

County of Ventura
Planning Commission Hearing
Case No. PL20-0039
Public Comments Received for February 20, 2025
Planning Commission Hearing

Comment on Agenda Item No. 7B (Case # PL20-0039)
Proposed amendments to the Ventura County Local Coastal Program
Ventura County Planning Commission hearing February 20, 2025

Dear Planning Commissioners,

Quoting from your [website](#), “Sea level rise is a slow-moving threat, but it demands action.” We suggest, “Sea level rise demands innovative funding mechanisms that favor innovative actions.” Our attached white paper, “Coastal Ecosystem Resilience Districts (ResilienceDistricts)” describes a funding mechanism for on-land adaptations (protection, elevation, retreat) with income from restored beaches and sea life plus savings on insurance. This funding approach encourages communities to favor innovative environmentally and economically sustainable in-ocean adaptations over seawalls and other short-sighted adaptations.

You, Planning Commission, are invited to consider:

- Talking up the draft legislation for [establishing](#) (Pg. 8) and [funding](#) (Pg. 13) ResilientDistricts.
- Incorporating concepts from “**Coastal Ecosystem Resilience Districts**” in Ventura County Planning Commission documents.

Thank you,

Mark, Roger, and Mohammed

Mark E. Capron, PE and Mohammed A. Hasan, PE



OceanForesters

Ventura, California

Cell: 805-760-1967

Feed the world. Restore the oceans. Cure climate change.

Roger Benham, P.E.

Faculty Member, Materials Engineering Dept, California Polytechnic, San Luis Obispo

CoilREEF.com

619-787-2337 Mobile / Text



Coastal Ecosystem Resilience Districts

Mark E. Capron, Roger Benham, Mohammed A. Hasan

Overview: Inspiring holistic thinking globally

Communities must adapt to sea level rise for a few centuries, but often operate in crisis mode. Crisis mode drives people to focus on the quickest, band-aid fix such as a seawall or rip-rap. Instead, coastal communities can think long-term to find environmentally *and economically* self-sustaining adaptation projects with holistic benefits. For example, when considering shore protection and flood prevention options, look for benefits that can help pay for and maintain the projects. That is, expand the project into a local or regional self-supporting operation. Governance structures can include: an enterprise operation within existing city government; a special district¹; a group of fishers, aquafarmers², other stakeholders; or private businesses that contract with local government.

A better term for holistic minded coastal governance might be “Coastal Ecosystem Resilience District” (ResilientDistrict). Each ResilientDistrict balances income from recreation (which requires clean healthy water), sustainable mariculture, perhaps renewable energy production, and other complementary resources to fund managed resilience and/or retreat, human structure adaptations, insurance, and shore protection.

The ResilientDistricts would manage activities in an area³ they select. A ResilientDistrict might train and employ the people who design, build, operate, and fish in their area. A ResilientDistrict might contract with others (including other ResilientDistricts) to train people, design, build, operate, and fish in their area.

Encouraging innovation

The world’s oceans and coastal communities face great challenges, but current tools are inadequate. Earth’s people need innovations. Even the U.S. Army Corps of Engineers has signed onto the U.S. Government Accounting Office’s recommended “[Options to Enhance the Resilience of Federally Funded Flood Risk Management Infrastructure](#)”. Given the Army Corps’ new interest in innovation, ResilientDistricts might ask the Corps and local governments to push holistic innovations over single-issue short-term thinking.

[Research](#) advises people to: (1) design adaptations to sea level rise plus triple-threat events (heat waves, acidification and low oxygen levels); and (2) spend more resources on trying out and improving potential innovations to overcome all four types of threats.

Examples of potentially desirable innovations for ResilientDistricts in the rest of this paper

- 1) Southern California [sandy seafloor kelp restoration](#) enhanced by tubeworms
- 2) [Beach sea gardens and Tidal fishing weirs](#)
- 3) COILReef: a [portable living reef](#)
- 4) Draft legislation for [establishing](#) and [funding](#) ResilientDistricts

¹ A Port, Harbor, Bridge, or Geologic Hazard Abatement District (GHAD). For example, the [Broad Beach GHAD](#) is a collection of homeowners that formed to fund beach nourishment. California GHAD projects can be expedited without some environmental documentation.

² Such as a fishers co-operative working with [Territorial Use Rights Fishery](#) (TURF).

³ Could extend from offshore to as far inland to the land that may be flooded during 100-year storms within 50 years. Update that inland boundary every five to ten years.

Southern California kelp forest restoration: A globally applicable concept with appropriate local species

Kelp forests promote ocean health with much more than habitat. Kelp put 50 to 60% of the carbon (polyphenols) they photosynthesize into the water. Polyphenols are healthy food for microorganisms. This food moves up the food chain, creating biodiversity and seafood.

Kelp plants have evolved to not appreciably attenuate waves. Kelp and tubeworms have evolved a synergistic relationship with tubeworms settling close to kelp for the food and kelp holdfasts attaching to tubeworm homes. Many tubeworms, who build homes by cementing sand, could stabilize a sandy seafloor, unless the kelp pulls the tubeworm onto the beach during large waves.

Bob Kiel, conducting kelp restoration trials for [BEACON](#), found that juvenile kelp would quickly attach to granite stakes. Tubeworms would build homes near the new kelp. Juvenile kelp would then attach to the tubeworm homes. Eventually, a sprinkling of granite stakes would result in kelp holdfasts on tubeworm homes filling in the seafloor between the granite stakes.

Bob noticed that green crabs would eat the kelp before it could grow up to the ocean surface. So, he invented the octo-column, Figure 1. The octo-column is the ideal home of California two spot octopus, which will eat crabs venturing into its territory before crabs can eat too much kelp.

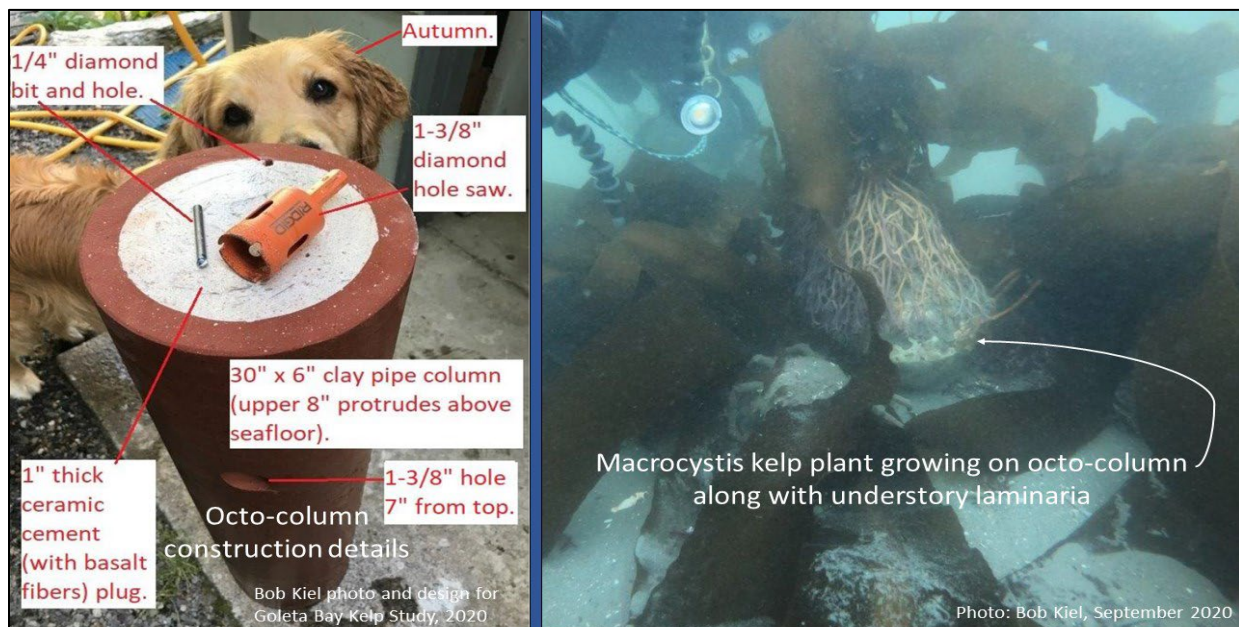


Figure 1 – Photos of octo-column construction details and kelp growing on an octo-column

This tale of synergy and special habitats is not limited to kelp-tubeworms-crabs-octopus or Southern California. Similar relationships and opportunities for innovation are available in every coastal ecosystem.

Simply embedding octo-columns in sandy seafloor does not guarantee full kelp forest restoration. Kelp forests decline in warmer water, which accompanies El Niño and may be more frequent with climate change. Also, more intense storms will wash more kelp-on-tubeworms ashore. This means a more robust sandy seafloor kelp forest restoration may require a [portable living reef](#), [low voltage electricity](#), and [restoring sea otters](#).

Beach sea gardens and Tidal fishing weirs

Beach sea gardens and tidal fishing weirs can be important to ResilientDistricts as:

1. Extremely accurate, citizen-scientist operated, daily survey tools for the number, size, health, and reproductive situation, of every species near the ecosystem. In addition to the permanent resident intertidal creatures, deep-water fish are trapped every low tide and released every high tide.
2. Restores of intertidal biodiversity (clams, sand dollars, grunion, crabs, ...)
3. Shore protection.
4. Sustainable and restorative fisheries, particularly women-owned fisheries in developing countries.

