

## **Humboldt Bay Artificial Reef Project**

The Humboldt Bay Artificial Reef project entails placement of reef components on a one square mile site approximately one mile north and west of the entrance to Humboldt Bay (North Jetty). The area is a featureless sand and mud bottom ranging from 60 to 110 feet under water. The proposed reef components are manufactured concrete pyramids; eight feet tall and hollow with holes for sea life to access cover and allow currents to flow through. The pyramids are designed to stay in place during a storm surge and not foul commercial crab gear.

The reef will provide enhanced bottom fishing opportunities to small boats launching from various sites within Humboldt Bay. Currently the rock fishing out of this port is restricted to the harbor jetties or a long run to Cape Mendocino or Trinidad, a run only suitable for larger boats. The fish that will inhabit the artificial reef will attract sport fishers from Ukiah, Redding and surrounding areas. Those coming to fish the reef from outside the immediate area will increase commerce for hotels, restaurants, tackle shops, gas stations and grocery stores, and increase tourism overall.

Artificial reefs will be an essential component to maintaining California's 3 billion dollar a year saltwater sport fishing industry. The Rockfish Conservation Area is one of the world's largest protected areas, encompassing all the waters beyond 20 fathoms (120 feet deep). With many natural reefs being closed to fishing due to the Marine Life Protection Act, Yelloweye Conservation Areas, and the impending Coastal Marine Spatial Planning, the placement of artificial reefs near sea ports will help mitigate the loss of recreational fishing opportunities. The artificial reef could also enhance the fishery by creating more habitat and moving sport fishing effort away from natural reefs.

The artificial reef site is not deep enough to affect the endangered yelloweye rockfish. The reef is expected to support various marine species reliant on vertical structure including common varieties of rockfish, lingcod, Cabazon, and greenling.

The reef project can also provide a rich platform for scientific study and research. The movements of rockfish are widely unknown. A rockfish tagging program on natural reefs was suggested by a fisheries faculty member at Humboldt State University (HSU). This could shed light on the movements of rockfish if tagged fish are caught on the artificial reef. It is believed rockfish fry float in the ocean currents until they are large enough to settle on rocky habitat. If this is correct, it is not likely the artificial reef will displace fish from natural reefs. The artificial reef will be close enough to port to allow HSU fishery studies to be conducted in an effort to answer these and many other questions. All aspects of the project, from planning, design, permitting, construction, and monitoring could be advanced student projects.

The Humboldt Area Saltwater Anglers (HASA) has partnered with the Humboldt Bay Harbor, Recreation, and Conservation District to advance this important project and has strong community support. This project will also need State and federal support in order to succeed. Funding will be generated through various grant applications, fundraising dinners and donations from the fishing and tourism industries. Memorial site companies

like Eternal Reefs could also help finance and build the reef. Funds from State and federal ocean enhancement programs like the California Marine Resources Legacy Act (AB2503) will also be applied for. Naming rights could be sold. How often does the opportunity to have your name or corporation on a map come along? The Arkley Reef or the Honda Reef could be worth a lot of money. Individuals and corporations may consider this a tremendous public relations opportunity.

Much of the project work will be completed by volunteers. The manufactured reef components could be purchased from companies like ReefMakers (\$1500 each) or the Reef Ball Foundation, or could be built locally by volunteers from HASA. The pyramids will be placed on the ocean bottom from a barge with a crane and GPS coordinates will be recorded. The current concept is the modules will be placed in clusters with open space between the clusters. With hundreds of modules placed in clusters of 6 to 10 and spread over the square mile lease site, sea life will have large and diverse structure to inhabit and sport fishing boats will have plenty of room without crowding and over-fishing one small spot.

A lease application has been submitted to the State Lands Commission and HASA donated the application fee of \$1500. Environmental documents required by the California Environmental Quality Act and National Environmental Policy Act will need to be prepared. Permits from the California Coastal Commission, North Coast Regional Water Quality Control Board and U.S. Army Corps of Engineers will be applied for. HASA is working with a local consultant who is beginning to assemble the information required to apply for and obtain the needed permits. Environmental groups Humboldt Baykeeper and Humboldt Surfriders have previously provided verbal support to the artificial reef project and will be asked to provide written support. A few commercial crab fishermen have voiced concerns regarding the potential for the artificial reef structures to entangle crab gear, but the pyramid shaped reef modules will be designed to not foul crab pots. Common questions include; will the modules move with the current? Will they get sanded in? The modules weigh over 5,000 pounds and were designed to withstand 18 knot hurricane currents in the Gulf of Mexico. At the proposed site currents are not known to exceed 5 knots. At eight feet tall the pyramids will probably not completely sand in and a few feet of sand will likely come and go with each storm.

The fishing community is extremely excited about the creation of the artificial reef and the fishing opportunities it promises. Another common question is; "will it happen in my lifetime?" Verbal support has come from every corner of the community and from our elected officials. The success of artificial reefing has been demonstrated (many times over) on the East Coast, Gulf States and in southern California. Florida alone has over 1900 permitted artificial reef sites which allow them to be called "The Sport Fishing Capitol of the World."