Protecting Public Trust Shoreline Resources in the Face of Sea Level Rise


Photo: Charles Lester

The state can no more abdicate its trust over property in which the whole people are interested, like navigable waters and soils under them, . . . than it can abdicate its police powers in the administration of government and the preservation of the peace.

Illinois Central R.R. Co. v. Illinois (1892).

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I. Executive Summary

This report concerns the protection of California's public trust tideland resources in the face of sea level rise. It discusses issues related to the California Coastal Commission's (CCC) planning and regulation of development on the immediate shoreline and adjacent uplands, including coordination with the California State Lands Commission (CSLC). The issues identified do not differ substantially from longstanding concerns of the CCC and CSLC, except that we now understand that tidelands are generally moving inland due to sea level rise. This fact places an even higher significance on the distinction between lands that carry a public trust (tidelands), and those that don't, particularly those private uplands that will be most impacted by rising seas.

Section II of the report reviews the geophysical aspects of tidelands and the potential impacts of shoreline protection and other development on the values and uses of tidelands as sea level rises. The discussion explains how sea level rise will accelerate these impacts, with potentially catastrophic long-term loss of trust resources. Section III identifies policy issues concerning the protection of public trust resources, including certain legal duties of tideland and upland land owners and the dynamic nature of tidelands.

Figure 1. Faria Beach, Ventura County.

Photo: Charles Lester

This section also outlines recommendations that would shift the focus of the coastal planning and regulatory framework away from the identification of a *static* mean high tide line to a more *dynamic* framing of a tideland "zone of concern." This approach would require close coordination between the CCC and CSLC, and significant new funding for both agencies, such as investment in data collection and monitoring. It will also require heightened attention to agency decision processes and policy interpretations, such as the CCC's implementation of shoreline structure policy under the California Coastal Act. The recommendations convey a precautionary approach, based on tideland science and the public trust doctrine, that liberally construes the Coastal Act's mandate to protect public tideland resources, including public access and recreation, shoreline ecology and the intrinsic beauty of the coast.

Summary of Recommendations

The report discusses a variety of legal, policy, management and technical recommendations to address the public tideland trust and sea level rise, each summarized below and described in more detail in following sections.

1. **Adopt Public Tidelands Trust Interpretive Guidelines**. The CCC should develop and adopt interpretive guidelines to provide updated direction to local governments, permit applicants, property owners and other interested persons regarding the protection of public tidelands in the face of sea level rise.
2. **Consider Development of Corollary State Agency Principles**. Work with partner agencies (CSLC, Ocean Protection Council, State Coastal Conservancy, State Parks, Fish and Wildlife, etc.) on shared principles for protection of the Public Trust tidelands.
3. **Make Public Trust Findings in Shoreline Planning and Regulatory Actions**. The CCC should develop a "public trust" finding that analyzes public trust resources, potential development impacts to them (including direct, indirect and cumulative) and consistency with the public trust and Chapter 3 of the Coastal Act in all applicable shoreline planning and regulatory matters.
4. **Update LCPs to Reflect Public Trust Interpretive Guidelines**. LCPs should be updated as necessary to reflect new public trust-related guidance and procedures. This should include clear guidance to coordinate with the CSLC and assure that any development on tidelands is referred to the CCC.
5. **Prepare Model Condition(s) for Protecting the Public Trust**. Building on adopted and draft sea level rise guidance, model conditions that prohibit any new or potential future encroachment of non-public trust uses on tidelands unless authorized by the CCC and CSLC should be developed and implemented through deed restrictions. Periodic monitoring of tidelands should be required for new development next to tidelands.
6. **Coordinate Identification, Monitoring and Enforcement of the Public Trust**. The CCC should work with CSLC to identify and pursue any necessary monitoring and enforcement with respect to: (1) development that may already or soon will be located on public trust lands if the inland progression of the mean high tide line is presumed; and (2) existing tideland leases, expiration dates, and other lease terms and/or coastal permit conditions that may need monitoring, updating and/or enforcement.

7. **Recognize an Affirmative Agency Duty to Protect the Public Trust**. The CCC should formally recognize its affirmative duty to protect the public trust in tidelands, including to prohibit privatization and substantial impairment of public tideland resources.
8. **Use Tideland Science to Identify the Dynamic Zone of Concern**. To strengthen protection of tideland resources, the CCC and CSLC should take a "zone of concern" approach to identifying tidelands that reflects the ambulatory nature and general inland migration of the mean high tide line.
9. **Update Filing Requirements**. Building on existing draft sea level rise guidance, CCC filing requirements for public trust tidelands should be updated to generally require the applicant to: identify the location of and trustee agency for public trust lands underlying or adjacent to the development site; document on plan sheets existing mean high tide surveys; conduct new surveys if needed; identify the zone of concern; and other matters.
10. **Assert the "Milner Rule" Regarding Inland Migration of Tidelands**. The CCC should clearly assert the legal and policy position that an upland landowner or other actor may not unilaterally stop the inland progression of tidelands with a fixed structure such as a revetment or seawall and work with the CSLC to clarify and affirm the legal status of any previously "fixed" boundaries in light of an inland-moving tide line, including whether easements in favor of the public will generally persist as sea level rises.
11. **Construe the Zone of Concern Liberally to Protect Tidelands**. The CCC should consider how using a zone of concern approach may broaden the understanding of public access and other coastal resources to be protected, or actions affecting such resources, in specific contexts. Public trust findings should elaborate on the full array of management and development impact concerns entailed by a broad public trust framework.
12. **Require Increased Setbacks from the Shoreline for New Development**. Using a zone of concern approach may require increased shoreline setbacks for new development to assure that development does not encroach on public tidelands for its approved life. The CCC should identify the zone of concern where tidelands may be during the economic lifetime of a proposed development and limit non-public trust uses and development within or too close to this zone.
13. **Consider the Use of a Rolling Tideland Easement or Deed Restriction**. Consider applying a rolling easement or deed restriction to the tideland zone of concern that restricts future development and uses; easements may be dedicated to (or monitored by) an appropriate agency or other entity.

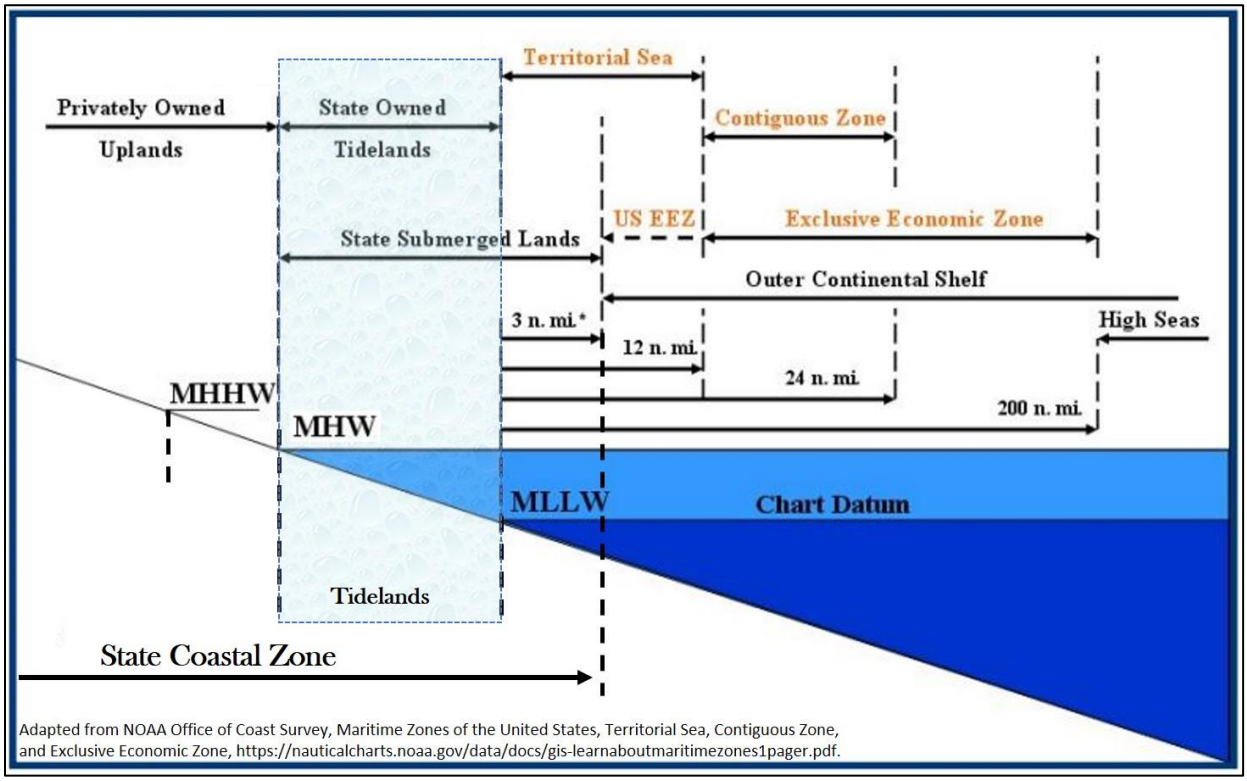
14. **Interpret Coastal Act Section 30235 as one of multiple Chapter 3 mandates**. The CCC should carefully consider the implementation of section 30235 to ensure that when authorizing shoreline armoring structures, public trust resources are protected, including as sea level rises.
15. **Consider regulatory updates to address the mean high tide line**. The CCC should consider updating its regulation to clarify the definitions of "mean high tide" and the "mean high tide line" to facilitate the protection of inland-moving, ambulatory tidelands. Revisions to assert a zone of concern, or "maximum inland extent" approach should be considered.
16. **Consider Coordinated Policy Interpretations and Mitigation with the CSLC**. Work with the CSLC to develop a coordinated set of policy interpretations for evaluating and authorizing development on or adjacent to public tidelands. Assess opportunities for a coordinated tideland mitigation program.
17. **Complete a GIS Inventory of Public Tidelands**. The CCC and CSLC should work together to complete a GIS inventory of developed shorelines showing the status and location of tidelands, including the location of boundary agreements, decisions and other adjudications that may "fix" the mean high tide line.
18. **Apply Best Available Science to Project the Location of Future Tidelands.** The CCC should continue to use best available SLR projections, such as USGS CoSMoS shoreline locations, to estimate the future location of the mean high tide line and/or the tideland zone of concern over various planning horizons and for the life of any proposed project.
19. **Explore Alternatives for Determining the Mean High Tide Elevation**. The CCC should explore with the CSLC, the use of alternative techniques for determining the MHT elevation over time that use an 18.6 year *moving average* of tides rather than a static tidal epoch.
20. **Evaluate New Technologies for Determining the Mean High Tide Line**. In coordination with the CSLC, the CCC should explore new technologies to support contemporary determinations of the mean high tide line (such as periodic LIDAR observations).

II. Tidelands, Sea Level Rise and Development Impacts

Tidelands Introduction

Many societies have long considered tidelands to be public lands common to all.[1] California inherited ownership of its public tidelands in 1850 when it became a state.[2] These lands, which lie between the mean low and high water tide lines (Figure 2),[3]

Figure 2. Coastal Boundaries and Tidelands.



[1] The Institutes of Justinian, published in 533, observes: "[t]hus, the following things are by natural law common to all—the air, running water, the sea, and consequently the seashore." Moyle, J.B., *The Institutes of Justinian*, II, I, 1. Translated into English with an Index. 5th ed. Originally published: Oxford: Clarendon Press, 1913. See also, Joseph L. Sax, The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention, 68 MICH. L. REV. 471 (1970).

[2] For more detail, see California State Lands Commission (CSLC), *A Legal Guide to the Public's Rights to Access and Use California's Navigable Waters*, 11/20/2017 https://www.slc.ca.gov/public-access/a-legal-guide-to-the-publics-rights-to-access-and-use-californias-navigable-waters/.

[3] In some U.S. states, the state owns beyond the mean high water line to the mean high high water; in others, private or upland ownership may extend below the mean high water to the mean low water line. Submerged lands (below the mean low water) are also considered to be public lands. According to the Institutes of Justinian, the "seashore" "extended to the limit of the highest tide in time of storm or winter." *Id*. II, I, 3.

are held in trust by the state for the people of California for "statewide public purposes."[4] The California State Lands Commission (CSLC) has the primary responsibility for managing tidelands for the state in its capacity as the owner of tidelands."[5] This includes the power to "eject from any tide and submerged lands . . . under its jurisdiction, any person, firm, or corporation, trespassing upon any such lands . . ." through legal action.[6]

Other state agencies also exercise certain authorities over state tidelands.[7] The California Coastal Act gives the Coastal Commission (CCC) comprehensive land use planning and development permitting authority in the coastal zone, including over public tidelands.[8] Since 1976 the CCC has reviewed thousands of permits for development on tidelands, including proposed harbor dredging, energy infrastructure, undersea fiber optic cables, boating and fishing related projects and wharf and pier developments up and down the state. The CCC has also reviewed permits for countless shoreline structures, such as revetments and seawalls, many on the basis that they were located in the CCC's original tidelands jurisdiction.[9]

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[4] Pursuant to California Public Resources Code (PRC) 6009, these purposes include "commerce, navigation, fisheries, and other recognized uses, and . . . preservation in their natural state."