Pacific Ocean peoples traditionally made coastal ocean tidal fishing weirs with carefully piled rock, requiring substantial hand labor initially and after each large storm. Native Americans sometimes use wood fence weirs in rivers. Today, cost-effective ocean tidal fishing weirs can be built of concrete, [OysterCatcher](#) material, or bare steel. Bare steel requires impressed current cathodic protection (ICCP) to become coated with calcium carbonate (the main ingredient of seashells). ICCP involves inexpensive 6 to 12-volt low voltage DC. The metal is safe for people to touch – even with their feet and the metal in seawater. This is because people’s bodies are much less salty, and therefore less electrically conductive, than is seawater. The electricity will flow around people’s bodies through the seawater, not through their bodies.

For additional safety and cost savings, the electricity can be limited to when the metal is completely submerged. This is because low voltage electricity precipitates an electrically insulating layer of calcium carbonate (main ingredient of shellfish) while raising ocean pH (countering ocean acidification). The insulating layer protects the steel from corrosion when it is out of the water (during low tide). The thickening insulation also reduces the required amount of electricity over time.

Finally, low voltage electricity can be a triple-benefit to counter the [triple-threat](#). [Biorock™](#) installations provide ample evidence that low voltage electricity improves coral tolerance and recovery from heat waves. There is some evidence for substantially faster shellfish growth and tolerance of low oxygen with marine electrobiology. The converse of life benefiting from electricity, [seaweed generating electricity](#), is well proven.

An electrically [protected portable living](#) reef also offers the triple-benefit to counter the triple-threat.

COILReef™: A Portable, Inexpensive⁴ Living Reef

The ideal “protection-emphasizing” living reef foundation biomimics endangered elkhorn coral’s biologic and wave-weakening benefits. The 3-D structure would be optimized for exactly the desired amount and shape of wave energy attenuation to protect sandy beaches and floating or elevated homes. The example of [COILReef](#) in Figures 1-3 and Table 1 compares a rock reef and COILReef. Both are built for 30% wave energy attenuation with the expectation of 30% less sand transport along the beach with the top of the structure 20 feet deep on a 40-ft deep sea floor.

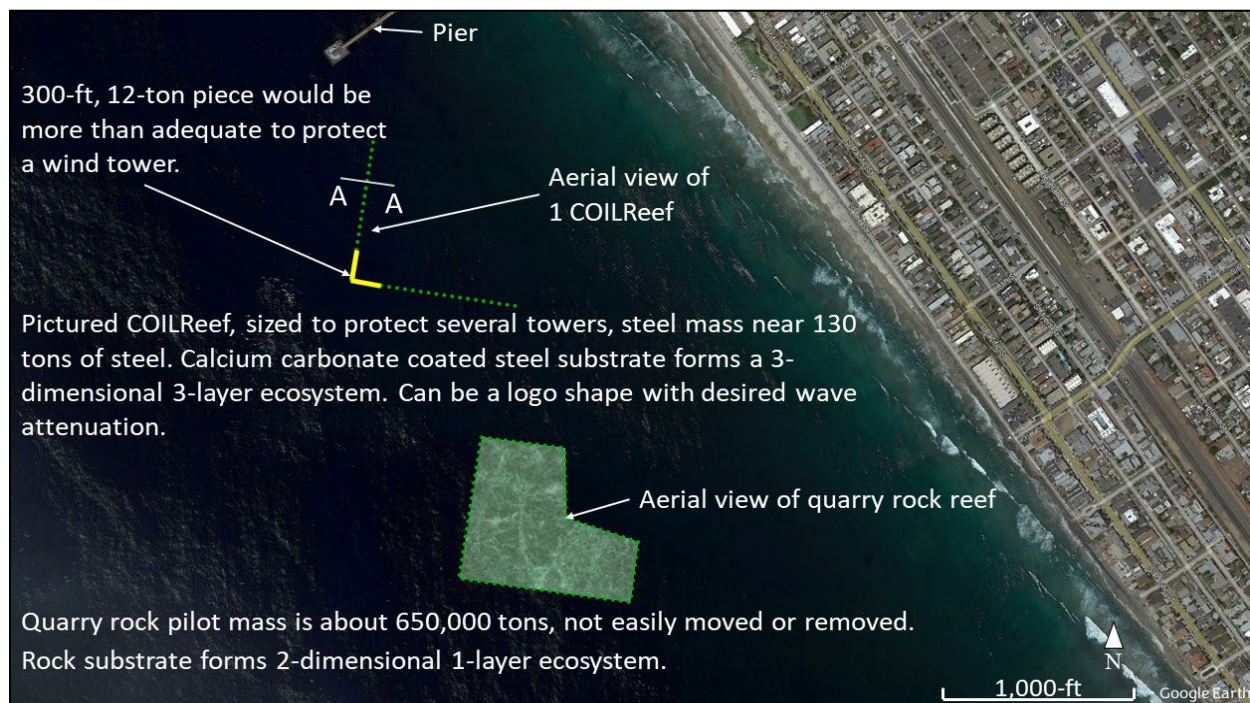


Figure 1 – Aerial view comparing quarry rock and COILReef living reef foundations

[COILReef](#) is a spiral of roll-formed steel. Not only will the same sea life expected on rocks attach to the steel with impressed current cathodic protection (ICCP), but the electricity can be increased to provide the triple-benefit discussed in [Beach sea gardens](#). The coils provide 3 layers of 3-dimensional ecosystem substrate, biomimicking branching coral, providing much better habitat than rocks, as well as effective wave attenuation. Surf “wall” breaks become left and right breaks.

Total all-inclusive cost estimates in Table 1 include reef construction plus a few \$million for engineering, permitting, a small pilot, and 30 years of ICCP electricity. That is, the full-size COILReef cost already includes its pilot cost and the COILReef pilot won’t need ICCP for years.

The primary benefits of COILReef are its mobility, which should ease permitting, and relatively low cost. Mobility means COILReef can be moved after installation as indicated in Figure 3 – if ocean situations or community needs change. Plus, although the seafloor impacted area is small, its 3-D design provides excellent habitat for many creatures.

⁴ If coastal resilience requires a living barrier reef, COILReef’s cost effectiveness leaves \$millions available for environment restoration and other project benefits.

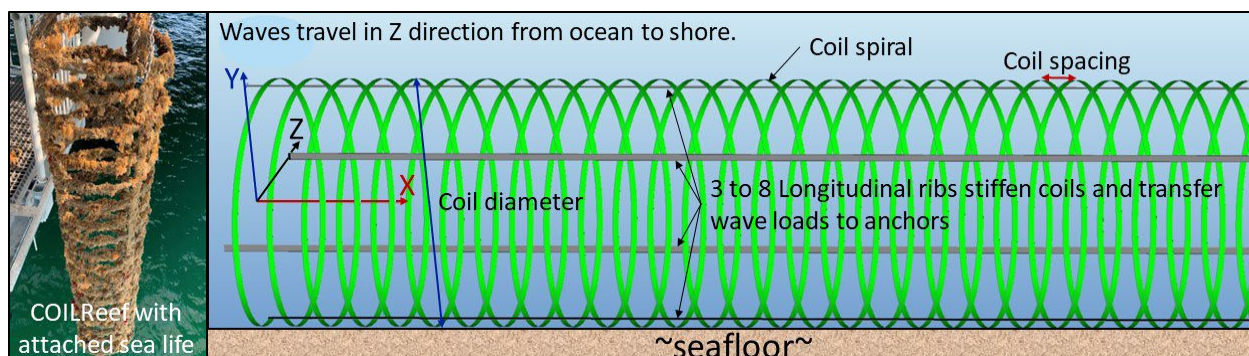


Figure 2 – Left picture shows sea life growing on a COILReef. The right picture shows how the coil is stiffened with longitudinal ribs spot-welded at each coil-rib intersection.

COILReef's main disadvantage is the lack of previous installations. It needs calibration of its calculated wave attenuation, structural properties, and anchor system capacity. However, the data from load cells, shown in Figure 3, and strain gauges, can be correlated with incoming wave data to make the needed calibrations on the pilot in a few months. This is because the force transmitted to the anchors is directly related to the energy that is extracted from passing waves.

Likewise, the instrumented full-scale system can provide real-time data on exactly how much wave energy is being attenuated. This means beach management insights months before changes appear in the width of local beaches.

