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Greetings,

I am seeking approval to augment the Redondo Beach Artificial Reef with material from King Harbor infrastructure projects, including used concrete pier pilings.

Over the next decade, King Harbor will undergo infrastructure improvements, including repairs to the main breakwall, replacement of pier pilings and floating docks in several marinas, and addition of a boat ramp. I would like to obtain the permits and approvals to augment the Redondo Beach Artificial Reef with any acceptable debris from these projects, including but not limited to concrete pier pilings, concrete and stone seawall debris, concrete sidewalks, and any other acceptable inert structural material. This will be a cost effective opportunity to augment the reef. Material would be reviewed for acceptability, and costs would be assessed, project by project, this is just an introductory letter.

The Redondo Beach Artificial Reef is 3/4 of a mile from the entrance to King Harbor, and is frequently used by fishermen and scuba divers. It is within range for kayak fishermen. It is in an otherwise sandy area, and removes fishing pressure from nearby natural reefs on the coast of PV. The Redondo Beach Artificial Reef receives heavy fishing pressure due to its convenient location. Additionally, in 2012, state marine conservation areas were added to the Palos Verdes coastline, reducing available fishing sites nearby. Augmenting the reef will increase local fishing and diving opportunities.

The Redondo Beach Artificial reef was constructed in 1962, with 1,000 tons of quarry rock. The original reef was augmented in 1974 with addition of a steel barge, in 1975 with 350 tons of cement pipe, in 1976 with 700 tons of concrete pilings, in 1978 with 200 concrete dock floats, and in 1979 with 1,500 more concrete floats. The reef is in 70 to 90 feet of water, and even with augmentation, will not present a hazard to navigation.

Over the ensuing decades, the reef has crumbled and flattened out due to decay of manmade materials and storm action. The quarry rock and pier pilings have largely

been reduced to a single level, with little or no three dimensional structure to provide shelter and habitat. The cement pipe has generally rolled apart into a single layer in the sand, and in many areas has crumbled. The concrete dock floats have crumbled and flattened into single plates and provide no three dimensional relief or habitat.

It would be beneficial to augment the patches of existing reef with pier pilings and other debris to add three dimensional relief and structural cover to improve each existing patch of reef with effective use of material. If enough material is available, it would be valuable to add additional patches of reef within the boundary of the existing reef.

The Bolsa Chica artificial reef includes a section consisting of large piles of concrete light poles, providing extensive three dimensional habitat and the densest population of fish I have seen on an artificial reef. Creating a similar patch of artificial reef within the Redondo Beach Artificial Reef area would be a valuable use of available material.

I'm aware that this will take approval from a number of agencies, this is just an introductory letter to assess feasibility and begin the process.

Thanks,

Roger Carlson

Augmentation of the Redondo Beach Artificial Reef with harbor infrastructure project debris is supported by:

Myles Blatt, President, Marina Del Ray Anglers

Nancy Caruso, founder, Get Inspired. Ocean restoration of kelp, white seabass, green abalone, and Pismo clams, and local science expeditions.

Mike Couffer, Grey Owl Biological Consulting, Giant Sea Bass Researcher, Author, “Planning shoreline infrastructure projects at Redondo Beach, California to avoid impacting a Giant Sea Bass nursery site”, California Fish and Wildlife Journal Volume 106, Winter 2020.

James Lyle, Professor Emeritus at California State University, Dominguez Hills
Scuba diver with thousands of local dives.

Clark McNulty, founder, Oceans Global, providing water based activity for recovery from substance abuse.

Lead for reconstruction of the King Harbor White Seabass Growout Pens
Director of The Kirk McNulty White Sea Bass Spearfishing Classic

Daniel J. Pondella II, MA, Ph.D., Professor of Biology, Occidental College.

Director Ocean Studies Institute & Southern California Marine Institute.

Director, Vantuna Research Group Anderson Center for Environmental Sciences.

Biological Consultants for Palos Verdes Artificial Reef.

Vatuna has conducted timed fish transects at several stations throughout King Harbor on a quarterly basis since 1974.