[5] PRC 6301 gives the CSLC "exclusive jurisdiction over all ungranted tidelands and submerged lands owned by the State." Some tidelands have been granted to local governments, which take on primary responsibility for their management, subject to continuing trust obligations and oversight by the CSLC (PRC 6305; 6009).

[6] PRC 6302.

[7] In addition to the Coastal Commission, other agencies that exercise various authorities over tidelands include the San Francisco Bay Conservation and Development Commission (BCDC), the Department of Fish and Wildlife and Fish and Game Commission, the State Water Resources Control Board, and the Department of Parks and Recreation.

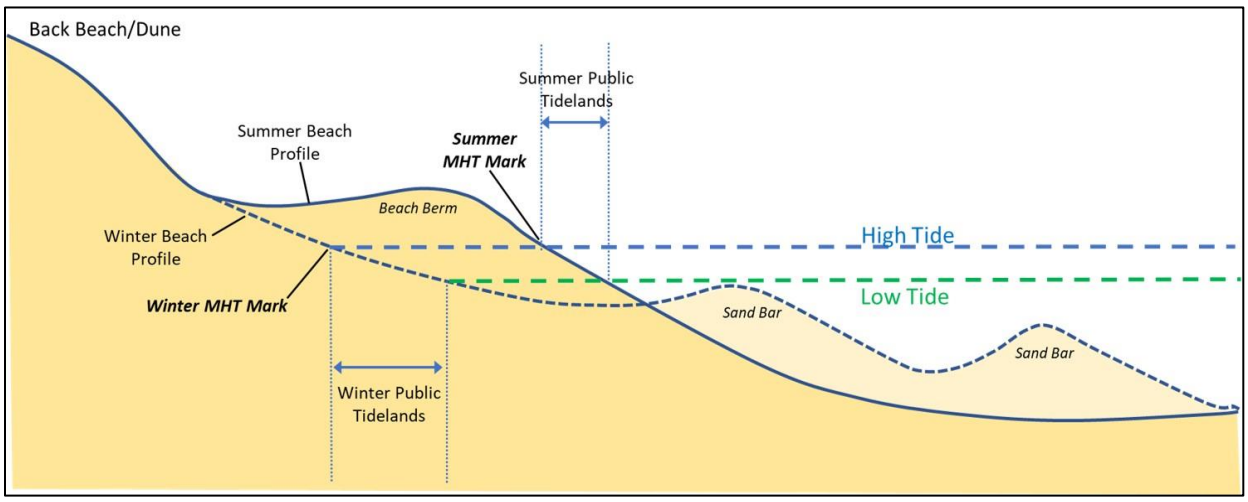
[8] Local governments also play a central land use planning and regulation role in the coastal zone and may assume development permitting authority once a Local Coastal Program (LCP) is certified or in certain other instances, but the Coastal Commission always retains jurisdiction below the mean high tide line. PRC 30600; 30519.

[9] For example, California Coastal Commission (CCC), Application No. 3-16-0446 (Rockview Seawall, Pleasure Point, Santa Cruz Co.), https://documents.coastal.ca.gov/reports/2019/2/W16b/W16b-2-2019-report.pdf. As a practical matter, all shoreline structures fall within the Commission's original tideland jurisdiction, its permit appeal jurisdiction, or both (under Coastal Act Section 30603 appealable coastal permit decisions include those concerning developments located "between the sea and the first public road paralleling the sea or within 300 feet of the inland extent of any beach or of the mean high tideline of the sea where there is no beach, whichever is the greater distance;" and developments "located on tidelands, submerged lands, public trust lands, within 100 feet of any wetland, estuary, or stream, or within 300 feet of the top of the seaward face of any coastal bluff").

Ambulatory Tidelands and Sea Level Rise

The definition of the CCC's tidelands jurisdiction is clear and fixed: those lands lying between the mean high and low tide lines[10]. But the actual location of these lands can be dynamic, and therefore subject to case-by-case determination.[11] This is because often these tide lines are determined by the intersection of the mean high and low sea level elevations with the physical shoreline at the time of observation. In the typical sandy beach environment, these lines will move back and forth with the accretion and erosion of sand from the shore, hence the notion that the mean high tide line is *ambulatory*. Depending on the extent of shoreline change and sand coming and going, the location (and extent) of tidelands can vary significantly,

Figure 3. Seasonal Change in Tidelands Location and Extent.



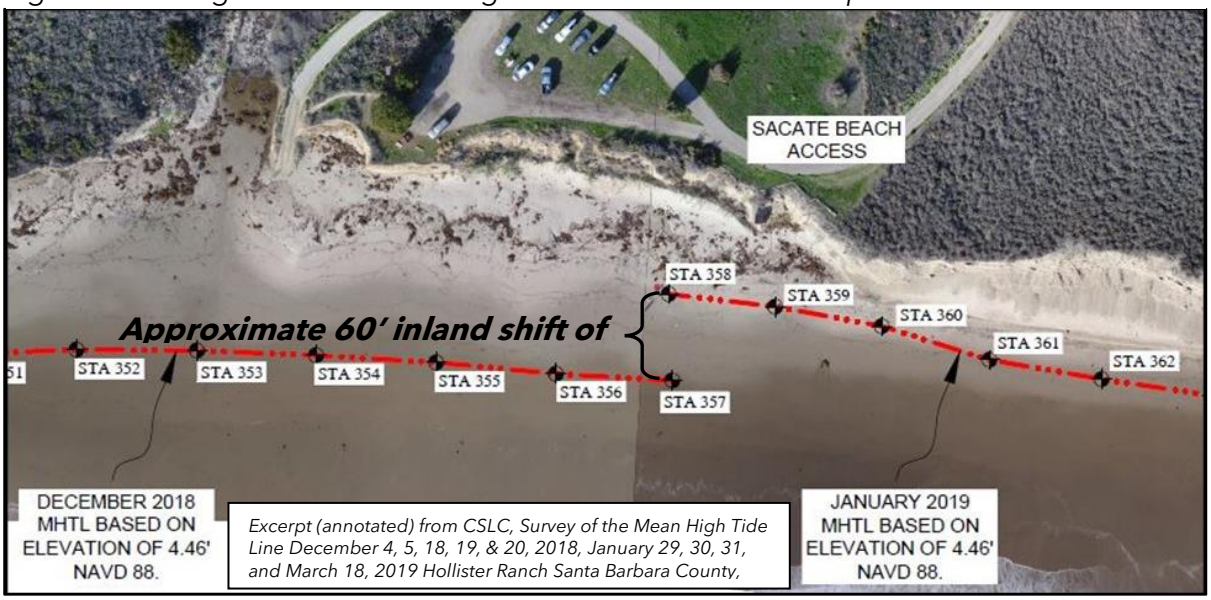
[10] Section 13577 of the CCC's regulations define tidelands "as lands which are located between the lines of mean high tide and mean low tide" (14 CCR § 13577(d)).

[11] California Civil Code section 670 states that "[t]he State is the owner of all land below tide water, and below ordinary high-water mark, bordering upon tide water within the State." Similarly, Civil Code section 830 states that in general ". . . the owner of the upland, when it borders on tide water, takes to ordinary high-water mark." In the U.S. Supreme Court case, *Borax Consolidated, Ltd. v. Los Angeles*, 296 U.S. 10 (1935), the Court ruled that the ordinary high-water mark was determined by the mean high tide line, and that based on the science of the U. S. Coast and Geodetic Survey, this was determined by "a mean of all the high tides" over an 18.6 year astronomical cycle that accounts for all significant variations in the distances between the earth and the moon and sun that cause different changes in the range of tide. For more detail on this "regression of the moons nodes," see Hicks, S. D., 2006. *Understanding Tides*, Center for Operational Oceanographic Products and Services, National Ocean Service, NOAA, U.S. Dept. of Commerce, Silver Spring. Also, *Marks v. Whitney*: "[t]idelands are properly those lands lying between the lines of mean high and low tide covered and uncovered successively by the ebb and flow thereof." (1971) 6 Cal. 3d 251, 257-258.

particularly between summer and winter beach conditions (Figures 3 and 4).[12] The definitive California coastal case on this question is *Lechuza Villas West v. California Coastal Commission*, wherein the court confirmed that "the mean high tide line, which is an ambulatory line [is] formed by the intersection of the ordinary high tide plane and the shifting shoreline."[13]

The fact that the boundary between public tidelands and private or public uplands is determined by the moving intersection of an elevation plane and the shoreline is the central reason that the CSLC and CCC must consider the question of how to protect public trust resources in the face of sea level rise. It is the average elevation plane of the sea that is rising and that, all things being equal, is generally driving the mean high tide line and thus public tidelands, gradually and unidirectionally inland.[14]

Figure 4. Shifting Sand and Mean High Tide Line Location Example: Hollister Ranch.



[12] As summarized by the CSLC:

> *Except for those locations where the boundary has been permanently fixed by either a court or an agreement with the Commission, the boundary of most of the lands under the Commission's jurisdiction is what is referred to as an ambulatory boundary because it moves. This movement is because the boundary is based on the location of the water. As a practical matter, this means that surveys taken on separate days may show the boundary at different locations. It is important to realize that a watermark on a beach is not the boundary.*

CLSC, https://www.slc.ca.gov/water-boundaries/.

[13] 60 Cal. App. 4th 218 (1997).

[14] Sea level change as expressed in specific locations also depends on such factors as tectonic movements and land subsidence, that may actually drive sea level down, or raise it more slowly, such as in Crescent City, California. See, California Ocean Protection Council (OPC), 2018. *State of California Sea Level Rise Guidance*, p. 24; and NOAA, *Tides and Currents*, https://tidesandcurrents.noaa.gov/sltrends/mslUSTrendsTable.html.

As summarized in the CCC's adopted Sea Level Rise Policy Guidance:

> *The mean high tide line is the intersection of the shoreline with the elevation of the average of all high tides calculated over an 18.6-year tidal epoch. This property line is referred to as "ambulatory" for two reasons: first, gradual changes to the shoreline due to factors such as variations in the height and width of sandy beaches, shoreline erosion or accretion, and uplift or subsidence of land can change the location of where the mean high tide line meets the shoreline. Second, the elevation of the mean high tide line itself changes over time and is likely to increase at an accelerating rate in the future due to sea level rise. Over time, sea level rise will continue to gradually cause the public trust boundary to move inland.*[15]

Data from NOAA tide gauges along California's outer coast for the last 100 years show that sea level has risen an average of 0.66 feet or 8 inches.[16] On typical California beaches ranging in slope between 6% and 2%, this equates to 11 to 33 feet of inland migration of the mean high tide line over the next 100 years if this trend continued. However, the potential inland migration of tidelands is even greater when the evidence considered that even in the last decade sea level has been rising at 17 inches/century, or more than twice the rate of the last century.[17] This would equate to inland migration of 22 to 66 feet across typical beach profiles over one hundred years. Using likely projected sea level rise in California we might, for example, expect an inland migration of the mean high tide line in Santa Monica of more than 33 feet by 2050, and 150 feet or more by 2100, depending on the assumptions about future CO2 emissions.[18] In extreme-case scenarios such as 10 feet of sea level rise by 2100, the mean high tide line could migrate 80 to 500 feet inland if unimpeded (Table 1).[19]

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[15] CCC, Sea Level Rise Policy Guidance (Adopted, 2015, Updated, 2018), p. 169.
[16] *Id*., excluding Crescent City gauge. Also, Anderson, R., Patsch, K., Lester, C. and Griggs, G., *Adapting to shoreline retreat: Finding a path forward*. Shore & Beach Vol. 88, No. 4, Fall 2020.
[17] Anderson, et al, *Id*.
[18] OPC, *Id*. n.14.
[19] Vitousek et al. support this generalization*: "[t]he average foreshore beach slope in Southern California, derived from LIDAR data between −2.0 m and +2.0 m around mean sea level at each transect, is tan β = 1/32, suggesting (on average) 32 m of shoreline recession associated with . . . 1.0 m of SLR." Vitousek, S., P. L. Barnard, P. Limber, L. Erikson, and B. Cole (2017), A model integrating longshore and cross-shore processes for predicting long-term shoreline response to climate change, J. Geophys. Res. Earth Surf., 122, 782–806, p. 786.* Representative beach slopes in southern California fall within the ranges of Table 1. The nearshore beach slope is approximately 40 (horizontal) to 1 (vertical) or flatter for Hermosa, Dockweiler, and Venice beaches, and is approximately 20 to 1 for Zuma Beach. *Noble Consultants, Final Report, Los Angeles County Department of Beaches and Harbors, Seasonal Sand Berm Protection Program (2016).*

Table 1. Inland Migration of MHTL (ft.) as function of SLR and Beach Slope.