Table 1 – Relative comparison of Figure 1 living reef starter systems

| Parameter | units | quarry rock | COILReef | COILReef pilot |
|--|------------|----------------------|---------------------------------------|----------------|
| Wave energy attenuation | % | 30% | 30% | 30% |
| Length of leading edge or coils | ft | 1,670 | 1,670 | 300 |
| Plan view area | sqft | 560,000 | 16,700 | 3,000 |
| Seafloor impacted area | sqft | 560,000 | 2,500 | 450 |
| Ecosystem substrate surface area | sqft | 840,000 | 120,000 | 21,000 |
| Mass, indicates reuse potential | tons | 650,000 | 80 | 10 |
| Cathodic protection electricity at 12 volts DC (solar or off-peak) | kWh /day | Not applicable | 1,000 | None for 2 yrs |
| Total all-inclusive costs for reef | \$ million | \$35 | \$10 | \$2 |
| Primary benefits | | Extensive experience | Uniquely cost-effective in deep water | |
| Primary issue | | Permitting | Untried | |
| How to address issue | | Difficult | Load cells pilot & full scale | |

While the prototype COILReef is one coil as in Figures 1-3. COILReef really excels with rows of many coils, per Figure 4, minimizing cost and maximizing income. Other innovative artificial reef designs contrast as follows:

- [MIT's array of interacting foils](#) targeting drag coefficients (C_D) near 20, "which implies that they can achieve the same wave energy reduction as an artificial reef with $CD \approx 1$, but with roughly 20 times less projected area." Because the openings between interacting foils are over a meter, MIT feels biofouling will not significantly change the structure's wave attenuation. Therefore, it is not a "living reef" in the sense that biomass growth does not maintain wave attenuation even as sea level rises. MIT's design will excel where

seafloor space is limited, income from the reef is not essential, and one array of interacting foils removes 50% to 95% of the wave's energy.

- b) One University of Miami design ([SEAHIVE](#)) employs interlocking concrete hexagonal “pipes” that may be pre-cast, extruded, or 3D printed. SEAHIVE reefs may have 600 times the mass of COILReef for the same wave energy attenuation.
- c) [Natr Dry Forming](#)TM is a variation on 3D printing of concrete structures. The dry concrete mix is supported in a box. Computer controlled liquid-injecting nozzles precisely hydrate custom reef shapes in the box. The concrete that is not hydrated is used in subsequent boxes. Natrx reefs may have 600 times the mass of COILReef for the same wave energy attenuation.

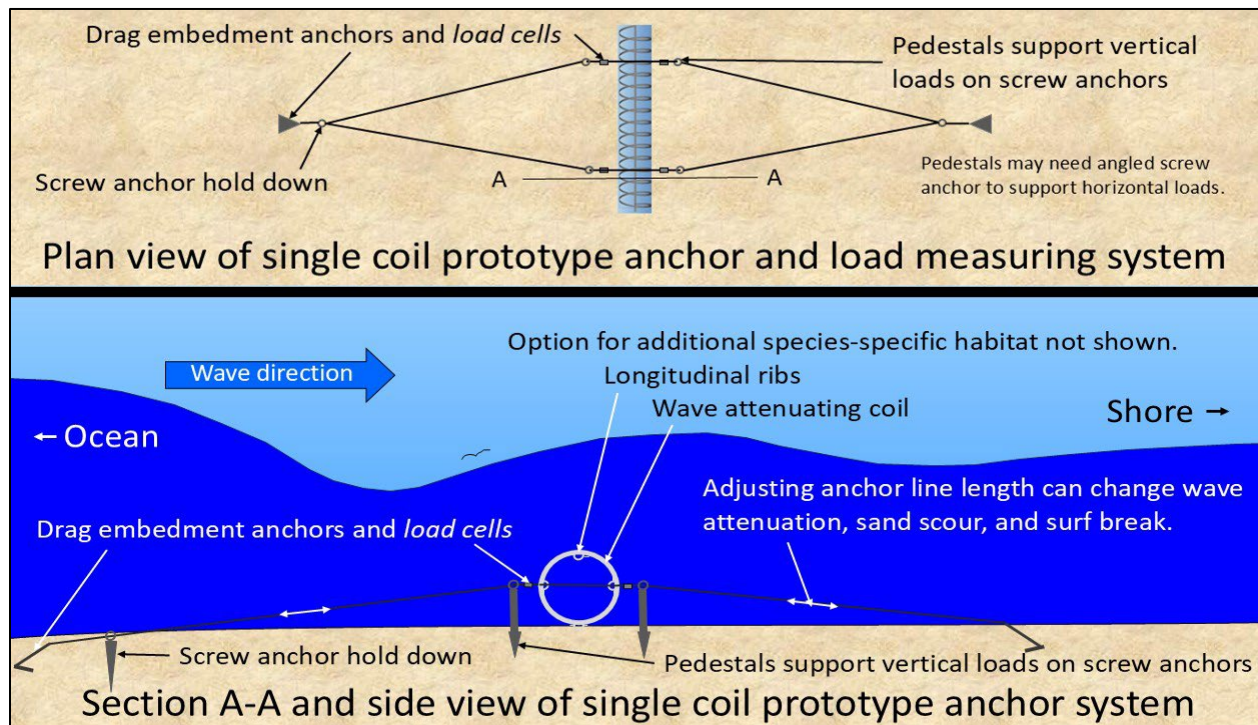


Figure 3 – Section-elevation of prototype and easily portable COILReef

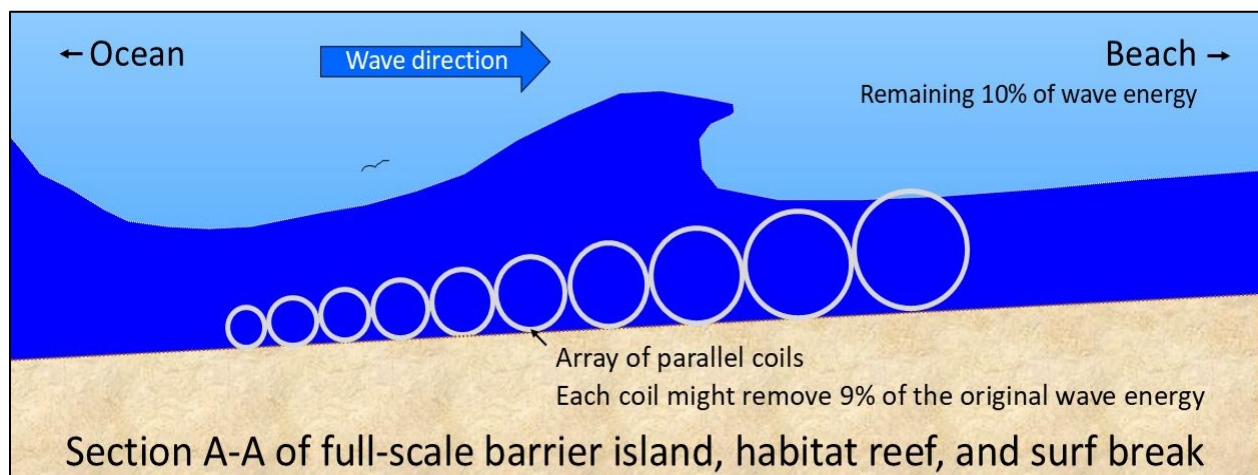


Figure 4 – Conceptual section of a full-scale COILReef for a ResilientDistrict

Coastal Ecosystem Resilient Districts Legislative Proposal / Bill Idea
Draft by OceanForesters 11 December 2024

What is the problem or need for the bill? Rising sea level with saltwater intrusion into aquifers, increasing storm intensity, marine heat waves, coastal atmospheric heat waves, ocean acidification, and some human (past and present) activities cause coastal erosion (loss of beaches, private property, and public infrastructure) and unhealthy coastal ocean (loss of marine biodiversity, biomass, fisheries, marine jobs, and recreation opportunities).

What is the problem or deficiency in existing law? Why is it a problem? Who is being affected or impacted by this issue? Existing laws (such as Geologic Hazard Abatement Districts (GHADs, PRC 26500-26654):

- a) Are inadequate because they focus only on the narrow desires of a group of coastal homeowners, do not look at comprehensive solutions, and have no consideration for the entire community.
- b) Are frustrating. Individuals and communities can spend years or decades attempting to implement a solution for their property or infrastructure only to have it wash away in the next storm.
- c) Often result in desperate individual property owners and whole communities focusing on short-term, often emergency, fixes for coastal erosion, such as seawalls.
- d) May result in communities suing government agencies and each other.
- e) Often result in piecemeal applications for permits and grant funding. That is, people only react in emergencies, which creates a continuous uncoordinated load on permitting and funding agencies. Coastal community 1 reacts, as an emergency, until their issue is resolved (either by construction or being washed away). Then Community 2 reacts to its emergency. And so on through several communities until Community 1 reacts to their next emergency.

Californians are spinning their wheels and wasting money as their beaches disappear, homes and community infrastructure fall into the sea, marine (and beach) species populations crash, and their ocean-activity supported jobs and recreation disappear.

Everyone, globally, within 1 to 100 miles of a coast, is already affected, whether they be on an eroding cliff; beach visitors; using threatened infrastructure; enjoying seafood; have an ocean-activity supported job; or forced to move to make way for retreating people. The number of affected people is increasing locally and globally over time.

What is your proposed solution? Legislation that encourages communities to form Coastal Ecosystem Resilience Districts (“ResilientDistricts”).

Suggested ResilientDistrict mission statement:

- A. Protect, conserve, restore, and enhance the terrestrial and marine environment near the California coastline
- B. Ensure public access to the terrestrial and marine environment near the California coastline

- C. Sustain and restore terrestrial and marine resources near the California coastline while adapting to and mitigating impacts from excessive greenhouse gases for future generations

ResilientDistrict governance structures can include: an enterprise operation within existing municipal or county government; a special property owners district; a group of fishers aquafarmers, or other stakeholders; or private businesses that contract with local government. (Fishers and/or aquafarmers cooperatives may work as a [Territorial Use Rights Fishery](#) (TURF).