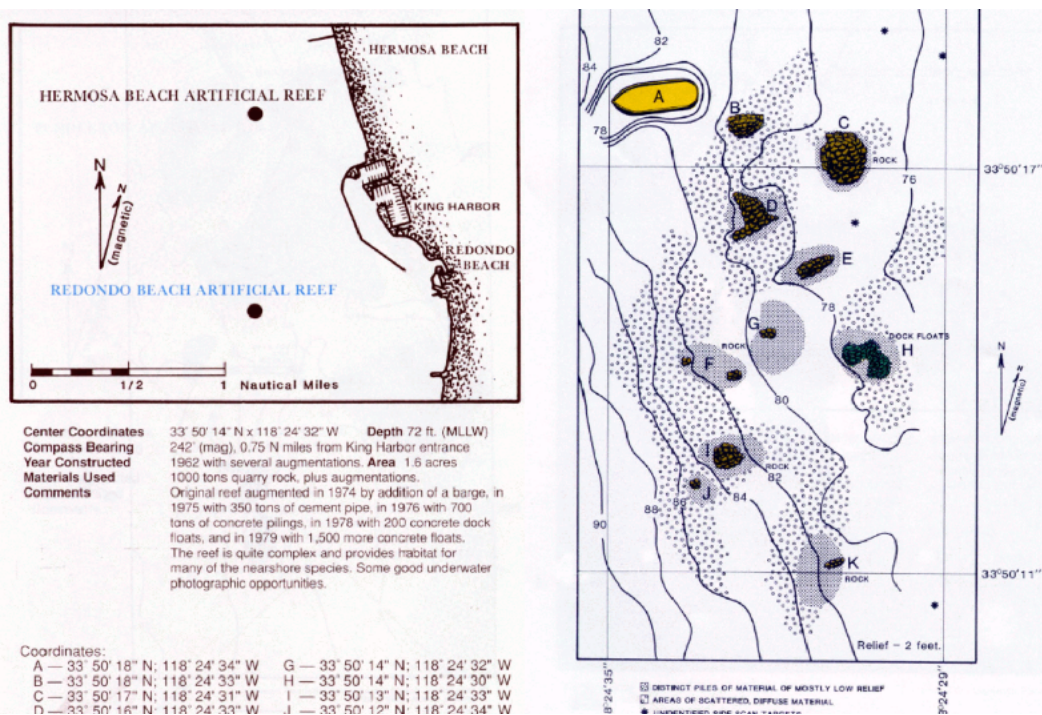


Figure 1. Excerpt from the California Department of Fish and Wildlife Publication, "A Guide to the Artificial Reefs of Southern California"



Figure 2. Current photo (January 2024) of the Redondo Beach Artificial Reef. Single layer of quarry rock. One pier piling shows what even minor augmentation could do



Figure 3. Current photo of the Redondo Beach Artificial Reef. Leveled pile of quarry rock.



Figure 4. Current photo of the Redondo Beach Artificial Reef. Crumbled cement pipe.



Figure 5. Current photo of the Redondo Beach Artificial Reef.
Crumbled cement pipe.