	Beach Slope (%)			
Relative Sea Level Rise (feet)	2% (1:50)	3% (1:33)	6% (1:16.7)	12.5% (1:8)
0.66	33	21.8	11	5.3
1	50	33	16.7	8
2	100	66	33.4	16
3	150	99	50.1	24
6	300	198	100.2	48
10	500	330	167	80

The potentially dramatic inland migration of tidelands can now be illustrated in specific locations on California's coast applying the best available science.[20] Using past observations of the mean high water (thus approximating the location of a mean high tide line), the USGS CoSMoS model projects the future location of the shoreline for different sea level rise scenarios in specific shoreline environments. For example, it projects a potential 137-foot inland migration of the shoreline in Del Mar assuming just over three feet (100 cm) of sea level rise by 2100 and no nourishment (Figure 5).[21]

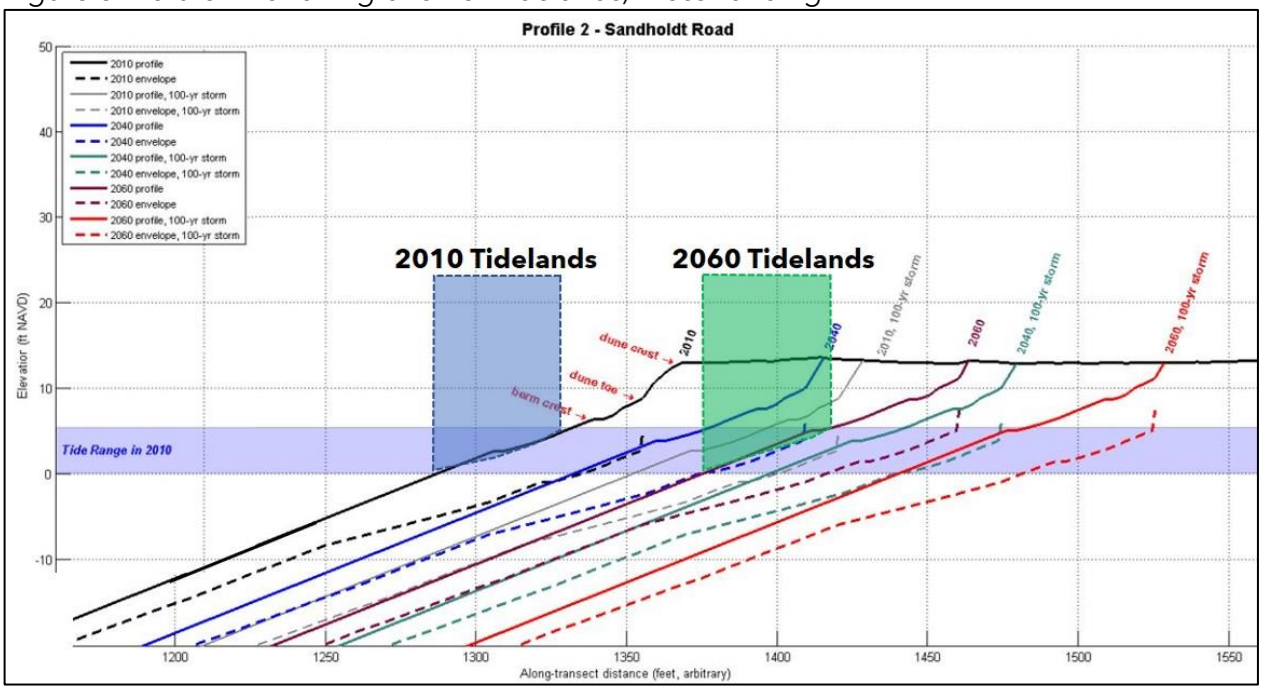
Figure 5. CoSMoS Projected Shoreline Change, 100 cm of SLR by 2100, Del Mar, CA.[21]

[20] See USGS modeling at: https://ourcoastourfuture.org/; also, Vitousek et al. *Id.*
[21] Barnard, P.L., Erikson, L.H., Foxgrover, A.C., Limber, P.W., O'Neill, A.C., and Vitousek, S., 2018, Coastal Storm Modeling System (CoSMoS) for Southern California, v3.0, Phase 2 (ver. 1g, May 2018): U.S. Geological Survey data release, https://doi.org/10.5066/F7T151Q4; Basemap: Google Earth, https://earth.google.com/web/.

Potential Development Impacts to Public Trust Resources

All things equal, public tidelands will maintain their basic characteristics if allowed to naturally migrate inland apace with sea level rise.[22] An analysis of projected shoreline change at relatively undeveloped locations of southern Monterey Bay, for example, shows inland recession of the shoreline profile, including tidelands, assuming no interference of natural erosion from development or other structures. Along a transect at Sandholdt Road, the tidelands maintain their general width (as a function of constant tidal range and essentially constant beach slope), while receding approximately 85 feet from 2010 to 2060, assuming 28 inches of sea level rise.[23]

Figure 6. Natural Inland Migration of Tidelands, Moss Landing.



[22] All things are rarely equal, and the actual migration, configuration and spatial dimensions of tidelands will vary with specific geologic features, wave climate, storms and other inputs and potential interventions in the shoreline system. Sea level rise rates, too, may determine whether intertidal sandy beach tideland areas will be maintained above subtidal areas if the backing bluffs and cliffs do not erode at a pace to maintain an equilibrium condition. For example, the City of Santa Barbara projects a loss of 78% of its bluff-backed beaches with 2.5 feet of sea level rise, as sea level rise outpaces the erosion rates, albeit increased, of the bluffs. City of Santa Barbara, Final Sea-Level Rise Adaptation Plan, February 2, 2021, 6-12.

[23] Adapted from Cal Am Monterey Peninsula Water Supply Project, Final EIR/EIA, ESA 205335.01, March, 2018, Appendix C2, Figure 6, Profile #2, https://ia.cpuc.ca.gov/environment/info/esa/mpwsp/deir-eis/Appendix%20C2.pdf. This is based on the 2010 tidal range. The inland movement would be slightly more if the elevated tidal range projected for 2060 was used.

As tidelands naturally move inland along developed shorelines, though, they will begin to be impacted by development in various ways. First, the direct placement of new development on or over public tidelands is always a concern, regardless of projected sea level rise. Generally, whether such development is appropriate is a function of the nature of the proposed use and the significance of the impact to coastal resources (see detailed discussion in section III). The CCC has regulatory authority over such developments, including recreational piers, groins and bulkheads, and sand replenishment projects. With sea level rise, it will become increasingly difficult to avoid direct placement impacts for developments typically proposed right along the shoreline, such as shoreline protection.

Figure 7. Groin on Tidelands, Ventura.

Photo: Charles Lester

Sea level rise also portends increasing encroachment of existing development onto public tidelands (for example, Figure 8[24]). As opposed to the situations where tidelands can continue to naturally retreat, shoreline development that may have originally been located on non-public trust uplands, or only slightly on tidelands, will have increasing impacts on the nature and extent of public tidelands as the sea rises. The potential for such impacts has always been a concern of the CCC, though primarily from the perspective of addressing the impacts of shoreline structures on shoreline resources, such as beach access.[25]

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[24] CSLC has issued a 10-year lease for a shoreline structure at 24132 Malibu Road (Lease 9067.1, https://www.slc.ca.gov/Meeting_Summaries/2013_Documents/06-21-13/Items_and_Exhibits/C75.pdf).

[25] For a general discussion of shoreline structure impacts, see, Griggs, Gary, The Impacts of Coastal Armoring, Shore & Beach Vol. 73, No. 1, Winter 2005. For an overview of Coastal Commission shoreline structure policy, see, Lester, C., An Overview of California's Coastal Hazards Policy," in Griggs, Patsch, and Savoy, *Living with the Changing California Coast*, University of California Press (2005); for a good example of Coastal Commission analysis and findings of shoreline structure impacts, including public tideland issues, see, Application 97-071 (Schaeffer), 11/5/97, https://documents.coastal.ca.gov/reports/1997/11/W10b-11-1997.pdf. For an earlier example of the Coastal Commission's understanding of how sea level

Figure 8. Residential Revetment in Malibu (vacant parcel has CSLC tidelands lease).

The passive erosion of tidelands is the most significant impact of shoreline development.[26] On a receding shoreline, and as sea level rise accelerates, beaches and tidelands in front of seawalls that stop beach recession will eventually be destroyed, and the intertidal zone will be converted increasingly to subtidal lands. This potential impact, termed the "coastal squeeze," is dramatically illustrated in the 2017 USGS study that projects the loss of up to two-thirds of southern California beaches by 2100 if shorelines are unable to recede as they would in an equilibrium

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rise will interact with beach development, see, 4-99-268 (Geffen), p. 24, (https://documents.coastal.ca.gov/reports/2000/8/T17a-8-2000.pdf):

> *On the California coast the effect of a rise in sea level will be the landward migration of the intersection of the ocean with the shore. On a relatively flat beach, with a slope of 40:1, every inch of sea level rise will result in a 40-inch landward movement of the ocean/beach interface. For fixed structures on the shoreline, such as a single family residence, pilings, or seawalls, an increase in sea level will increase the inundation of the structure. More of the structure will be inundated or underwater than are inundated now and the portions of the structure that are now underwater part of the time will be underwater more frequently.*

See, also, James G. Titus, U.S. Envtl. Prot. Agency, Rolling Easements, at iii, 4 (2011), http://www2.epa.gov/sites/production/files/documents/rollingeasementsprimer.pdf.

[26] There is some debate about whether shoreline structures cause "active" or increasing erosion of a beach fronting a wall. See, Griggs, *Id*. There is also concern for direct erosional "end-effects" from shoreline structures, but when considering tidelands, such impacts are secondary to the more dominant concern for long-term passive erosion loss of the beach.

state with the backshore.[27] The physical loss of tidelands will equate to a loss of all of the functions and values that they provide, including hazard mitigation, recreational use, aesthetic value and ecological services.[28]

In addition to the direct loss of tidelands, encroachment of shoreline development and subsequent passive erosion often results in the blockage of lateral tideland beach access. This impact can be seen in numerous places on California's coast, as naturally receding beaches flank one or both sides of a beach-level development (Figures 9, 10). This was the primary environmental impact associated with the Ocean Harbor House seawall, where it was concluded that the development site would eventually form a peninsula and approximately one acre of public beach would be lost over the seawall's 50-year life.[29]

Figure 9. Loss of tidelands as development blocks shoreline recession, Pacifica.

[27] This conclusion holds even assuming regular sand replenishment, which merely delays the inevitable inundation of the beach by higher and higher sea levels. Vitousek, *Id*. note 19.

[28] As found by the CCC recently:

> *By physically occupying the beach and intertidal zones, armoring diminishes productivity associated with intertidal zones. Studies have found that on armored vs unarmored beaches biomass, abundance, and size of upper intertidal macro invertebrates are significantly lower. Presence of armoring was also shown to correlate with diminution in total abundance as well as species richness in shorebirds.[…] Additionally, not only does placement of seawalls and riprap on the beach physically diminish the breadth of beach available for organisms to forage, breed, and nest, but it also acts as a barrier that prevents those ecosystems from migrating landward with rising sea levels – a circumstance that will result in the elimination of those inter and supra tidal ecosystems as the water levels rise to meet the seawalls and revetments.*

CCC-19-CD-05, CCC-19-CD-06, and CCC-19-ACP-04 (Outrigger/Sterling), 2019 (https://documents.coastal.ca.gov/reports/2019/10/Th14.1%20thru%2014.3/Th14.1-14.3-10-2019-report.pdf) citing, Dugan, J.E. et. al, 2008, Ecological effects of coastal armoring on sandy beaches. Marine Ecology, v 29 supl. I. p 160-170.

[29] CCC, 3-02-024, Ocean Harbor House Seawall, 2005, https://documents.coastal.ca.gov/reports/2005/1/Th13a-1-2005.pdf.

California's shoreline also has many "elevated" developments that may avoid direct placement on or passive erosion of the beach, but that will result in the eventual conversion of open, more natural tidelands, to tidelands underneath structures. This is already a looming concern in places like Malibu, and where redeveloped beach-level structures are being elevated to accommodate future predicted tidal levels.

Figure 10. Ocean Harbor House at King Tide, Monterey.

Finally, shoreline structures directly impact the supply of beach sand to tideland systems. The CCC has long analyzed and required mitigation for such impacts to beach environments, though not always from the standpoint of concern for the loss of public tidelands.[30] The cumulative impacts of seawall development to sandy tidelands are no doubt significant in places like Encinitas and Solana Beach, where the eroding cliffs are an important source of beach sand.