How would this solution address the problem? Attach draft language of proposed law or change in existing law, if available. Please be as detailed as possible.

A ResilientDistrict, by the nature of its funding, balances income from many sources, including recreation (which requires clean healthy water), sustainable mariculture, perhaps renewable energy production, and other complementary resources to fund managed resilience and/or retreat, human structure adaptations, insurance, property owner assessments, and shore protection. Because significant funding comes from other benefits, most of which require a healthy ocean, people in a ResilientDistrict are more likely to think long-term, favoring environmentally *and economically* self-sustaining adaptation projects with holistic benefits.

ResilientDistricts would manage activities in an area they select. The area may extend from offshore to as far inland as may be flooded during 100-year storms within 50 years. Update that inland boundary every five to ten years.

A ResilientDistrict might train and employ the people who design, build, operate, and fish in their area. A ResilientDistrict might contract with others (including other ResilientDistricts) to train people, design, build, operate, and fish in their area.

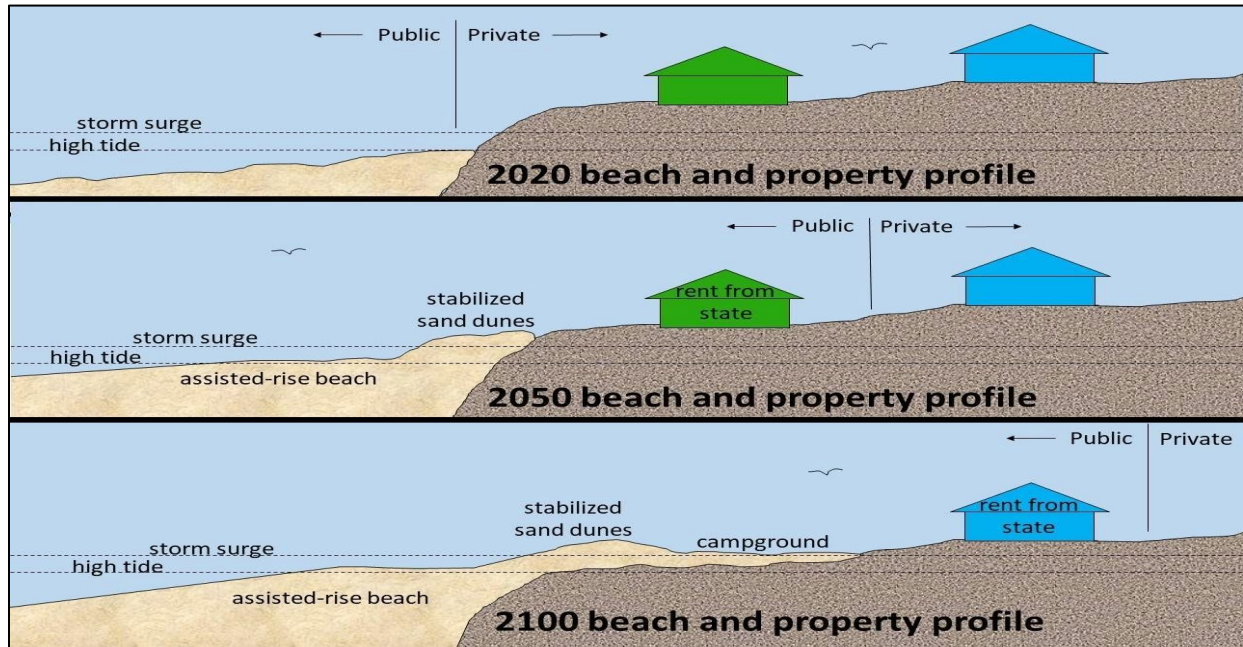
ResilientDistricts will need powers to collect fees from people enjoying the protected shore and associated environmental restoration, such as:

- a) Rent from properties the ResilientDistrict bought during Buy, Rent, Retreat projects, based on typical bluff/cliff coast profiles of beach and property in 2020, 2050, and 2100. This approach can increase public beach, sand dunes, and tidal marsh, all protected from waves as shown in the drawing below.

A buy, rent, retreat project works as follows:

- 1) The government or local community purchases vulnerable coastal properties from homeowners [1](#), [2](#).
- 2) These properties are then rented out, either to the original homeowners or to other tenants [2](#), [3](#). Could be Airbnb rentals. The ResilientDistrict might even improve the property to increase income and beach access: An elevated hotel-casino with parking underneath; float-on-calm-floods beach cabins; RV park; elevated restrooms supporting tent camping; commercial hatchery and young growing of fish, shellfish (including abalone), and/or seaweed, etc.

- 3) The rental income is used to repay the loan or initial purchase cost over time [2](#), [3](#).
- 4) This process continues until the property becomes unsafe to inhabit due to rising sea levels or coastal erosion [2](#), [3](#).
- 5) Once the property is no longer habitable, it is demolished, and the land is often repurposed as natural greenspace to absorb floodwaters and increase the area's resilience [1](#), [3](#).
- 6) The legislation could include provisions and incentives for communities that have been on the coast for more than 500 years to maintain walkable access to the coast as they retreat, instead of being required to “leap frog” newer development.



The buy-rent-retreat approach allows communities to:

- 1) Take advantage of current property values before they decline due to climate change risks [2](#).
 - 2) Provide a transition period for homeowners and generate income from at-risk properties [2](#), [3](#).
 - 3) Plan for the eventual phasing out of these properties as sea levels rise [2](#).
 - 4) Break the cycle of repeated damage and costly repairs in vulnerable coastal areas [2](#).
 - 5) The goal is to manage the retreat from high-risk coastal areas over time, reducing the economic impact on both homeowners and local governments [2](#), [4](#).
- b) Sand storage and sand trading – Sand typically flows north-to-south (and west-to-east) along the U.S. West Coast. There are “sand sinks” along the coast, places like subsea canyons that sand falls into. That is, much of the moving sand does not replenish beaches on the south or east side of the sink. Communities on the upstream (north or west) side of a sink should be encouraged to capture sand. Upstream Communities with captured sand and communities that need sand should be encouraged to trade.

The sand trade can be like California's water trading system and the U.S. renewable electricity wheeling system.

- c) Parking fees – Might include parking vouchers for low-income households, seniors, and/or frequent visitors.
- d) Tourist and research fees – A tourist tax might collect funds from hotels, restaurants, Airbnb operations, boat rentals, and equipment rentals within the ResilientDistrict. The ResilientDistrict could build research- and tourist-supporting infrastructure for income from scientists and citizen-scientists. (Similar to how ocean researchers hire time on vessels to conduct their research.) The infrastructure might include power and instrumentation wiring for sensors; recharging and data downloads from autonomous vehicles; [habitats for people to live underwater](#); etc.
- e) Fishing – Might be a location fee on a recreational fishing license.
- f) Surfing, hydrofoil surfing, and kite surfing fees – Some shore protection features, such as artificial reefs as “points”, can organize several consistent point breaks where closeout breaks had been the norm. (The wave break is much more fun. Even world-class.)
- g) Mariculture (includes commercial fishing, farming of shellfish, farming seaweed, and many forms of aquaculture) – Artificial reefs and beach sand stabilizing features can be adjusted to restore kelp forests, sand dollars, clams, lobster, abalone, etc. Much of California's agriculture is threatened with insufficient freshwater due to saltwater intrusion, groundwater depletion, increased evaporation, less snowpack, and less frequent but more intense rain events. ResilientDistricts might be encouraged to increase sustainable seafood production and coastal biodiversity compensating for decreasing agriculture jobs and production.

In addition to income-producing infrastructure, the kinds of improvements a ResilientDistrict may employ to accomplish its mission include:

- a) Artificial barrier reefs designed for multiple benefits with species-specific habitats
- b) Marine and beach ecosystem restoration: kelp forest, oysters, etc.
- c) Natural and artificial beach erosion reduction features that are also species-specific habitats with multiple benefits such as [tidal fishing weirs](#) and [beach sea gardens](#)
- d) Sand dunes without and with natural and artificial erosion reduction features

The legislation should reduce project permitting uncertainty. For example, ResilientDistricts and permitting agencies should develop a catalog of feature designs and situations that qualify for a standard permit. The standard permit should be a “living document” in that a ResilientDistrict receiving permits for an innovation makes that innovation part of the standard permit.

The legislation should improve economy of scale. For example, if one ResilientDistrict receives a low bid for construction, other ResilientDistricts procure the same construction for the same low bid.

The legislation should minimize the work of Local Agency Formation Commissions (LAFCOs) approving actions involving Resilient Districts. LAFCOs are regional planning and regulatory agencies with county-wide jurisdiction, established by California State Law to discourage urban sprawl and to encourage orderly and efficient provision of governmental services, such as water, sewer, fire protection, etc. That is, a Resilient District must extend offshore, perhaps even into Federal waters.

The legislation should consider issues of equity and inclusion. For example, will the vote to establish be weighted by property value, as is done for Assessment Districts? Are directors elected at large or by divisions?

The legislation should explicitly allow Resilient Districts to replace unsustainable activities, such as [trawling](#), with sustainable activities, such as an artificial sport fishing reef or shellfish farming.

The legislation could allow existing special districts to take on the powers and responsibilities of a Resilient District.

Legislative History? Yes, in that people often create special districts, such as GHADs.