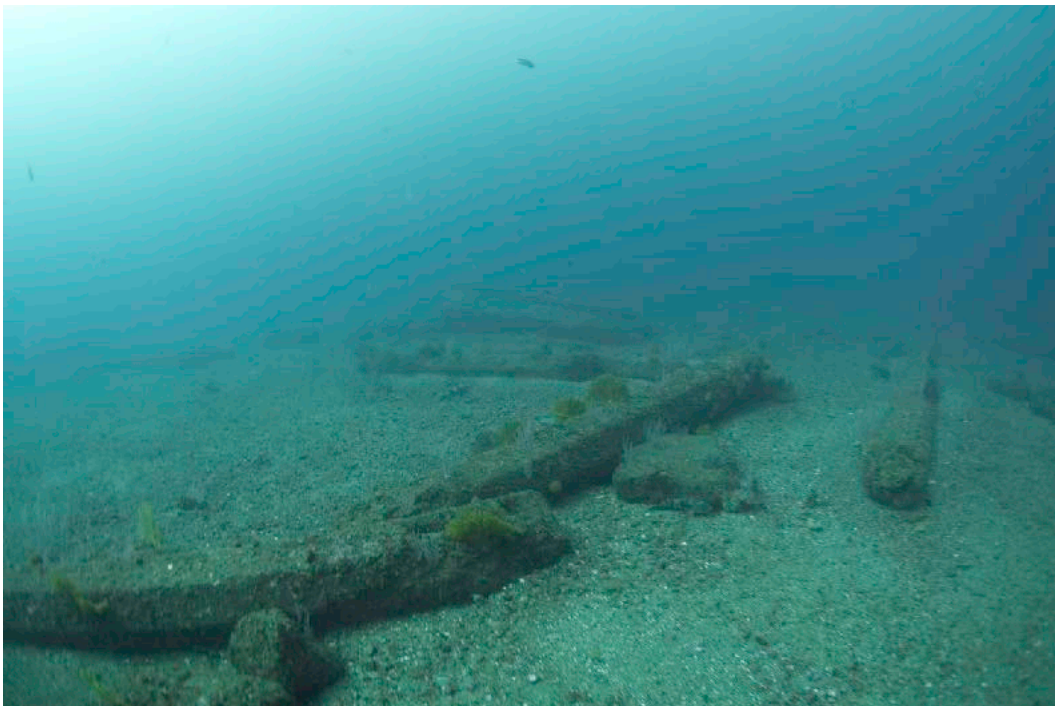


Figure 6. Current photo of the Redondo Beach Artificial Reef. Single
layer of pier pilings.



Figure 7. Current photo of the Redondo Beach Artificial Reef. Giant sea bass on an area of reef with three dimensional habitat.

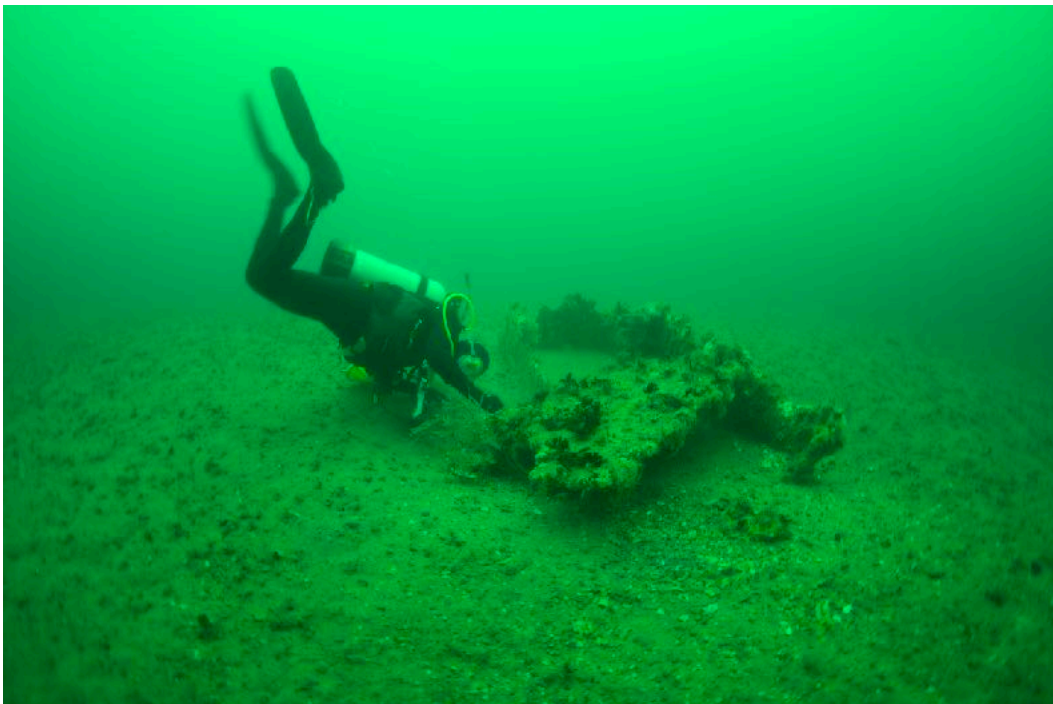


Figure 8. Current photo of the Redondo Beach Artificial Reef. Concrete dock floats were turned into habitat by cutting windows into the cement cube. Floats have broken up into flat plates, this float is in above average condition.



Figure 9. Current photo of the Redondo Beach Artificial Reef. Another above average dock float.



Figure 10. Current photo of the Redondo Beach Artificial Reef. Typical dock float.



Figure 11. Current photo of the Redondo Beach Artificial Reef. Typical dock float.



Figure 12. Photo of the Bolsa Chica Artificial Reef showing extensive three dimensional habitat and fish population.



Figure 13. Photo of the Bolsa Chica Artificial Reef showing extensive three dimensional habitat.



Figure 14. Photo of the Bolsa Chica Artificial Reef showing extensive three dimensional habitat and fish population.