Shoreline development also has broader impacts on tideland values. Distinct from direct physical impacts, these broader impacts are core management concerns of the CCC, and include interference or effects on the ability to get to and along tidelands, aesthetic impacts, conflicts between uses of tidelands, and impacts to the environmental condition of tidelands (e.g., water quality, biological productivity). The cumulative impacts of development on tidelands may also be substantial, such as the loss of sandy beaches or tidal wetland habitats. The next section discusses tideland policy concerns related to such impacts.

Figure 11. Elevated Development Near Tidelands -- Malibu.

[30] See, City of Solana Beach Major Amendment LCP-6-SOL-16-0020-1, May 11, 2017 https://documents.coastal.ca.gov/reports/2017/5/th17d/th17d-5-2017-report.pdf.

III. The Public Tideland Trust and the Coastal Act

The Affirmative Duty to Protect Tideland Public Trust Resources

The public trust is an evolving common law doctrine that has expanded significantly from its early focus on commerce, navigation, and fishery uses of tidelands and navigable waters.[31] It is now understood to include "the right to swim, boat, and engage in other forms of water recreation, and even to preserve lands in their natural state in order to protect scenic and wildlife habitat values."[32] As the California Supreme Court recognized nearly fifty years ago, ". . . one of the most important public uses of the tidelands . . . is the preservation of those lands in their natural state . . .."[33] The states of New Jersey, North Carolina and Oregon have specifically extended the trust doctrine to protect public use of upland sandy beach areas.[34] Some even argue that the public trust extends well beyond its origination in tidelands and navigable waters to encompass any natural resource of common heritage.[35]

At its core, the public trust doctrine invests the State of California, including its various agencies, with an *affirmative duty* to protect the common heritage trust values of its tidelands for all the people into the future. As stated by the California Supreme Court:

> *. . . the public trust is more than an affirmation of state power to use public property for public purposes. It is an affirmation of the duty of the state to protect the people's common heritage of streams, lakes, marshlands and tidelands, surrendering that right of protection only in*

[31] Common law is the body of law derived from judicial decisions, rather than from statutes or constitutions. The State of California's public trust authority derives from its acquisition of sovereign ownership of its tidelands in 1850, when it was admitted to United States. See, CSLC, A Legal Guide to the Public's Rights to Access and Use California's Navigable Waters (2017), pp. 8-14, https://www.slc.ca.gov/2017/11/20/a-legal-guide-to-the-publics-rights-to-access-and-use-californias-navigable-waters/.
[32] CSLC, https://www.slc.ca.gov/public-engagement/. Accessed July 2, 2020.
[33] *Marks v. Whitney* (1971) 6 Cal. 3d 251, 259.
[34] *Matthews v. Bay Head Improvement Ass'n*, 471 A.2d 355 (N.J. 1984); *Raleigh Ave. Beach Ass'n v. Atlantis Beach Club, Inc.*, 879 A.2d 112, 119-20 (N.J. 2005); *Nies v. Town of Emerald Isle*, 780 SE 2d 187 (2015); *City of Cannon Beach*, 854 P.2d at 456-57.
[35] Wood, Mary. *Nature's Trust: Environmental Law for a New Ecological Age*, Cambridge University Press (2013); and, Michael C. Blumm & Rachel D. Guthrie, Internationalizing the Public Trust Doctrine: Natural Law and Constitutional and Statutory Approaches to Fulfilling the Saxion Vision, 45 UC Davis L. Rev. 741, 750 (2012).

> *rare cases when the abandonment of that right is consistent with the purposes of the trust*.[36]

The affirmative duties of the public trust doctrine are embedded in the common law, and have developed and evolved through case-by-case judicial decision-making. But the state's duty to protect the trust may also be expressed by the legislature in specific statutory direction. As discussed, the CSLC holds a primary responsibility for managing tidelands on behalf of the state as the *owner* of tidelands. Other federal and state agencies, like the CCC, also hold authority over trust tidelands related to their various statutory missions and powers.

The Coastal Act gives the CCC clear planning and regulatory authority over development on or adjacent to public tidelands, including by requiring that the coastal permit review authority for development on tidelands be retained by the CCC and not delegated to local governments.[37] The CCC also has jurisdiction over development in the coastal zone generally that may not be immediately adjacent to tidelands but that could affect tideland resources, such as inland parking restrictions on visitors, or water pollution from activities in coastal watersheds that may make its way to tideland waters and habitats.

There are several substantive references in the Coastal Act specifically related to the protection of *public trust* resources. Most important, Coastal Act section 30210 specifically grounds its requirement to provide maximum coastal access in the California Constitution's prohibition on excluding the right of way to state waters

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[36] *National Audubon Society v. Superior Cour*t (1983) 33 Cal.3d 419, 441. Also, Center for Ocean Solutions. 2017. *The Public Trust Doctrine: A Guiding Principle for Governing California's Coast Under Climate Change*. Stanford Woods Institute for the Environment, https://oceansolutions.stanford.edu/sites/g/files/sbiybj13371/f/the_public_trust_doctrine_a_guiding_principle_for_governing_california_report.pdf; and Tim Eichenberg, Sean Bothwell, and Darcy Vaughn, Climate Change and the Public Trust Doctrine: Using an Ancient Doctrine to Adapt to Rising Sea Levels in San Francisco Bay, 3 Golden Gate U. Envtl. L.J. (2010).

[37] Footnote 8, supra. CCC regulations, CFR 13577(f), defines public trust lands as:

> *. . . all lands subject to the Common Law Public Trust for commerce, navigation, fisheries, recreation, and other public purposes. Public Trust lands include tidelands, submerged lands, the beds of navigable lakes and rivers, and historic tidelands and submerged lands that are presently filled or reclaimed, and which were subject to the Public Trust at any time.*

Coastal Act 30613 allows the CCC, after consultation with the CSLC, to transfer public trust lands to local jurisdiction if it determines that they are (1) filled and developed and (2) located within an area which is committed to urban uses.

(including tidelands) when required for a public purpose.[38] And though the other substantive public access policies of the Act do not specifically reference tidelands or the public trust, section 30211 refers to the "public's right of access to the sea;" section 30212 to protection of access "to the shoreline and along the coast:" and section 30214 to "the public's constitutional right of access" in Article X, Section 4.

Elsewhere in the Act, section 30708 requires that "[a]ll port-related developments . . . be located, designed, and constructed so as to . . . [p]rovide for other beneficial uses *consistent with the public trust*, including, but not limited to, recreation and wildlife habitat uses, to the extent feasible. [emphasis added]"[39] This is the only specific reference to "the public trust" in the Coastal Act. Recently, the Coastal Act's policies addressing public access to the coast at Hollister Ranch in Santa Barbara County were amended by the Legislature in 2019, which found that "[t]he public policy of protecting, expanding, enhancing, and promoting equitable public access to the state's coast, tidelands, and waterways is embodied in the California Constitution, numerous statutes and regulations, and common law."[40] The amendment also requires that access planning for Hollister include an assessment of current and potential access to "state-owned tidelands" at the ranch.[41]

Beyond these direct references, the California Coastal Act generally embodies many of the values protected by California's public trust doctrine.[42] The CCC must protect maximum shoreline public access and recreation, including lower-cost facilities and

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[38] PRC 30210 states:

> *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

Article X, Section 4 states:

> *No individual, partnership, or corporation, claiming or possessing the frontage or tidal lands of a harbor, bay, inlet, estuary, or other navigable water in this State, shall be permitted to exclude the right of way to such water whenever it is required for any public purpose, nor to destroy or obstruct the free navigation of such water; and the Legislature shall enact such laws as will give the most liberal construction to this provision, so that access to the navigable waters of this State shall be always attainable for the people thereof.*

[39] PRC 30708.
[40] PRC 30610.8(i).
[41] PRC 30610.81.
[42] See, for example, Amicus Brief of California State Lands Commission and California Coastal Commission in Support of Appellant Friends of Martins Beach, Court of Appeal of State of California, First Appellate District, Division 2, A142035, May 11, 2015, p. 22.

public recreational and water-oriented activities; and ensure that development is compatible with the continuance of recreation areas, such as tidelands.[43] It must maintain, enhance and restore marine resources and protect sensitive shoreline habitats and natural processes.[44] The agency also must protect the economic, commercial, and recreational importance of fishing activities, and prioritize visitor-serving commercial recreation over private residential development or general commercial and industrial development.[45] Scenic resources must be protected, including by minimizing the alteration of natural landforms, such as beaches.[46] Overall, new development generally must not have significant adverse effects, either individually or cumulatively, on coastal resources, such as tidelands.[47]

CCC Tideland Decisions

Given the Coastal Act's comprehensive scope, the CCC has a long history of protecting tideland resources, both in its local coastal planning and development permitting work. Shoreline development cases often raise direct concerns with the protection of public tidelands, and the CCC has cited the public trust doctrine to support its findings under the Coastal Act. On occasion, the CCC will make extensive findings about the need to protect public tidelands, and the impacts of a proposed development on them. This is especially true in places like Malibu, where the CCC has been making tideland findings for decades.

For example, in 2007, the CCC approved the redevelopment of a house on Carbon Beach in Malibu (Figure 12). The CCC closely examined the relationship of the new development to the adjacent tidelands, ultimately approving the project with a refined lateral access dedication and view corridors, and assurances of no future seaward encroachment. CCC findings included statements that "[t]he Commission must consider a project's direct and indirect effect on public tidelands and that "the Commission must avoid decisions that improperly compromise public ownership and use of sovereign tidelands." Recognizing the ambulatory nature of the mean high tide, and the critical importance of tidelands to public beach access, the CCC imposed a final condition based on a specific requirement of the Malibu LCP to guard against private assertions over public tidelands:

> *By acceptance of this permit, the applicants acknowledge and agree that no signs shall be posted on the project site unless authorized by a CDP*

[43] PRC 30210-214, 30220-221. PRC 30240(b) states: "[d]evelopment in areas adjacent to environmentally sensitive habitat areas and parks and recreation areas shall be sited and designed to prevent impacts which would significantly degrade those areas, and shall be compatible with the continuance of those habitat and recreation areas."
[44] PRC 30230-233; 30235; 30240.
[45] PRC 30234-234.5; 30222- 224.
[46] PRC 30251; 30253.
[47] PRC 30250.

or an amendment to this CDP. No signs which restrict public access to State tidelands, public vertical or lateral access easement areas, or which purport to identify the boundary between State tidelands and private property shall be permitted.[48]

Figure 12. Redevelopment of 21934 Pacific Coast Highway, Malibu (A-4-MAL-05-084).

The CCC also has denied shoreline development projects based in part on the development's impacts on tidelands. For example, in 2001, the CCC denied a revetment proposed to protect a residence in Malibu, finding in part:

> *. . . the proposed revetment will have both an individual and, combined with the numerous existing shoreline protective devices, cumulative adverse impact on public use of tidelands.*[49]

In 2000, the CCC staff recommended the denial of a new bulkhead proposed on the Geffen property at Carbon Beach. Though ultimately approved, the adopted findings include both the typical tidelands findings of that time and a discussion of sea level rise, linking the two. The findings conclude:

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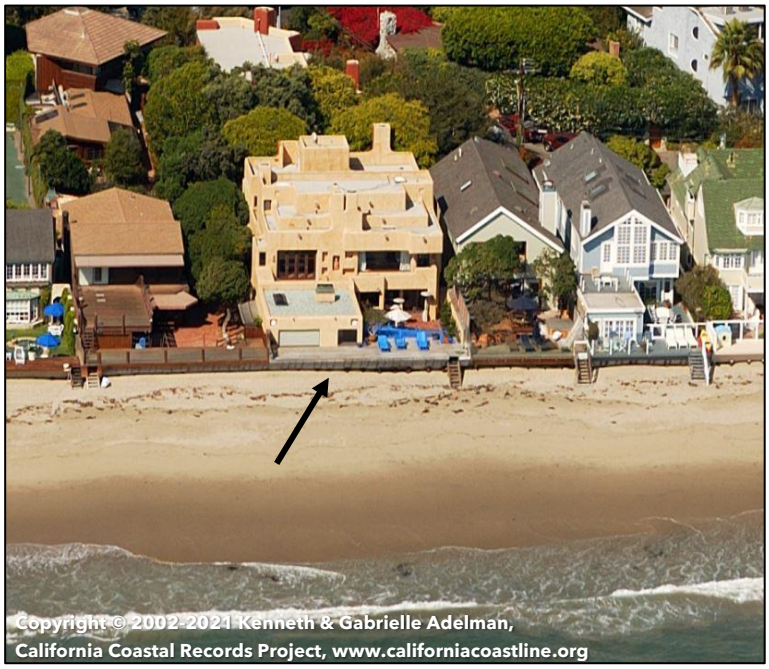
[48] A-4-MAL-05-084 (Greene), June 14, 2007, https://documents.coastal.ca.gov/reports/2007/6/Th23a-6-2007.pdf. Also, 4-99-266 (Daly), April 12, 2000; 4-97-243 (Higgins), Feb. 17, 2000; 4-97-071 (Schaeffer), 11/5/97, https://documents.coastal.ca.gov/reports/1997/11/W10b-11-1997.pdf.
[49] 4-97-236 (NOAS Properties, Inc.), 11/16/2001, https://documents.coastal.ca.gov/reports/2001/11/F9a-11-2001.pdf.