Has this proposal or similar legislation been introduced before? Any similar legislation in other states or at the federal level? Please include bill number, author, legislative year and outcome of the legislation.

Not exactly. There exist somewhat similar special districts as Port, Harbor, Bridge, or [Geologic Hazard Abatement Districts](#) (GHADs, PRC 26500-26654). For example, the [Broad Beach GHAD](#) is a collection of homeowners that are funding beach nourishment to attempt to fix their beach erosion hazard.

Background Information

Please include any studies, reports, statistics, facts, newspaper articles, personal experience, or anecdotal evidence relating to your proposal. Be specific.

Half Moon Bay [homeowners are suing the California Coastal Commission](#) for permission to construct a seawall.

The Ventura Harbor District's [Ventura Shellfish Enterprise](#) sought permits for long-line mussel farming to generate jobs and income. The Harbor District wanted to lease the permits to the actual mussel farmers. Commercial fishers objected to the District's initial preferred location because the commercial fishers were [trawling](#) in that area. After spending about \$1 million over a couple years, with substantial help from NOAA, and attempting to relocate to federal waters, the Harbor District has nothing. Commercial fishers, Ventura County LAFCO, and federal government policy all contributed to the Harbor District's failure to secure permits.

More examples linked in the footnotes above and below.

Fiscal Impact

Please describe any state costs, savings, or generated revenue by your legislative proposal.

California has 840 miles (California Research Service measurement) or 3,427 miles of coastline (NOAA measurement), all impacted by climate change, all in need of shore protection, beach preservation, species restoration, and other responsibilities of a ResilientDistrict. Even rural coasts often have roads, utility infrastructure, parks, and beaches along the shore. Perhaps a quarter of the coastline is urban. Perplexity.ai indicates the minimum cost for California seawalls is \$800,000/mile, while the maximum is \$11 million/mile. These numbers suggest the cost of installing seawalls on California's coasts would be \$5 to \$10 billion. But seawalls are only temporary as the sea keeps rising. Seawalls also depress local economies and inflict social injustice, as sea level rise eliminates beaches and ocean access, destroying tourism.

In comparison, ResilientDistricts could adapt to the many issues of sea level rise and more intense storms while expanding California's coastal economy. Currently, California's coastal tourism and recreation economies appear much more valuable than the cost of seawalls (which would destroy these economies):

- California beaches accounted for \$30.1 billion in visitor spending in 2023, 4 .
- The tourism and recreation sector of California's ocean economy contributed \$17.6 billion to the state's GDP in 2012, representing 39% of the ocean economy's total GDP, 5 .

Anticipated support or opposition to this legislative proposal

Please include associations, advocacy groups, interest groups, and state agencies and departments.

Potential support could include coastal landowners, sport fishers, aquafarmers, surfers, environmental groups, social justice groups, and other stakeholders, including the California Coastal Commission, Ocean Protection Council, etc.

Potential opposition could include coastal landowners, fishers, and other stakeholders.

District Impact (Positive and negative)

Who in the district will be impacted by your legislative proposal? Have you checked with them?

District people impacted could include coastal landowners, sport fishers, aquafarmers, surfers, environmental groups, social justice groups, and other stakeholders. We have not checked with them.

Funding Coastal Resilience Innovations Legislative Proposal / Bill Idea

By OceanForesters 11 December 2024

What is the problem or need for the bill? California's coastal communities face great challenges, but current tools are inadequate. Communities need innovations. Even the U.S. Army Corps of Engineers has signed onto the U.S. Government Accounting Office's recommended ["Options to Enhance the Resilience of Federally Funded Flood Risk Management Infrastructure"](#), which suggests encouraging innovation.

What is the problem or deficiency in existing law? Why is it a problem? Who is being affected or impacted by this issue? Current efforts by the Coastal Conservancy, California Natural Resources Agency, and many others to discourage seawalls and encourage nature-based solutions for coastal erosion are substantial, but insufficient. Communities continue to sue for the "right" to build a seawall.

The "seawall default setting" is a human desire for instant gratification; fixes with quick and relatively low initial cost; known fixes; and putting off action until it's an emergency. Nature-based solutions are all innovations, relative to seawalls. Elected leaders, their staff, and design engineers are leery of shore protection systems that have not been proven over a few decades of storm exposure; local species exposure; local sand transport; local community satisfaction; etc.

Californians are spinning their wheels and wasting money as their beaches disappear, homes and community infrastructure fall into the sea, marine (and beach) species populations crash, and their ocean-activity supported jobs and recreation disappear.

Everyone, globally, within 1 to 100 miles of a coast, is already affected be they on an eroding cliff; beach visitors; using threatened infrastructure; enjoying seafood; have an ocean-activity supported job; or forced to move to make way for retreating people. The number of affected people is increasing locally and globally over time.

What is your proposed solution? Legislation that encourages state funding and permitting agencies to incentivize communities to trial or try innovations. The legislation might include additional funding or redirect existing funding. The innovations might be in governance, project objectives, and/or technologies.

California Ecosystem Resilient Districts, a separate *Bill Idea*, would be a governance innovation. Innovative project objectives might marry increased ocean biodiversity and restored marine ecosystems at the same priority level as shore protection.

[Research](#) advises people to: (1) design adaptations to sea level rise plus triple-threat events (heat waves, acidification and low oxygen levels); and (2) spend more resources on trying out and improving potential innovations to overcome all four types of threats.

How would this solution address the problem? Attach draft language of proposed law or change in existing law, if available. Please be as detailed as possible.

The problem is inadequate tools to adapt coasts and coastal oceans to excessive greenhouse gases. The solution develops and proves better tools. While the legislation need not mention specific innovations and should allow for yet unknown innovations. It may help to consider a several specific examples of innovations in need of incentive funding:

- a) [Beach sea gardens](#) and [tidal fishing weirs](#) – Humans have been sustainably harvesting seafood using sea gardens and fishing weirs for thousands of years. They fell out of favor when colonialists preferred less sustainable fishing techniques. Both can armor beaches, but their unusual appearance and permitting their seafood monitoring and harvesting feature needs incentive funding and permitting assistance for the first few installations.
- b) [COILReef™](#) is a portable (reuseable and relocatable) artificial living reef foundation. It is uniquely cost effective, low-carbon footprint, and high biodiversity increase per dollar relative to quarry rock or concrete. It has been tested in a wave tank and is ready for ocean deployment. Funding for innovation will overcome communities' reluctance to be the first to trial or try a prototype, and then full-scale, COILReef™.
- c) [SEACRET](#) transforms beach sand into rock using a little low-voltage electricity to fill between the sand grains with calcium carbonate (seashell material).
- d) [Biomason](#) “farms” bacteria making concrete shapes. Its shape flexibility and with a very low carbon footprint may make it the best material for species-specific habitats.
- e) **Species-specific habitats** – Rock reefs and concrete reefs are generally produced with random tunnels and hidey holes. Rock and concrete use their in-water weight to resist motion under hydrodynamic wave forces. More tunnels and hidey holes reduce their weight while increasing the area exposed to hydrodynamic wave forces. Species-specific habitats are exactly the shape the desired species wants for home, shelter, or reproduction. The habitats can be attached to a COILReef™, anchors, or self-anchoring in sand.

Example of a species-specific habitat for kelp forest restoration – Bob Kiel, conducting kelp restoration trials for [BEACON](#), found that juvenile kelp would quickly attach to granite stakes. Bob also noticed that green crabs would eat the kelp before it could grow up to the ocean surface. So, he invented the octo-column, Figure 1. The octo-column is the ideal home of California two spot octopus, which will eat crabs venturing into its territory before crabs can eat too much kelp.

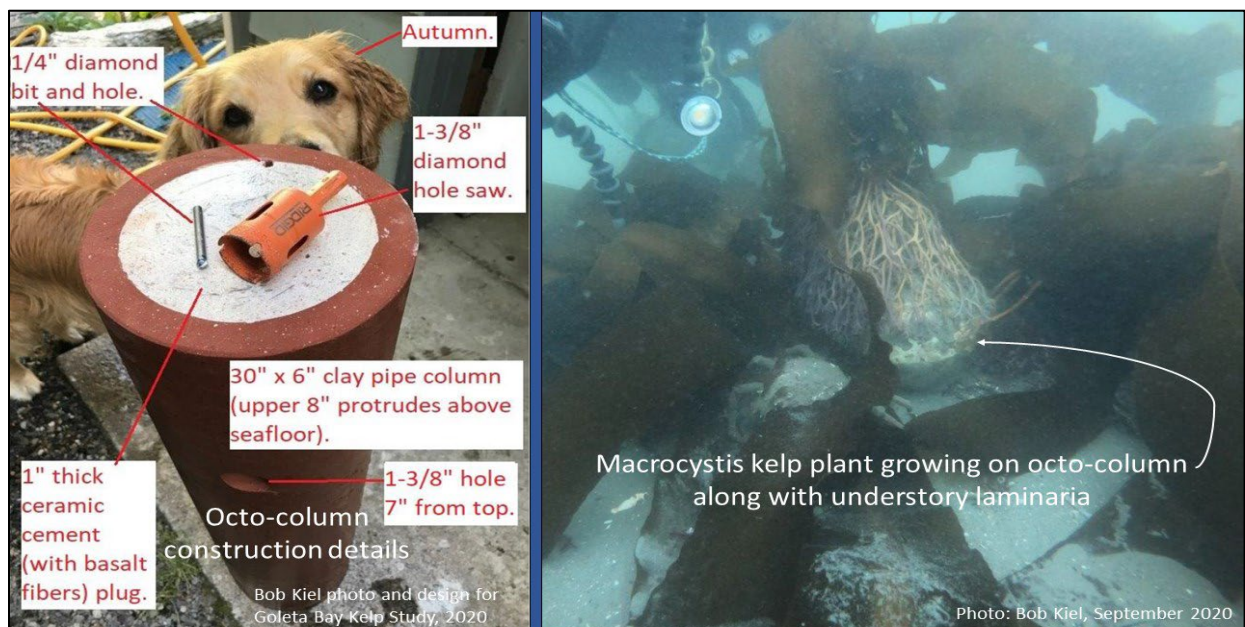


Figure 1 – Photos of octo-column construction details and kelp growing on an octo-column

Kelp attaches to the octo-column. Tubeworms (enjoying unknown synergy with kelp) build homes near the new kelp. Juvenile kelp then attach to the tubeworm homes. Eventually, a sprinkling of octo-columns should result in kelp holdfasts on tubeworm homes filling in the seafloor.

