme high water line on the east side of the Keystone jetty in Fort Casey State Park then easterly along the extreme high water line to a line projected from shore through the easternmost row of pilings of the old military wharf, then offshore along that line southeasterly for 600 feet, then southwest parallel to the shoreline to a point due south of the southern tip of the jetty, then north to the extreme high water line on the southern tip of the jetty, then along the extreme high water line on the east side of the jetty to the point of origin." *Effective since 9/9/2002.*

CLICK IMAGE TO ENLARGE MAP



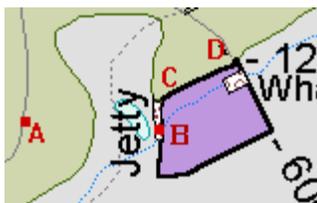
(Note: this is the same map as used for the Admiralty Head MP)

Geographic Statistics

Area Type	Acres	Hectares
Intertidal	None	None
Subtidal	11.40	4.61
Total	11.40	4.61

Links to other imagery about this site

- [Oblique aerial photos from the WA Dept. of Ecology](#)
- [Satellite photos of the area from Terraserver at Microsoft](#)



The finder map at left, extracted from the Keystone Harbor map, has the locations of the photographer from where the four images below were taken.

Shot from a hill above the campgrounds (point "A" on the finder map) and facing east, this image is an overview of the area and its surrounds.



This shot of the wharf at the east end of the area and the beach was taken from Point "C" and faces just south of east.



Facing SSE from point "D",

Recreational Restrictions / Openings		
Species	Status	Comments, notes...
Salmon	Closed	
Trout	Closed	
Bottomfish	Closed	
Shellfish	Closed	
Forage Fish	Closed	
Unclassified	Closed	
Commercial Restrictions / Openings		
Species	Status	Comments, notes...
Salmon	Closed	
Bottomfish	Closed	
Shellfish	Closed	
Forage Fish	Closed	
Unclassified	Closed	



this shows remnants of a pier that previously extended to the wharf. The extension of the line of pilings defines the eastern edge of the area.



This short panorama was taken from point "B", beside the marker near the south end of the jetty, and sweeps from north (left edge) to just north of east (right edge).

Prominent and unique features

The site is along the southern shore of Fort Casey State Park. It includes the eastern side of the jetty into Keystone Ferry harbor and extends eastward to the eastern row of pilings under the old military dock. The jetty is a man-made structure composed of large revetment boulders that creates high-relief, structurally complex habitat within the site. The area between the jetty and the old military dock has been used for disposal of dredge spoils from the ferry terminal in the past. The bottom is ungraded, mixed material that ranges from sand and broken shell through moderate sized cobble.

The reserve extends from intertidal depths from the ordinary high water mark offshore to depths of 70 feet (mllw) or more. The offshore terminus of the jetty is subjected to strong tidal currents, and the cove to the east often has eddies that brings flotsam and jetsom on to the beach. A floating kelp bed composed of bull kelp (*Nereocystis leutkeana*) occurs on the southeast margin of the jetty and may occur near the derelict pilings on the southeastern boundary of the reserve. Bladed kelps and foliose red algae occur on the boulders and cobbles in the photic zone of the conservation area.

Description of fish, bird, and mammal resources at the site

Rocky habitat fish species use the jetty and include copper rockfish (*Sebastes caurinus*), quillback rockfish (*S. maliger*), and black rockfish (*S. melanops*), and lingcod (*Ophiodon elongatus*). Other fish species that may be observed are blackeye goby (*Coryphopterus nicholsii*), striped seaperch (*Embiotoca lateralis*), pile perch (*Rhacochilus vacca*), kelp greenling (*Hexagrammos decagrammus*), and painted greenling (*Oxylebius pictus*). Pelagic fishes are also attracted to the site and include Pacific herring (*Clupea harengus pallasii*), Pacific sandlance (*Ammodytes hexapterus*), and coho salmon (*Oncorhynchus kisutch*).

The high currents provide the basis for a rich invertebrate community, especially for encrusting species. Dominant invertebrates include giant anemones (*Metridium senile*), giant barnacles (*Balanus nubulis*), red rock crabs (*Cancer productus*), and red sea cucumbers (*Parastichopus californicus*).

Programs in place to manage the site

WDFW manages the site as fully-protected marine reserve for non-tribal citizens. WDFW regulations prohibit commercial and recreational fishing and harvesting at the Keystone Harbor Conservation Area. The taking of all species of invertebrates and fishes is prohibited by WDFW regulations.

The site is primarily located adjacent to the Keystone section of Fort Casey State Park. State park staff patrol the facility and provide signage with educational materials at the base of the jetty. The enforcement of the harvest restrictions is primarily relegated to the Enforcement Program of WDFW. The state park staff provides supplemental enforcement to WDFW agents. Recreational divers have used the area for years and it is anticipated that they will help to educate other divers informally at the site.

Information on the site boundaries and restrictions is found in WDFW's Sport Fishing Pamphlet and formal regulations are published at the State of Washington's Administrative Code available on the state's web site. WDFW is developing specific pamphlets describing each of its marine reserves.

WDWF scientists surveyed the Keystone Jetty from 1995 to 1998 when fishing was still allowed at the site. Staff will conduct annual surveys at the jetty as part of their marine reserve monitoring efforts. Quantitative data will be collected on fish species present, their densities, sizes and reproductive effort. The data will provide the basis to evaluate the success of the reserve in a before and after treatment comparison.

Issues of concern

There may be some residual conflicts with fishers who have used the site previously but are unaware that it has been closed.

The Department of Transportation is planning changes for the Keystone Ferry in the future. These changes might entail moving the breakwater and changing the embayment where the ferry docks. These changes are likely to result in effects on the Keystone Conservation Area. Dredging and disposal of material from the ferry slip will be an ongoing management issue. Issues may include direct disturbance during dredging and disposal as well as effects on long-shore drifting material.

The presence of pilings in the conservation area may present a source of toxic contamination if creosote is still present in the wood. The reserve is located at the entrance to Puget Sound and the high volume of shipping traffic presents some threats to the reserve if vessels become grounded or spill toxic substances. In addition a popular boat ramp is located on the same facility and toxic substances associated with boating may be released on a small by continual basis.

Performance measures

- Acceptance by local fishers.
- The development of a diverse fish community.
- Increasing or sustained abundances of copper, quillback, and black rockfish.
- Increasing and sustained large individual sizes of copper rockfish.
- The presence of reproductive fish and recruiting rockfish and lingcod.