In addition, as the level of sea level rises over time, the inland extent of the MHTL's identified in the area will move further seaward [sic]. As a result, the proposed bulkhead will affect the public's use of the public tidelands.[50]

The CCC thus routinely addresses public tideland issues when considering development on the shoreline. Still, this consideration is not uniform or systematic. And though the CCC has recognized sea level rise as a real phenomenon on California's coast for decades, the widespread recognition of this increasing challenge fundamentally changes the analytic framework for shoreline hazards management, including decision-making about shoreline structures. So, while both the CCC and CSLC have been proactive in addressing such concerns, increasing sea-level rise heightens the concerns for *long-term loss* of public shoreline resources, necessitating even more proactive management and regulatory response.

Figure 13. Revetment Denial Site, Malibu (4-97-236).



Making a Public Trust Finding

The CCC can begin a more systematic and proactive protection of public tidelands by assuring that a public trust resource finding is made for every permit and LCP review that implicates potential impacts to tideland resources, including direct, indirect and cumulative impacts. Similar to the CCC's regular CEQA finding, a focus on public trust tidelands would necessitate specific evaluation of various tideland questions, including asking where tidelands are located, whether uses that may be proposed on tidelands are appropriate, and what the specific impacts to tideland resources may be (see below).

Embracing the affirmative duty to protect tidelands through a public trust finding is consistent with the original 1975 Coastal Plan recommendation 36 to provide "special protection" for tidelands:

[50] 4-99-268 (Geffen), p. 26, https://documents.coastal.ca.gov/reports/2000/8/T17a-8-2000.pdf. The CCC required a lateral access to mitigate the impact to tidelands.

> *The State, as the legal guardian of certain coastal areas, generally seaward of the mean high tide line that are held in public trust . . . shall provide special protection for these areas. Because development adjacent to such public trust lands and waters can have an adverse Impact on the public's rights in them (e.g., development may block constitutionally guaranteed access to coastal waters or cause damage such as erosion or landslides), development on or uses of public and private lands in the vicinity of trust areas that would significantly interfere with or harm the public values of these areas shall not be permitted. The Coastal Plan shall, consistent with applicable law, be a basis for determining permissible uses of public trust lands and waters and of adjacent areas within the coastal zone.* ***If there is reason to believe that an area may be subject to the public trust, any proposed development in that area inconsistent with the public trust shall not be permitted to proceed unless it is found that the public trust is not applicable to the site*** [emphasis added].[51]

Though the Coastal Act does not contain a specific policy to protect the public trust, the original Coastal Plan's recommended provision captures the intent of a policy that was incorporated into BCDC's Bay Plan:

> *When the Commission takes any action affecting lands subject to the public trust, it should assure that the action is consistent with the public trust needs for the area and, in case of lands subject to legislative grants, should also assure that the terms of the grant are satisfied and the project is in furtherance of statewide purposes.*[52]

The Bay Plan also articulates various public trust findings that elaborate on BCDC's duty to protect the trust.[53]

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[51] California Coastal Zone Conservation Commissions (1975), *California Coastal Plan*, p. 190. The Coastal Plan also directed that the CSLC undertake accelerated boundary determination research to "clarify the extent and status of all public trust lands;" and recommended uniform mapping standards be adopted to clear up uncertainty as to the extent of public trust land.

[52] SFBCDC, San Francisco Bay Plan (2020), p. 96.

[53] These are:

> *a. Virtually all the publicly and privately-held unfilled tidelands and submerged lands within the jurisdiction of the Commission are subject to the public trust. b. The public trust is a paramount public property right held in trust by the state for the benefit of the public. c. Title to this public trust ownership is vested in the State Lands Commission or legislative grantees. d. The purpose of the public trust is to assure that the lands to which it pertains are kept for trust uses, such as commerce, navigation, fisheries, wildlife habitat, recreation, and open space. e. The McAteer-Petris Act and the Bay Plan are an exercise of authority by*

The CCC has already voiced the basic premise of its affirmative duty to protect tidelands when it adopted its sea level rise guidance in 2015:

> *Recognize that sea level rise will cause the public trust boundary to move inland. Protect public trust lands and resources, including as sea level rises. New shoreline protective devices should not result in the loss of public trust lands. Where allowed under the Coastal Act or the relevant LCP, shoreline protective devices should be sited, designed, and conditioned to ensure that they do not result in the loss of public trust lands or encroach onto public trust lands without the permission of the appropriate trustee agency. When sea level rise causes the public trust boundary to move inland such that a protective device that was located on uplands becomes subject to the public trust, the permittee should either obtain permission from the appropriate trustee agency for the encroachment or apply for a permit to remove any encroachments.*[54]

More recently, the CCC adopted statewide sea level rise principles that recognize the policy of protecting the public trust, including to:

- Protect and enhance public trust natural and cultural resources, such as beaches, wetlands, other habitats, biodiversity, and culturally important areas; and
- Protect critical public water-dependent infrastructure, ports, harbor districts, and other evolving public trust needs and uses, given the unique characteristics, significance, constraints, and values of these public trust uses.[55]

The CCC's draft coastal adaptation policy guidance for residential development recognizes that "the public trust doctrine should inform the interpretation of Coastal Act and LCP provisions to ensure that they are carried out in a manner that fully protects the public trust."[56]

Making a public trust finding also would highlight the shared authority of the CCC and the CSLC, and the need to be clear about each agency's responsibilities in protecting tidelands. The Coastal Act anticipates this overlapping relationship by clearly acknowledging the CSLC as the "agency responsible for the management of

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> *the Legislature over public trust lands and establish policies for meeting public trust needs. f. As a* result, the public trust ownership provides additional support for Commission decisions affecting such lands.

Id.

[54] CCC, Sea Level Rise Policy Guidance (Adopted, 2015, Updated, 2018), p. 40.

[55] CCC, *Making California's Coast Resilient to Sea Level Rise: Principles for Aligned State Action*, Adopted May 13, 2020.

[56] CCC, Coastal Adaptation Policy Guidance: Residential Development (2018), p. 39.

all state lands," and calling for the CSLC to review LCPs prior to their approval.[57] Making a finding would underscore this shared responsibility and also promote and facilitate enhanced coordination with the CSLC. As both agencies have acknowledged, close intergovernmental coordination will become increasingly important as sea level rises, in order to avoid legal conflicts and maximize the effectiveness of the state in protecting public trust resources.[58]

In describing the state's duty to protect public trust lands, the California Supreme Court has ruled that state agencies have a duty to "exercise […] continuous supervision and control over the navigable waters of the state and the lands underlying those waters."[59] Thus, when considering whether to approve projects that may affect public trust lands, agencies must consider the effects that the projects will have on "interests protected by the public trust, and attempt, so far as feasible, to avoid or minimize any harm to those interests."[60]

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[57] Coastal Act Section 30416 also specifies other legal requirements and obligations between the two agencies, stating in full:

> *State Lands Commission (a) The State Lands Commission, in carrying out its duties and responsibilities as the state agency responsible for the management of all state lands, including tide and submerged lands, in accordance with the provisions of Division 6 (commencing with Section 6001), shall, prior to certification by the commission pursuant to Chapters 6 (commencing with Section 30500) and 8 (commencing with Section 30700) review, and may comment on any proposed local coastal program or port master plan that could affect state lands. (b) No power granted to any local government, port governing body, or special district, under this division, shall change the authority of the State Lands Commission over granted or ungranted lands within its jurisdiction or change the rights and duties of its lessees or permittees. (c) Boundary settlements between the State Lands Commission and other parties and any exchanges of land in connection therewith shall not be a development within the meaning of this division. (d) Nothing in this division shall amend or alter the terms and conditions in any legislative grant of lands, in trust, to any local government, port governing body, or special district; provided, however, that any development on such granted lands shall, in addition to the terms and conditions of such grant, be subject to the regulatory controls provided by Chapters 7 (commencing with Section 30600) and 8 (commencing with Section 30700).*

[58] "As global climate changes and sea levels rise, it has never been more critical than it is now for the Parties to coordinate early and often, share expertise, and combine efforts." Memorandum of Understanding Between Staff of the California Coastal Commission and Staff of the California State Lands Commission to Enhance Coordination (2019), https://www.slc.ca.gov/collaborations/memorandum-of-understanding-between-the-state-lands-commission-and-the-coastal-commission/.

[59] Nat'l Audubon Soc'y, 33 Cal.3d at 425.

[60] *Id*. at 426.

Finally, as discussed in more detail below, the most direct implication of a recognition of the affirmative duty to protect trust lands, resources and uses may be that, in certain circumstances, the public trust interest in tideland values overrides or must be harmonized with other Coastal Act or CSLC requirements, such as the Coastal Act section 30235 requirement to allow shoreline armoring—especially, for example, to protect a private residential use. A similar implication may follow for state land leases, boundary agreements or other legislative and administrative determinations that may no longer entail a minor or insubstantial impairment of the public trust.

The CCC and CSLC have independent obligations to protect the public trust interests in tidelands. For the CCC, Coastal Act Chapter 3 policies generally address public trust concerns, but those policies should be interpreted and carried out through the lens of fully protecting public trust resources, uses and needs. In addition, the CCC may need to consider whether those policies fully address the public trust in certain situations. To facilitate this, the CCC should refine and more regularly make a "public trust" finding in all cases where shoreline trust resources are implicated.

The Dynamic Nature of Public Tidelands

As explained earlier, the mean high tide line is ambulatory, in law and on the shore. Therefore, the tideland trust resources that must be protected, as well as the boundaries between public tidelands and what are often private uplands, are always moving: back and forth with the accretion and erosion of sand, and increasingly inland with accelerating sea level rise. This ambulatory character is typically acknowledged in planning, permitting and boundary-related decisions. However, the decisions themselves about how to locate a boundary, or protect tideland areas, are often focused on or determined by the identification of a "static" line or set of spatial relationships. This approach may not allow for the consideration of the future movement of this line and related implications for the protection of resources. As discussed below, the capacity of the CCC and the CSLC to protect tideland resources could be strengthened by applying a "zone of concern" approach that reflects the ambulatory nature of the mean high tide line.

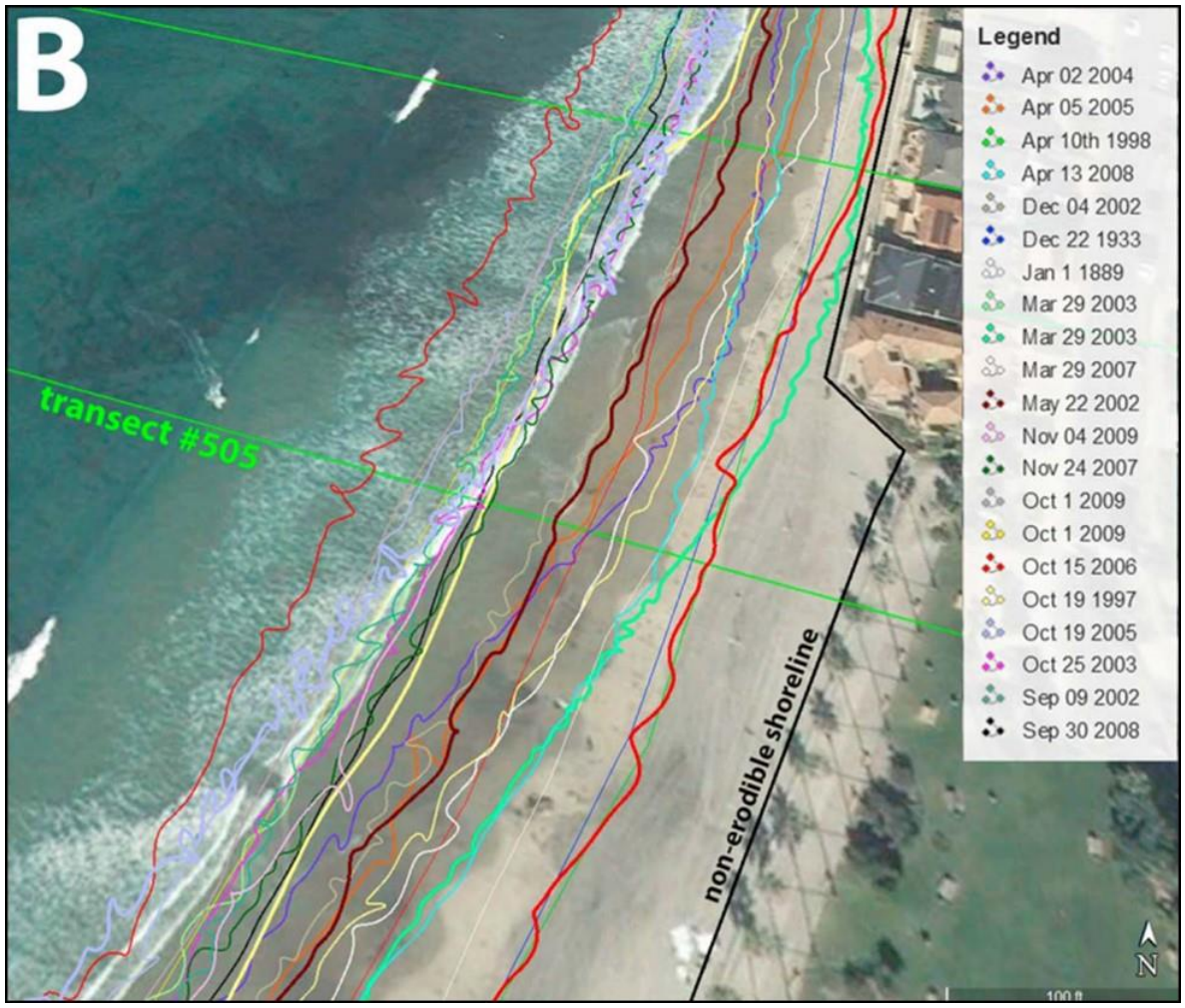
1. Where Are Public Tidelands Now?