This tale of kelp-tubeworm synergy and special habitats is not limited to kelp-tubeworms-crabs-octopus or Southern California. Similar relationships and opportunities for innovation are available in every coastal ecosystem.

The legislation may include conditional “permission” to include innovations in required mitigations. Examples:

- a) Leaving the bottom portion of a decommissioned offshore oil platform in exchange for kelp forest restoration involving species-specific habitat or side-by-side trials of artificial reef systems with time lapse photography of sea life colonizing the artificial reef.
- b) Including innovations in the decommissioning of the San Onofre Nuclear Generating Station.

The promised funding might have conditions as is occasionally done for water and wastewater projects. Conditions might include:

- a) First come – first served. That is the first applicants to have completed plans and specifications and approved their environmental documentation receive funding.
- b) The amount of funding (or fraction of the total project) depends on the fraction of low-income households in the project area (or benefiting from the project).
- c) The amount of funding (or fraction of the total project) depends on the amount and quality of innovations employed in the project.

The legislation might encourage (or adjust laws for?) coastal communities to participate in regional, statewide, national, or international organizations of like-minded communities. That way, like-minded communities might fund one of their member to conduct a trial of coastal resilience innovations. Water Environment Federation’s Leaders Innovation Forum for Technology (LIFT) has member agencies trading who trials what whenever several agencies are interested in the innovation.

Legislative History?

Has this proposal or similar legislation been introduced before? Any similar legislation in other states or at the federal level? Please include bill number, author, legislative year and outcome of the legislation.

Incentives for innovation and speeding adoption of new products are common. Some examples:

- 1) California’s solar panel incentives: a) exemption from property tax increase; b) Self-Generation Incentive Program; and c) Net Energy Metering.
- 2) The Clean Water State Revolving Fund (CWSRF) supports innovative sewer systems in several ways:
 - a) Funding eligibility: The CWSRF can finance a wide range of water quality projects, including innovative sewer collection systems, [1](#), [5](#).
 - b) Eligible projects include construction or restoration of sewers and wastewater treatment facilities, [4](#).

- c) Flexible financing: The CWSRF provides low-cost financing options, including interest-free or low-interest loans, to municipalities for wastewater and sewer infrastructure projects, [4](#).
- d) This flexibility allows communities to invest in innovative solutions that might otherwise be cost-prohibitive.
- e) Support for green infrastructure: While traditional centralized systems have received the majority of funding historically, there is a growing recognition of the need to invest in green and natural infrastructure solutions, [2](#).
- f) The CWSRF can fund green infrastructure initiatives, which may include innovative approaches to stormwater management and wastewater treatment, [1](#).

Background Information

Please include any studies, reports, statistics, facts, newspaper articles, personal experience, or anecdotal evidence relating your proposal. Be specific.

Fiscal Impact

Please describe any state costs, savings, or generated revenue by your legislative proposal.

Juggling assorted numbers suggest the cost of installing seawalls on California's coasts would be \$5 to \$10 billion. But seawalls are only temporary as the sea keeps rising, necessitating more and higher seawalls. Seawalls also depress local economies as sea level rise eliminates beaches and ocean access.

The incentivized innovations may reduce net costs below zero. That is, the incentives can be high-return investments as the reduced cost of artificial reefs, other nature-based solutions, environment restorations, and sustainable mariculture is completely offset by California's expanding ocean economy. Already, California's coastal tourism and recreation economies appear more valuable than the cost of seawalls:

- California beaches accounted for \$30.1 billion in visitor spending in 2023, [1](#).
- The tourism and recreation sector of California's ocean economy contributed \$17.6 billion to the state's GDP in 2012, representing 39% of the ocean economy's total GDP, [2](#).

Assorted numbers – California has 840 miles (California Research Service measurement) or 3,427 miles of coastline (NOAA measurement), all impacted by climate change, all in need of shore protection, beach preservation, species restoration, and other responsibilities of a ResilientDistrict. Even rural coasts often have roads, utility infrastructure, parks, and beaches along the shore. Perhaps a quarter of the coastline is urban. Perplexity.ai indicates the minimum cost for California seawalls is \$800,000/mile, while the maximum is \$11 million/mile.

Anticipated support or opposition to this legislative proposal

Please include associations, advocacy groups, interest groups, and state agencies and departments.

Potential support could include coastal landowners, sport fishers, aquafarmers, surfers, environmental groups, social justice groups, and other stakeholders, including the California Coastal Commission, Ocean Protection Council, etc.

Potential opposition could include coastal landowners, fishers, and other stakeholders.

District Impact (Positive and negative)

Who in the district will be impacted by your legislative proposal? Have you checked with them?

District people impacted could include coastal landowners, sport fishers, aquafarmers, surfers, environmental groups, social justice groups, and other stakeholders. We have not checked with them.



February 18, 2025

Ventura County Planning Commission
800 S. Victoria Ave
Ventura, CA 93009

Re: Comments on Proposed Local Coastal Program Amendments – Coastal Hazards, Sea Level Rise, and Surf Protection Policies

Dear Planning Commission Members,

Surfrider Foundation appreciates the County's efforts to update its Local Coastal Program (LCP) to address coastal hazards, sea level rise, and coastal adaptation. The County's planning efforts are essential for protecting our cherished coast. As seas rise, our beaches and waves are in jeopardy, especially if we are unable or unwilling to make space for the coast to migrate landward.

Ventura County has by far the highest shoreline armoring rates in California at 57% of the coastline, according to [CSUCI research](#). Continued reliance on seawalls will further degrade Ventura's beaches, accelerating erosion and harming public access. If the County's beaches and waves are to survive rising seas, storm surges and erosion over the coming decades, it must plan for a paradigm shift.

We strongly support the inclusion of managed retreat as a long-term strategy and recognize the County's commitment to nature-based solutions. Specifically, we applaud Policy 1.48, which supports managed retreat planning, and Policy 1.17, which prioritizes the use of natural materials in coastal protection efforts.

Additionally, we support the new policies in Section 4.1.4 – Coastal Trail, which encourage sea level rise and coastal hazard resilience planning for multi-modal routes. It is essential that these trails avoid hard armoring, as demonstrated at Surfer's Point, where a managed retreat approach has successfully protected both recreation and coastal access. The County should consider Surfer's Point as a model for sustainable coastal planning.

CalTrans: Elephant in the Room

Caltrans' ongoing and future infrastructure projects in Ventura County have significant implications for coastal resilience and beach access. The planned closure of the Ventura Highway Bridge from the 101 at the State Beaches exit for two years starting in Spring 2025 will

directly impact both recreational beach use and the region's ability to assess and manage coastal hazards. The bridge reconstruction is being undertaken to address structural integrity concerns, but the closure will also disrupt access to the Rincon Parkway and adjacent state beaches, requiring adjustments in Surfrider's local beach cleanup and resilience programs.

Additionally, Caltrans has historically played a role in maintaining Highway 1 and protecting critical transportation corridors along the Ventura coastline. However, much of this work has relied on hard armoring, such as riprap and seawalls, which exacerbate erosion rather than mitigate it. Ventura County's coastline is highly vulnerable due to its narrow beaches, high rates of armoring, and transportation infrastructure directly adjacent to the shore. Continued reliance on shoreline hardening for road and bridge protection must be reconsidered in favor of long-term, adaptive solutions such as managed retreat and living shorelines. We strongly encourage the County to work closely with CalTrans and Union Pacific to develop alternatives to hard armoring and complete long-term transportation planning that saves our beaches.

Recent high tide flooding events and king tides in December 2024 demonstrated the urgency of this issue, with water levels encroaching on the Rincon Parkway and other vulnerable areas. Sea level rise projections indicate that portions of Highway 1 and associated infrastructure may become regularly inundated by 2030, requiring forward-thinking strategies that integrate transportation planning with coastal resilience.

These impacts and suggestions for addressing them, are discussed below.



12.14.24 – King Tides help illustrate the potential sea level impact on our local shoreline at the Rincon Parkway Day Use section by 2030.

Given the crucial considerations and the devastating coastal impacts looming, we submit the following comments, in addition to our letter submitted on July 20, 2024.