When planning for or addressing the potential impact of shoreline development on tidelands, the first question should be: where are the public tidelands? As discussed, the answer to this question depends on when it is asked and answered. It is a function of the mean high water level and the topography or shape of the shore terrain, which can vary significantly over time. It makes little sense to make decisions about the protection of inherently dynamic coastal resources like public beach access, recreation and shoreline ecology using a static snapshot in time, especially considering rising sea levels.

In practice, the CCC has often probed the changing location of the mean high tide line in order to assess potential impacts. For example, in the review of a redevelopment proposal on Amarillo Beach in Malibu, the CCC noted its review of multiple high tide lines to assess whether the development would encroach on tidelands:

> *. . . staff independently reviewed 12 surveyed mean high tide lines done between 1938 and 1988 performed by the U.S. Army Corps of Engineers and one survey performed by the Coastal Commission's Staff Engineer in 1990. Review of these surveys showed the mean high tide line at various locations, all of which were seaward of the applicant's proposed project. For example, in 1938 the line was located approximately 160ft. seaward of Malibu Road and in 1988 the line was located approximately 120ft. seaward of Malibu Road (98 ft. and 58 ft. of the proposed bulkhead).*[61]

Figure 14. Multiple Mean High-Water Lines at La Jolla (Excerpt, Vitousek et al, 2017).



[61] CCC, 4-97-071 (Schaeffer) *Id*., p. 13.

Indeed, this type of review of multiple tide lines was a foundation for the CCC's review of the Lechuza Villas West development that led to the appellate court articulation of the general rule that the mean high tide line is ambulatory.[62] In that case, 34 separate mean high tide line surveys were considered, spanning approximately 100 feet of beach width.

The Amarillo and Lechuza cases, and many others, also illustrate the coordination practices between the CCC and the CSLC. The CCC usually will ask the CSLC for its opinion as to whether a proposed development is on state tidelands. But given the inherent dynamism of the ambulatory mean high tide line, variability in available surveys in particular places, and general inadequacy of information and agency resources to address questions about the mean high tide line, the CSLC is often not able to say conclusively whether a development would be on tidelands. It may therefore not assert jurisdiction over a project while reserving its position if circumstances change.[63]

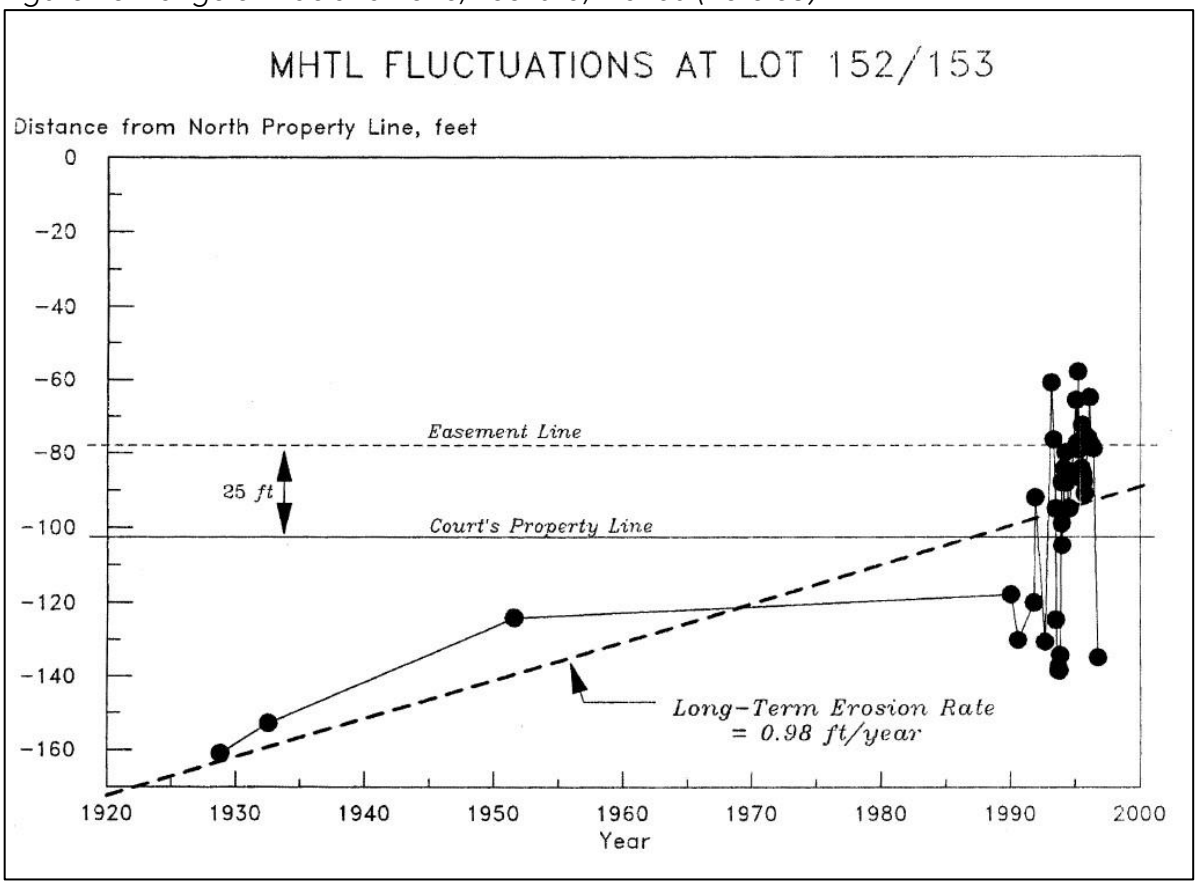
Figure 15. Amarillo Beach, Malibu.

[62] CCC, Lechuza Villas West Staff Recommendation (1997), Tu9a, https://documents.coastal.ca.gov/reports/1997/2/T9a-2-1997.pdf. *Lechuza Villas West v. Coastal Commission*, *Id*.

[63] For example, in the Amarillo beach case, the CSLC concluded:

> *We do not at this time have sufficient information to determine whether your client's project will intrude upon state sovereign lands or interfere with other public rights. Development of information sufficient to make such a determination would be expensive and time-consuming. We do not think such an expenditure of time, effort and money is warranted in this situation, given the limited resources of this agency and the circumstances set forth above. This conclusion is based on the size and location of the property, the character and history of the adjacent development, and the minimal potential*

Figure 16. Range of Tideland Zone, Lechuza, Malibu (note 65).



The Tideland Zone of Concern

Coordination with the CSLC will be increasingly important as the public trust boundary moves inland. As discussed further below, both the CCC and CSLC have made decisions that "fix" the location of the boundary, either in law or in practice. Regardless, it would behoove both agencies to avoid the sole use of static determinations of the mean high tide line as a basis for planning and permitting/leasing decisions or recommendations. Rather, each should embrace a framework that identifies a dynamic "zone of concern" in any given case. This zone

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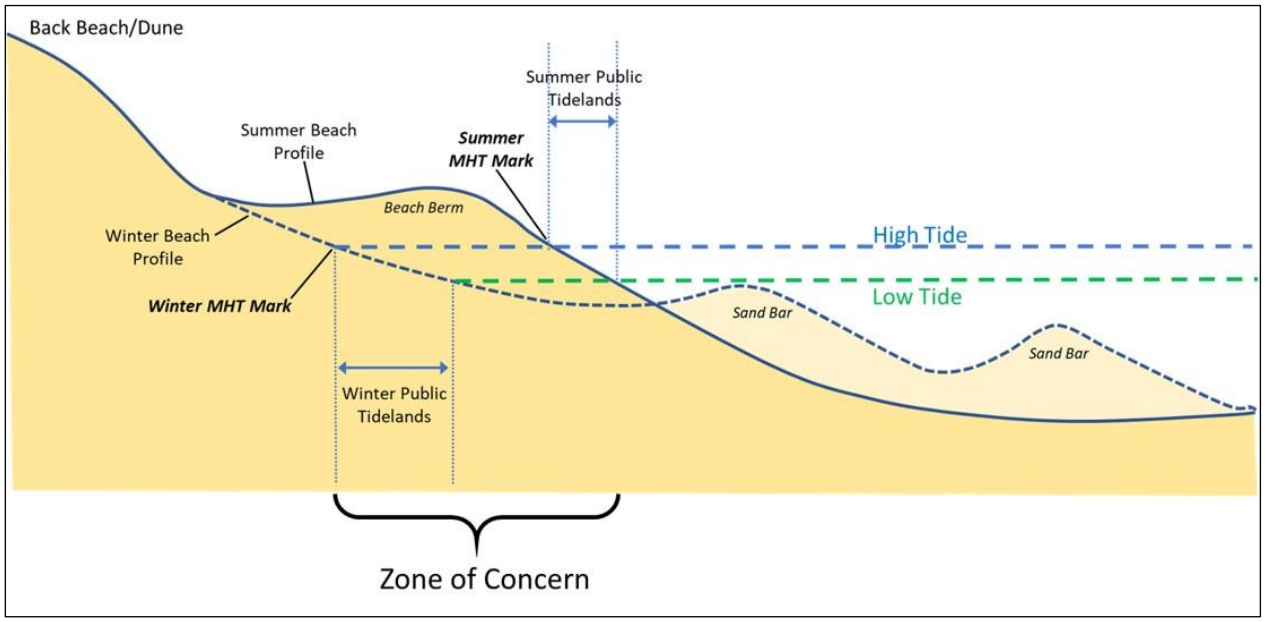
> *benefit to the public, even if such an inquiry were to reveal the basis for the assertion of public claims and those claims were to be pursued to an ultimate resolution in the state's favor through litigation or otherwise. Accordingly, the SLC presently asserts no claims either that the project intrudes onto sovereign lands or that it would lie in an area that is subject to the public easement in navigable waters. This conclusion is without prejudice to any future assertion of state ownership or public rights, should circumstances change, or should additional information come to our attention.*

Id. Exhibit 10.

would reflect the potential range of the mean high tide line location to assure that no development that would be inconsistent with the public trust is located on or too near to public tidelands.[64] The question for a development review, therefore, should not only be where is the mean high tide line as of some moment of observation but rather, where is the zone over which the mean high tide line will amble for the life of the development. For example, as mentioned, in the Lechuza case, the zone of concern was approximately 100 feet wide (Figure 16[65]). Just up-coast from Amarillo Beach, on Puerco Beach, CCC findings document a seasonal "oscillation" of the foreshore slope of up to 40 feet.[66]

Identifying such a zone in all shoreline cases would set a precautionary, upper limit to the location of public tidelands for purposes of both analyzing potential development impacts to them (Figure 17), and protecting them in the future, with a rolling easement, for example.[67] This approach is also consistent with the Coastal Act's

Figure 17. Public Tidelands "Zone of Concern".



[64] As a legal matter, this approach is consistent both with the judicial recognition of the ambulatory nature of the mean high tide line (Lechuza) and long-standing public trust doctrine principles that title to tidal lands generally ebbs and flows with the expansion of upland through accretion and reliction, and the loss of upland through erosion or submergence, with the benefits of such changes accruing to upland or tideland owners depending on the situation. See, CSLC, *A Report on Sea Level Rise Preparedness* (2009), 24-25; Center for Ocean Solutions, *Id*. p. 16-19.

[65] CCC, Lechuza Villas West Staff Recommendation, *Id*., Exhibit 9.

[66] CCC, 4-99-058 (McDaniel), https://documents.coastal.ca.gov/reports/1999/12/Th15d-12-1999.pdf.

[67] Titus, Rolling Easements, *Id*.

general direction to liberally construe its provisions.[68] Such an approach will require identifying methods/rules of thumb to determine the general upper and lower limits of this zone, for example, by identifying or estimating the most inland intersection of MHT elevation with the shoreline based on available or new surveys/beach profiles, particularly those within recent years prior to a proposed planning or regulatory action. The CCC will need to revisit current draft guidance on MHTL survey protocols that closely tracks CSLC direction on identifying the MHTL in order to incorporate a "zone of concern" approach.[69]

CCC Permit Application Filing Requirement

The administrative filing review process for development applications has always been a critical step for the CCC in addressing public trust issues. Early in the

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[68] PRC 30009.

[69] See, *Draft Residential Adaptation Policy Guidance*, March 2018. p. 67. This approach should be developed in coordination with the CSLC given their central role in MHTL determinations. Currently, the CSLC advises identifying the "elevation of the mean high tide line on the shore," not a zone of concern. See, *Tips on how to conduct a Mean High Tide Line Survey where the Boundary Remains Ambulatory*, https://www.slc.ca.gov/water-boundaries/. The CCC and CSLC might consider promulgating regulations to implement a zone of concern method, or "most protective" policy for assuring protection of trust interests into the future. This issue was squarely raised in *Bollay v. Office of Administrative Law*, 193 Cal. App. 4th 103, wherein the CSLC faced a challenge to its articulation of a policy that certain new development at issue should be sited landward of the most landward location of the mean high tide line (historically). The challenge concerned whether this policy, not promulgated as a regulation, was nonetheless valid because it was the only "legally tenable" interpretation of the CSLC's legal authority relative to identifying state tidelands. The Court determined that the policy was both over and underinclusive (directly relevant to sea level rise), and therefore more formal regulatory authority was needed if the policy was to be a valid application of the law in particular cases:

> *That some other policy might allow development on land that, in some theoretical future, might become state land does not make the current policy the only legally tenable one because the Lands Commission has other tools to deal with such an eventuality. For example, if a person or structure is on state tidelands illegally, the Lands Commission may eject the trespasser, remove the structure, and collect damages. (Pub. Resources Code, §§ 6216.1, 6224.1, 6302.)*
>
> *Furthermore, the current policy is potentially underinclusive as well because the mean high tide line could move further landward than it has ever been. Thus, a policy that "protects" only land that is seaward of the most landward historical mean high tide line does not preserve the public's interest in land that may foreseeably become state tidelands.*

The court specifically did "not consider whether the Lands Commission may validly adopt a regulation reflecting the policy at issue . . .." 193 Cal. App. 4th 103, 112-113.

program, the CCC and CSLC worked closely on coordinated procedures for identifying public trust tidelands in relation to development proposals. The two agencies recently affirmed and updated these coordination procedures in an MOU. Among other things, the agencies agree to coordinated jurisdictional determinations during the CCC's filing review, including requiring applicants to the CCC to obtain jurisdictional determinations from the CSLC, and to generally not accept as complete any applications without such information.[70]

This coordinated filing review is an opportunity to specify the general zone of concern for tidelands in any given case. Ideally, the historic and maximum inland location of the mean high tide line under current and future projected sea levels for the life of the development would be identified for any permit or planning matter under consideration (see next section, also). Specific information about beach locations, such as slope, backshore morphology, historic shoreline trends, etc. can be requested from applicants. When available, the CCC can rely on the CSLC's expertise in surveying and mean high tide line assessment, knowledge of historic surveys, and so on. The CCC's draft Coastal Adaptation Policy Guidance: Residential Development addresses this as follows:

> *D.3: As a part of any application for low-lying development adjacent to coastal waters, the applicant shall submit a Mean High Tide Line (MHTL) survey prepared by a licensed professional land surveyor of the Subject property based on field data collected within 12 months of the date*

[70] CCC and CSLC, Memorandum of Understanding between Staff of the California Coastal Commission and Staff of the California State Lands Commission to Enhance Coordination (2019). The MOU states, in part:

> *For those projects that may be located on Public Trust lands, CCC will require the applicant to obtain a jurisdictional determination from the CSLC. As resources and capacity allow, CSLC will use its best efforts to complete its review and issue a jurisdictional determination within 90 days of receipt of the required information.*
> . . .
> *During its preliminary review of permit applications, CCC will generally not accept as complete applications for development on or adjacent to Public Trust lands, sovereign lands or tidelands unless the application indicates the status of the CSLC's sovereign interest, unless otherwise agreed to by the Parties.*
> . . .
> *Following receipt of a notification or request for review and interest status determination, CSLC staff will evaluate and determine whether all or any portion of the project encroaches onto sovereign lands and/or areas subject to a Public Trust easement, or indicate, in cases where there is not enough information to make such a determination, what other information or investigations are needed in order to make a determination.*

submitted. Such survey shall be at the landowner's expense and shall be conducted in consultation with the California State Lands Commission (CSLC) staff. Prior to submitting this survey to the Commission, it must be approved by the CSLC as compliant with CSLC survey standards.[71]

Where applicable, the CCC should consider requiring applicants to conduct new shoreline surveys with both summer and winter profiles and analyze existing surveys or shoreline studies in order to help identify the current limits of the zone of concern. With new technologies, there may be opportunities to establish survey protocols or technical assessments using existing or new lidar data.[72]

Application filing review is also an opportunity to gain information about other tideland parameters. The general ownership context of tidelands in each case should be identified, including whether the lands are general state tidelands, granted lands, subject to a boundary agreement or other legal settlement/order, part of a Mexican land grant, or private. In summary, the CCC should consider the following recommendations related to the application filing review process:

- The current application requires minimal information related to public trust tidelands.[73] Filing requirements for all shoreline applications[74] should be updated with a checklist addressing: the status of public trust lands adjacent to the development site; documenting on plan sheets existing mean high tide surveys; conducting new surveys where none are available; identifying the zone of concern at the project site; etc. Current draft recommendations in the Coastal Adaptation Planning Guidance provide a good framework.[75]

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[71] Draft Coastal Adaptation Policy Guidance: Residential Development, March 2018. p. 67.
[72] For example, White, S. (2007). Utilization of LiDAR and NOAA's vertical datum transformation tool (VDatum) for shoreline delineation. Proceedings of the Marine Technology Society /IEEE Oceans Conference, Vancouver, BC.
[73] For example, CCC, Coastal Development Permit Application Instructions, https://documents.coastal.ca.gov/assets/cdp/CDP_Application_Form_scc.pdf.
[74] "Shoreline applications" is meant to capture proposals for development on parcels encompassing or immediately adjacent to the land-sea interface where there may be potential for direct, indirect or cumulative impacts to tideland resources, uses or needs. Specific application filing information needs would be determined on a case-by-case basis depending on the facts of each case.
[75] CCC, Draft Coastal Adaptation Policy Guidance, *Id.*:

As part of any development application, jurisdictions should ensure that the applicant has appropriate legal title to the land being developed. In locations where sea level rise may cause the public trust boundary to move inland over the life of the development, it is important to ensure that the development remains on private land over time. Imposing a condition requiring at least one initial MHTL survey, and periodic MHTL surveys thereafter,

- The CCC and CSLC should work together to complete a GIS inventory of all developed shorelines with respect to the status/location of tidelands.
- LCPs should be updated as necessary to reflect new public trust-related standards and procedures. This should include clear guidance to coordinate with the CSLC and assure that any development on tidelands is referred to the CCC.[76]

2. Where Will Public Tidelands Be in the Future?

A "zone of concern" approach to identify tidelands recognizes that their location is inherently dynamic, ebbing and flowing with the tides, seasons and physical changes in the shoreline. Addressing sea level rise requires projecting this zone of concern into the future. Following the best available science, the CCC should continue to use recommended SLR projections, such as USGS CoSMoS shoreline locations, to estimate the future location of the mean high tide line and the public trust tideland zone of concern for the duration of a meaningful planning horizon and for the life of any project being proposed. Depending on the location and the nature of a project,

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will help provide evidence that the development is located on, and remains on, private property. Such surveys also provide baseline data that can be useful for understanding an area's shoreline dynamics and sea level rise over time, which in turn can inform a jurisdiction's vulnerability assessments and adaptation plans. Jurisdictions may want to modify the model policy to more precisely define the situations in which MHTL surveys are required—e.g., they may not be useful or appropriate in situations where a boundary line has been fixed by law, where development is located on filled tidelands bounded by bulkheads, or where a jurisdiction already has clear evidence of the public trust boundary and there is no risk that the proposed development will encroach on public trust lands during its expected lifetime.

[76] For example, the certified Malibu LCP contains the following policies:

4.24. All proposed development on a beach or along the shoreline, including a shoreline protection structure, 1) must be reviewed and evaluated in writing by the State Lands Commission and 2) may not be permitted if the State Lands Commission determines that the proposed development is located on public tidelands or would adversely impact tidelands unless State Lands Commission approval is given in writing.

4.25. For beachfront development that will be subject to wave action periodically, unless the State Lands Commission determines that there is no evidence that the proposed development will encroach on tidelands or other public trust interests, the City shall reject the application on the ground that it is within the original permit jurisdiction of the Coastal Commission, and shall direct the applicant to file his or her application with the Coastal Commission.

this could entail both a projection of the general recession trend over time assuming different rates of sea level rise, as well as estimations of changes in the beach profile with high sea levels, increased wave energy, storm magnitude and frequency, etc. Projection of the zone of concern for future tidelands could have significant implications for future development restrictions, such as rolling easements[77], depending on the particular beach environment and slope. Coupled with the uncertainty around sea level rise projections and future erosion, the uncertainty buffer for the future location of tidelands could be substantial (Figure 18[78]).

The CCC should also explore, in coordination with the CSLC, the use of alternative techniques for determining the MHT elevation over time, including the use of an 18.6 year *moving average* of tides rather than a static tidal epoch that is only recalculated every 25 years or so. Though not as significant relative to the projected changes in sea level itself, the difference between using a static, backward-looking average of sea level for an epoch that may have started as long ago as two decades, and a

Figure 18. Example 50' Zone of Concern w/ SLR of 1 and 2m Oxnard (CoSMoS).

[77] Titus, *Id*.
[78] CoSMoS, *Id*. Note 21.

moving 19-year average of sea level, could make a significant difference in flatter beach environments, especially as sea level rise accelerates.

NOAA recognizes the need to update national tidal datum epochs (NTDE) periodically to account for sea level rise,[79] and that "**a more frequent review period may be needed if there is an acceleration in sea level rise**" [emphasis added].[80] This might make some difference in the management of tidelands. For example, assuming that sea level has been rising since 1983 (beginning of currently-used tidal epoch), at about 3.4 mm (0.134 in.) a year, and perhaps more recently at 4.4 mm (0.173 in.) a year, projections out to 2025 shows a difference in mean high tide elevation between a flat average of the 1983 to 2001 epoch and a moving average from 2006 to 2025 of almost 3.5 inches in the year 2025 (when a new epoch may take effect – Figure 19). As shown previously, this would translate to a lateral shift in the MHTL of up to 15 feet or so on a flatter beach (Table 1).[81]

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[79] For example:

> *. . . because of relative sea level change, as the years pass, tidal datums become out of date for navigational purposes and for other applications. Thus, a new NTDE must be considered periodically . . .. The policy of NOS is to consider a new tidal datum epoch every 25 years to appropriately update the tidal datums to account for the global sea level change and long-term vertical adjustment of the local landmass (e.g., due to subsidence or glacial rebound) . . ..*

U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service, Center for Operational Oceanographic Products and Services, Computational Techniques for Tidal Datums Handbook, NOAA Special Publication NOS CO-OPS 2. See, also, NOAA, Tides and Currents, https://tidesandcurrents.noaa.gov/datum-updates/ntde/faq.html.