Key Concerns and Recommended Changes

1. Revise Policy 1.13 to Remove "Existing Communities" as a Justification for Seawalls

Policy 1.13's reference to "Existing Communities" as a basis for continued shoreline armoring undermines Ventura County's ability to adapt to sea level rise and protect public beaches. The way this policy is written locks in shoreline armoring in a way that is both illegal and inconsistent with the Coastal Act's policies on shoreline armoring (PRC 30235 and 30253) - which prohibit shoreline armoring for new development and redevelopment. It does not establish a clear path to eventual removal of neighborhood-scale seawalls, provide a timeline for phasing out armoring, or ensure any enforceable guarantees for public beach protection. Instead, we recommend:

- Clarifying that "Existing Communities" do not have an inherent entitlement to seawalls.
- Ensuring that new and substantially redeveloped structures cannot rely on shoreline armoring.
- Defining "existing development" as structures built before the Coastal Act's certification (January 1, 1977) and "substantial redevelopment" cumulatively from that date, per Article 2 definitions, as decided by the State appeals court *Casa Mira Homeowners' Association v. California Coastal Commission* (2024).
- Aligning the LCP with Coastal Commission guidance on long-term managed retreat strategies.

2. Strengthen Coastal Hazard Mitigation and Sea Level Rise Planning

Ventura County's beaches and beach access points are in jeopardy as seas rise. North beach access points along Highway 1 and transportation corridors across the County will disappear if we do not plan effectively for rising seas. While the new Coastal Hazard Screening Areas framework is a step forward, it should include additional protections:

- Require CalTrans and Union Pacific to complete Coastal Hazard Mitigation Reports for all coastal work, which include the evaluation of non-structural, nature-based or soft solutions, managed retreat and mitigation plans that create beach space nearby.
- Development should be prohibited in areas where projected sea level rise will necessitate armoring within the next 50-75 years.
- Policy 1.9 should prohibit new and redevelopment that relies on coastal armoring.
- The County should phase out outdated armoring and ensure mitigation measures fully offset the loss of public beach space.

We also stand by our previous comment letter on existing development definitions and are concerned that Policy 1.12, the definition of existing development may be overly broad.

3. Support and Expand Policies for Soft Solutions and Dune Creation

The impacts of coastal armoring are well-documented. Seawalls and riprap accelerate erosion – see [this Stanford report](#) and [this publication](#) by Dr. Gary Griggs for a detailed explanation. When waves hit hard armoring, energy is reflected downward and sideways, scouring away sand and preventing natural replenishment. Over time, this leaves us with narrower, steeper beaches or no beach at all.

We appreciate Policy 2.5, which supports soft solutions, particularly dune creation. Ventura County's coastline is very dynamic, highly armored by riprap, and in part, uniquely serves as both a transportation and recreation corridor for the Pacific Coast Hwy 1 and the Union Pacific Railroad. The County is also vulnerable to increased coastal erosion during large winter west swells hitting our narrow beaches and armored coastline.

Ventura County Surfrider's first local response to climate change, warming oceans and erosion began in 1995 with identifying the need for the [Surfer's Point managed retreat shoreline](#) project. Phase One, completed in 2011, removed a popular coastal bike path that was collapsing into the ocean and reintroduced dunes and native vegetation to the beach to combat erosion. The shoreline retreat was resilient during the onslaught of our 2023 atmospheric river storms. Phase Two of Surfer's Point began in December 2024 to further enable the shoreline to retreat from future erosion with the setback of the existing parking lot and bike path.

The County should expand this policy to:

- Conduct a transparent, public regional planning effort with CalTrans and Union Pacific with the goal of evaluating alternatives to hard armoring and developing a long term plan that preserve's the County's beaches, waves and coast.
- Encourage pilot projects with native marine vegetation, vegetated dune restoration and living shorelines.

4. Protecting Surf Breaks as Coastal Resources

Ventura County is home to world-class surf breaks that provide significant recreational, economic, and ecological benefits. High quality waves are an important economic driver for the County, [impacting home prices](#), attracting visitors and surf contests, and serving as the lifeblood of the community. The LCP should explicitly recognize and protect these resources by incorporating the following policies:

- SURF-1: Maintain an updated inventory of surf breaks and classify them as critical recreational and environmental resources.
- SURF-2: Develop a Surf Resources Management Plan that includes a detailed inventory of the surf breaks, and the aspects of water quality, sediment management, coastal access and coastal armoring which could be managed to minimize impacts to surf

breaks. Such a plan should contain the existing conditions, historic uses and conditions, and future vulnerabilities.

- SURF-3. Proposed coastal projects shall minimize impacts to surf resources, surf breaks and surf quality. Proposed projects within proximity of a surf break must conduct a surf quality impact assessment to evaluate potential impacts to surf quality, evaluate alternatives, conduct surf monitoring, and propose project mitigation to minimize project impacts to surf quality.
- SURF-4. Coastal sediment management shall consider the timing and placement locations to manage sediment to enhance beach, surf and other coastal recreation and should be encouraged to promote climate resilience for public dependent recreation and infrastructure protective uses.

In summary, we urge the Planning Commission to:

1. Revise Policy 1.13 to eliminate any implication that "Existing Communities" are entitled to seawalls and ensure a clear timeline and enforceable commitments for the eventual removal of shoreline armoring.
2. Strengthen hazard mitigation strategies to prevent reliance on shoreline armoring and ensure proactive adaptation.
3. Commit to working with regional transportation agencies to develop a plan that protects our coast over the long term.
4. Support and expand soft solutions, including dune creation and managed retreat.
5. Adopt surf protection policies to preserve Ventura's globally recognized surf breaks as essential coastal resources.

Ventura County has an opportunity to lead in sustainable coastal planning and ensure the long-term protection of its beaches and public access. We appreciate the County's commitment to these efforts and look forward to continued engagement on these critical issues.

Sincerely,

Mandy Sackett
Senior California Policy Coordinator
Surfrider Foundation

Alexandra Wall
Chapter Chair
Surfrider Ventura County Chapter



Comments on Ventura County's Sea Level Amendments 2/20/25, Agenda 7B

2/18/2025, Paul Burke, naacp@yrr.info
Chair, Environmental & Climate Justice Committee, NAACP of Ventura County
<https://naacp-venturaco.com/comments-ecj>

We don't ask for more requirements. We ask for more options. People face devastation by extreme seas and storms, and we need to allow more than minimum flood protections. Similarly, we face devastation by extreme fires, and we do allow more than minimum fire protections.

Options to address high risks protect all our insurance rates and taxes. Page 5 of the staff report says, "Sea levels may rise from 2.6 to 11.9 feet by 2150, and even higher amounts cannot be ruled out." State guidance says to evaluate "under the Intermediate, Intermediate-High, and High scenarios."¹

The proposal lets buildings have full 28' height if they accept the Intermediate-High standard for safety. Building higher and more safely takes away from the height of the house.

1. Please change the proposal to **allow full building height for a range of sea level rises, from the basic standard to the highest scenarios in state guidance.** Early adopters with extra height will show others the benefits, and save us all money.
2. Appendix H-1.3 c 4 prepares for storms with "1% annual chance." That puts owners at almost $\frac{2}{3}$ chance of facing a worse storm than they've prepared for.² **Let owners build for 0.1 to 1% annual chance storms.** A 0.1% annual chance gives 10% cumulative risk over 100 years, much safer, though still scary.

As a reason not to allow ranges in the ordinance, p.12 of exhibit 13 quotes the Coastal Act, "development shall be sited and designed to protect views... [and] be visually compatible with the character of surrounding areas". Plans balance goals. Views and character have changed over decades and need to change more for safety. Like King Canute, we can't stop the ocean. **Allow owners to prepare for worse sea levels and storms.**

¹ Ocean Protection Council 2024 guidance Step 3, p.9 <https://opc.ca.gov/california-sea-level-rise-guidance>

² 1% per year accumulates to 63% chance over 100 years. 0.1% accumulates to 10% over 100 years.

Standard probability calculations:

https://docs.google.com/spreadsheets/d/11JdD50zlEw_qL3GY4EI1jCUbq8umIoETLdy6qSWc7pw



February 19, 2025

Ventura County Planning Commission
Hall of Administration
Resource Management Agency/Planning Division
800 S. Victoria Ave., L#1740
Ventura, CA 93009-1740

Attn: Brittany Weber, Associate Planner

RE: Proposed amendments to the Ventura County's Local Coastal Program (LCP).
Agenda Item No. 7B (Case # PL20-0039)

Dear Chair Zimmerman-Garcia and members of the Ventura County Planning Commission:

Smart Coast California (SCCa) is a 501(c)3 organization established in 2019 to promote and advocate for smart land use policies affecting California's 1,271 miles of coastline. Smart Coast California is dedicated to community sustainability, property rights and the environment. SCCa commends Ventura County and in particular Dave Ward, Director of Planning and Aaron Engstrom, Project Planner and staff on producing a thoughtful and detailed Local Coastal Program Amendment that balances the goals of protecting healthy beaches, private property, and public access—each a valuable component of the County of Ventura's unique shoreline.

SCCa is grateful for the opportunity to submit this letter of support for Agenda Item No. 7B, Thursday, February 20th, 2025. We have reviewed the following documents:

- EXHIBIT 3 Proposed Coastal Area Plan (CAP) Amendments – Legislative Format Coastal Hazards and Sea Level Rise Local Coastal Program Amendments
- EXHIBIT 4 Proposed Coastal Zoning Ordinance (CZO) Amendments – Legislative Format Coastal Hazards and Sea Level Rise Local Coastal Program Amendments

SCCa appreciates the organization and content of the above documents and would like to highlight several key policies that exemplify sections of the CAP and CZO which have our support (emphasis added).

Neighborhood scale sea level rise adaptation - Shoreline Protection

SCCa has participated in the Coastal Commission Local Government Working Group on Neighborhood Scale Approaches to Adaptation Planning since its inception in 2019. This working group, formed to develop solutions to better address sea level rise adaptation planning, consists of representatives from numerous coastal cities and counties, the California State Association of Governments, the League of California Cities, and Coastal Commission Staff. SCCa is pleased to see policies which reflect the

concerns and solutions expressed by the Local Government Working Group. The following is an excerpt from the September 11 2024 Discussion Paper on Neighborhood Scale Adaptation:

"Cities and counties on the California coastline often have a mix of shoreline types (e.g., bluffs, beaches, wetlands, protected bays, estuaries) and development contexts (e.g., heavily urbanized areas, rural areas, critical infrastructure, housing, public facilities, commercial development, working waterfronts, recreational areas, Coastal Trail, open space all of which may benefit from identifying more detailed and specific adaptation approaches and LCP policies tailored to those contexts."

CAP Policy 1.13 As a condition of approval of a coastal development permit authorizing the demolition or substantial redevelopment (see Policy 1.9) of an existing residential, commercial, or industrial principal structure that is protected by an existing, legally permitted shoreline protective device, the permittee shall thereafter be prohibited from enlargement or extension of the shoreline protective device but may seek authorization to repair and maintain the device if it is part of a community-wide shoreline protective device required to protect existing development entitled to shoreline armoring in a designated Existing Community, and removal is not feasible.

CAP Policy 1.5 (b) In consultation with the Director of the Public Works Agency, the Planning Director has the discretion to waive the requirement for a Coastal Hazards Analysis Report if the applicant can demonstrate that the project site is located in an area that is subject to a neighborhood-scale, or, in the case of transportation infrastructure, a corridor-scale, Coastal Hazards Analysis Report that:

- 1) includes the subject project site;
- 2) contains all of the data, analysis, and recommendations required in Appendix 15 in sufficient detail to contain substantial site-specific evidence that the site, with design features and adaptation measures, is suitable for the proposed development and that the development will adequately minimize impacts to coastal resources and risks to life and property; and
- 3) was completed or updated within five years of the subject application being deemed complete. A neighborhood-scale Coastal Hazards Analysis Report shall include an evaluation of neighborhood-scale adaptation strategies that are not under control of the applicant, but that can be used by the applicant to demonstrate the site will not be subject to coastal flooding, beach or coastal bluff erosion, coastal bluff slope failure, and/or wave impacts or will appropriately minimize potential impacts for the expected life of the development factoring in the effects of the sea level rise scenarios in Policies 1.3 and 1.4 (Table 1), and existing or planned neighborhood-scale adaptation strategies.

CAP Policy 4.1 The County shall reduce the risk from the damaging effects of coastal wave hazards and beach erosion through the review coastal development permits and long-term planning projects that include, if funding is available, LCP updates and neighborhood scale plans.

CAP Policy 4.7 Within five years the County should apply for grants and seek other funding to work with landowners whose properties are projected to be exposed to sea level rise, as follows: a. The County should work with landowners to develop Neighborhood-Scale Adaptation Plans.

4.7 (a) iii. An evaluation of an Existing Community on the North Coast that has a neighborhood scale shoreline protective device to identify adaptation strategies (including potential phased approaches) that will appropriately balance continued protection of development and public access/recreation and other coastal resources.

4.7 (c). The County should work with the Coastal Commission staff and landowners to consider and clarify permit-exempt (or otherwise eased/streamlined) regulatory pathways for qualifying maintenance and repairs on neighborhood-scale shoreline protective devices; and develop neighborhood scale adaptation plans and/or other strategies to protect both public coastal access and private development.

Nature-based solutions

SCCa promotes the use of nature-based solutions as the first response, proceeding to what is known as green-gray solutions such as an artificial reef or submerged breakwaters and engineering or gray adaptation such as seawalls and revetments which are designed to eliminate or mitigate adverse impacts on local shoreline sand supply (Coastal Act Section 30235).

CAP Policy 2.5 Strategies for “soft” shoreline protection (e.g., beach nourishment, sand dune restoration, vegetated dune enhancement, dredged sediment management, construction of seasonal sand berms to protect shorelines from erosion) shall be prioritized over shoreline protective devices where feasible.

Best Available Science and Tiered Response

CAP Policy 1.3, 2.1 and

4.2 Every 10 years at a minimum, or sooner if feasible as new science and/or state guidance becomes available, the County shall update its Vulnerability Assessment, adaptation plans, and LCP (including the Coastal Hazards Screening Area Maps in Appendix 15) as necessary to incorporate new sea level rise science, monitoring results, and information on coastal conditions.

Managed Retreat

Smart Coast California appreciates the acknowledgement in the staff report that: "Managed retreat is a challenge for the developed areas of the unincorporated County since the shoreline existing communities have small parcel sizes and lack space to relocate." SCCa would like to express their support for the way in which the LCP Amendments address, but do not mandate managed retreat.



CAP Policy 1.48 Based on findings from the Climate Change Impacts Monitoring reports Sea Level Rise Vulnerability Assessment, in cases where existing County facilities are found to be vulnerable to sea-level rise or coastal flooding, the County shall identify seek funding and to create an action plan to protect, accommodate, or manage the retreat of County facilities to areas of higher elevation or with reduced flood exposure to hazards. For facilities operated by other public and private entities, the County shall work encourage with these entities to create an action plan to protect, accommodate, or manage the retreat of their facilities to areas of higher elevation or reduced flood with reduced exposure to hazards

Regulatory Takings:

SCCa supports allowing the minimum economic or productive use of private property, and clearly stating the findings that are necessary as noted in:

CAP Policy 1.35 Where full adherence to all LCP policies and development standards regarding coastal hazards and sea level rise would effectuate an unconstitutional taking of private property without just compensation, the County shall allow the minimum economic or productive use of the property as necessary to avoid such an unconstitutional taking of private property without just compensation.

Smart Coast California is confident that the Local Coastal Program Amendments proposed will provide the necessary framework for the County of Ventura to demonstrate resiliency to coastal hazards. We want to reiterate that SCCa is a support resource for Ventura County as it moves towards local adoption and Coastal Commission certification of the Local Coastal Program Amendment, and we appreciate the opportunity to comment.

Sincerely,

A handwritten signature in cursive script that reads "Marta Golding Brown".

Marta Golding Brown
Co-Founder and Chief Executive Officer
mgbrown@smartcoastca.org

Good morning Commissioners,

My name is Zach Plopper, I am the Sr. Environmental Director of the Surfrider Foundation, and a resident of 190 E Oak View Ave. I have been surfing Southern California's coastlines for 35 years and cherish our region's open coastal access and healthy shorelines. An update to Ventura County's Local Coastal Program (LCP) provides a unique and urgent opportunity to address some of the gravest threats to our coastline, including our surfing resources.

Our Ventura County coast is home to some of the most iconic and visited surf spots in the country, from Rincon to the beachbreaks of Silver Strand. They are an enormous driver in our coastal economy. According to Ventura County's Resilient Coastal Adaptation Project Sea Level Rise Vulnerability Assessment, the annual value of surfing to the County is approximately \$89 Million.

Unfortunately, our surf spots and much of Ventura County's coastline is threatened by our knee jerk responses to coastal erosion - rock revetment and sea walls. Consequently, 57% of Ventura County's coastline is armored. This puts more than half of our beaches and accessible shoreline at risk of disappearing, including our waves.

To address this urgent threat, I recommend the inclusion of four critical surf policies to Ventura County's LCP. These include:

1. The City/County shall maintain an inventory of the existing surf breaks.
2. The City/County will develop a Surf [Resources] Management Plan that includes a detailed inventory of the surf breaks, and the aspects of water quality, sediment management, coastal access and coastal armoring which could be managed to minimize impacts to surf breaks. Such a plan should contain the existing conditions, historic uses and conditions, and future vulnerabilities.
3. Proposed coastal projects shall minimize impacts to surf resources, surf breaks and surf quality. Proposed projects within (some distance) of a surf break must conduct a surf quality impact assessment to evaluate potential impacts to surf quality, evaluate alternatives, and propose project mitigation to minimize project impacts to surf quality.
4. Coastal sediment management shall consider the timing and placement locations to manage sediment to enhance beach, surf and other coastal recreation and should be encouraged to promote climate resilience for public dependent recreation and infrastructure protective uses.

By incorporating these policies into the LCP, Ventura County will set itself aside from coastal municipalities across the state in proactively addressing the most pressing challenges to our coastline and its resources. The Surfers' Point Managed Retreat Project is a global gold standard in nature-based coastal adaptation. An updated LCP with Surf Policies will further position Ventura County as a leader in smart coastal management.

Sincerely,
Zach Plopper