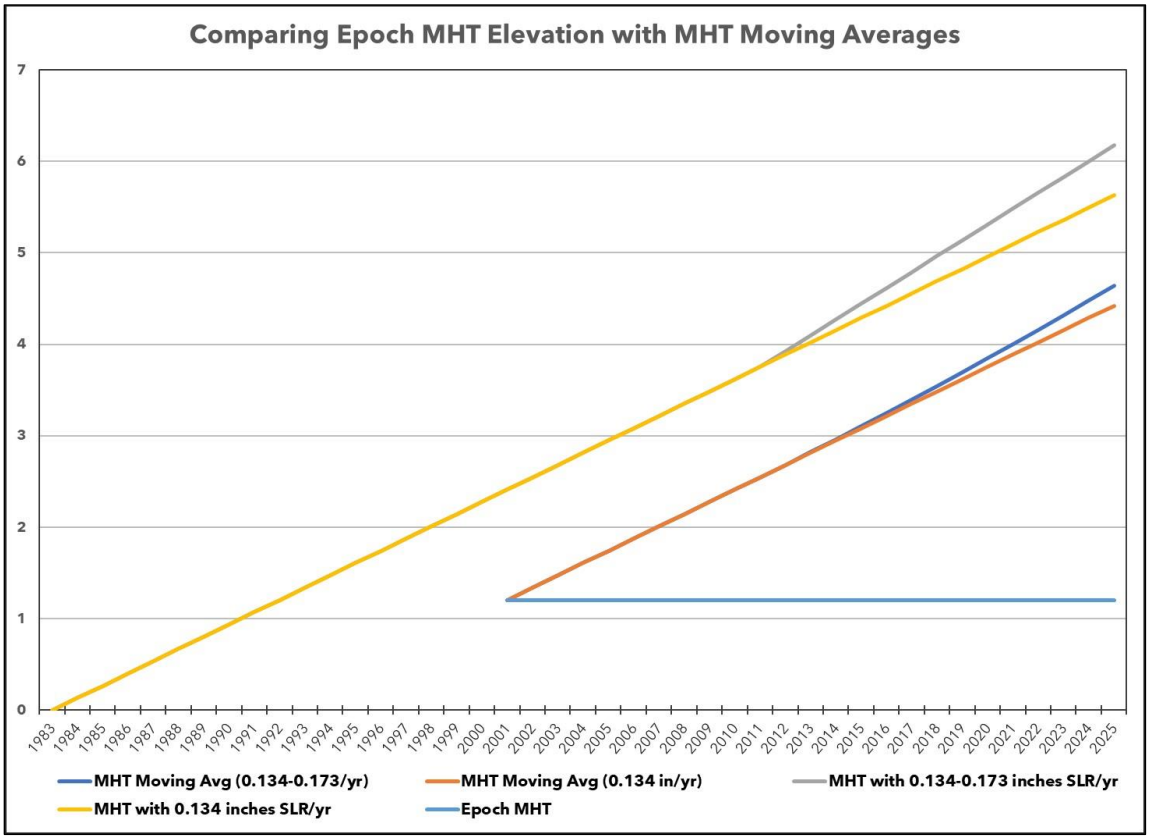
[80] NOAA, Tides and Currents, *Id*.

[81] As noted by Melius and Caldwell:

> . . . the State Lands Commission's current approach for determining the location of the mean high tide line—and thus the extent of the public trust lands—is based on historic (rather than projected) measurements. This approach . . . may impair the State Lands Commission's ability to regulate armoring structures on public trust lands, because the historic mean high tide line will likely be seaward of the actual mean high tide line.

Melius and Caldwell, Managing Coastal Armoring and Climate Change Adaptation in the 21st Century, 2017. Also, Garlock, Jennifer, (2019). The Coastal Property Boundary in California: Recommendations to Improve Determination of the Mean High Tide Line in Light of Sea Level Rise, UCLA Journal of Environmental Law and Policy, 37(1), https://escholarship.org/uc/item/0nv5v4th.

Figure 19. Difference in Mean High Tide Elevations: Epoch, SLR and Moving Averages.



The CCC also could explore new technologies to support contemporary determinations of the mean high tide line (such as periodic LIDAR observations). Neither a moving average or other technique not reliant on traditional survey methods would seem to be inconsistent with existing regulatory and legal decision rules. An 18.6-year moving average supports the *Borax* rule that the mean high tide line is a function of the average over a complete lunar cycle, as well as ambulatory. In addition, the CCC's regulations do not seem to restrict the CCC to the use of NOAA's tidal epoch (as opposed to tidal benchmarks and observations).[82] In fact, the regulation is unclear as it defines the "mean high tide line" as a statistical mean of high tide elevations, mixing the variables of the tide elevation with the projection of that elevation on the shore (the "line"). The CCC should consider updating its regulation to clarify the differences between the mean high tide and the mean high tide line, and other definitional components to facilitate the protection of inland-moving, ambulatory tidelands.

[82] The CCC's regulations define the mean high tide line "as the statistical mean of all the high tides over the cyclical period of 18.6 years, and shall be determined by reference to the records and elevations of tidal benchmarks established by the National Ocean Survey," which would not seem to preclude the use of a moving, 18.6-year average. CCR 13577(c)(1).

The "Milner Rule"

In addition to using the best available science to project future mean high tide lines and zones of concern, the CCC should clearly embrace the legal and policy position that an upland landowner may not unilaterally stop the inland progression of tidelands by erecting a fixed structure such as a revetment or seawall. This policy would recognize the common law principle of the public trust doctrine that the benefit and burdens of an ambulatory tidal boundary accrue to both the upland and tideland owners, depending on the shoreline change in question.[83] By extension, this principle means that an upland owner cannot interrupt the tideland owner's right to any inland progression of tidelands that may happen due to sea level rise. As summarized by the Court in the Milner case:

> *The riparian right to future alluvion is a vested right. It is an inherent and essential attribute of the original property. The title to the increment rests in the law of nature. It is the same with that of the owner of a tree to its fruits, and of the owner of flocks and herds to their natural increase. The right is a natural, not a civil one. The maxim 'qui sentit onus debet sentire commodum' ['he who enjoys the benefit ought also to bear the burdens'] lies at its foundation. The owner takes the chances of injury and of benefit arising from the situation of the property. If there be a gradual loss, he must bear it; if, a gradual gain, it is his. . ..*
>
> ***By this logic, both the tideland owner and the upland owner have a right to an ambulatory boundary, and each has a vested right in the potential gains that accrue from the movement of the boundary line****. The relationship between the tideland and upland owners is reciprocal: any loss experienced by one is a gain made by the other, and it would be inherently unfair to the tideland owner to privilege the forces of accretion over those of erosion. Indeed, the fairness rationale underlying courts' adoption of the rule of accretion assumes that uplands already are subject to erosion for which the owner otherwise has no remedy. . ..*
>
> *The Homeowners have the right to build on their property and to erect structures to defend against erosion and storm damage, but all property owners are subject to limitations in how they use their property. The Homeowners cannot use their land in a way that would harm the Lummi's interest in the neighboring tidelands. Given that the Lummi have a vested right to the ambulatory boundary and to the tidelands they would gain if the boundary were allowed to ambulate,* ***the Homeowners do***

[83] California law provides for this transfer of land through accretion and erosion, but only natural accretion goes to the upland owner. Civil Code 1014.

> ***not have the right to permanently fix the property boundary absent consent from the United States or the Lummi Nation***. [emphasis added][84]

Recognizing this legal principle, the CCC should work with CSLC to identify development that may have already fixed the mean high tide line (without authorization), thus preventing the inland movement of public trust lands to which the public is entitled (according to *Milner*). Evidence suggests there may be hundreds of individually-owned parcels where this is a potential and growing concern. Identification of such cases may be an increasingly important aspect of protecting beach access and recreation on tidelands in specific areas.

The principle underlying *Milner* (that the owner of tidelands has a right to an ambulatory boundary) also points to a need to identify, again in coordination with CSLC, the location of all tideland boundary agreements, decisions and other adjudications that ostensibly may fix the mean high tide line as a legal matter.[85] Though these boundaries may have been fixed through a public agency or adjudicatory process, the agencies also should explore the status of such fixed boundaries in light of a moving public trust tideland line. The CSLC has implemented both static and dynamic resolutions to boundary questions. In general, the purpose of boundary agreements is to resolve uncertainty and conflict regarding the ownership of land seaward and upland of the mean high tideline.[86] This has resulted in the permanent fixing of the tideland boundary in some locations.[87]

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[84] *United States v. Milner*, 583 F.3d 1174 (9th Cir. 2009).

[85] The State Lands Commission is authorized to establish the ordinary high water mark (or ordinary low water mark) by agreement or action to quiet title (Pub. Resources Code § 6357) and is a necessary party to any title or boundary action involving granted tide and submerged lands (Pub. Resources Code § 6308).

[86] For example, CSLC, BLA 230, Moss Landing, https://www.slc.ca.gov/Meeting_Summaries/1983_Documents/02-28-83/Items/022883R15.pdf. Also, CSLC, BLA 77, Redondo Beach, https://www.slc.ca.gov/Meeting_Summaries/1967_Documents/02-23-67/Items/022367C37.pdf.

[87] As summarized by the California Supreme Court in *City of Long Beach v. Mansell*, 3 Cal.3d 462 at 480:

> *When the boundary between public trust tidelands and private uplands is uncertain, and the parties, wishing to fix the boundary in order to prevent future questions of ownership, undertake genuine efforts to determine the true boundary and thereafter agree to a line which fairly represents these efforts, then the subsequent formal "conveyance" in the form of a quitclaim deed by the trustee in furtherance of the boundary agreement does not evidence a "grant or sale" of public tidelands within the meaning of article XV, section 3, of*

For example, at Sandyland in Carpinteria, a boundary conflict and dispute over a revetment was ultimately settled by fixing the ordinary high-water mark as it existed at a specific time in 1983 (just prior to construction of a disputed revetment). Both the state and the private upland owners agreed to quitclaim any claims to land on the opposite side of their ownerships.[88] This settlement was reached in parallel with a CCC agreement that also recognized the fixed boundary and that settled the lawsuit related to the case.[89] Interestingly, prior to settlement, the CCC's position that access mitigations were required, in part because of the uncertainty of the tideland boundary, was upheld by the court. In fact, the CCC had argued to the court that any static definition of the boundary should be conservative, in favor of the public's tideland rights:

> *A review of constitutional and statutory authority, together with strong public policy and practical reasons, dictate that the ordinary high water mark must be defined by the line of mean high tide as it exists in its normal most landward, or "winter," beach profile. Only in that manner can there be established a permanent, stable and ascertainable tidal boundary which avoids the loss of constitutionally protected public rights in and to the tidelands.* [90]

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the state Constitution. This principle is wholly consistent with the meaning and purpose of the constitutional provision, for it simply permits the state and its trustee to undertake genuine efforts to determine the extent and true boundaries of public tidelands and to settle such boundaries in fair accordance with the findings resulting from those efforts.

[88] The essence of the boundary agreement appears to permanently fix the location of public tidelands with the exception of allowing the public to use areas covered by water or sand. Main provisions included: (1) The parties agree to fix the location of the Ordinary High Water Mark (OHWM) as it existed in 1983 just prior to construction of the revetment/seawall; (2) The parties will quitclaim any claims lying on opposite sides of that line; (3) The private parties will convey a "floating or migrating" easement for public trust purposes over any lands landward of the OHWM which are covered by sand or are located seaward of the elevation of I.94 NGVD; (4) The parties acknowledge further that the public has the right to exercise recreational rights in areas periodically covered by ocean waters regardless of the underlying ownership of the property. CSLC, Sandyland Settlement, https://www.slc.ca.gov/Meeting_Summaries/1995_Documents/10-17-95/Items/101795C81.pdf.

[89] *Antoine v. California Coastal Com*., previously published at 8 Cal. App. 4th 641 (1992), but later ordered not published, 10 Cal.Rptr.2d 471; CCC, 4-STB-84-58-A (Sandyland Cove Homeowners Association), (1995), https://documents.coastal.ca.gov/reports/1995/12/W22b-12-1995.pdf.

[90] *Antoine v. California Coastal Commission*, Appellant's Reply Brief and Cross-Respondent's Brief and Response to Brief Amicus Curiae of Pacific Legal Foundation, B051709, 1991, p. 3.

For its part, the court affirmed the general position of the CCC by acknowledging the uncertainty in the dynamic boundary as a justification for access mitigation measures:

> *A moving boundary may therefore result in a development project encroaching on public lands at some times of year and not at others. Because a private landowner has no right to build a project that encroaches on public lands for even part of the time, such a partial encroachment is sufficient to justify the imposition of access conditions. On the other hand, a moving boundary line does not make it impossible for a permit applicant to carry his burden of showing the project will not encroach on public lands. In many cases the project may be built sufficiently landward that no encroachment is probable.*[91]

Figure 20. Sandyland Shorelines (0, 100 and 200 cm) (CoSMoS, Id., note 21).

Regardless of the recognition of the ambulatory tideland boundary at Sandyland, sea level rise would eventually move the actual mean high tide line inland of any agreed boundary, if it hasn't already, unless otherwise artificially blocked (Figure 20).[92]

The CSLC also has implemented a more dynamic and precautionary "ambulatory framework" when considering potential leases, boundary agreements, or other tide

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[91] *Antoine*, *Id*. p. 657.

[92] Compare, the recent lease for the immediately upcoast revetment along Sand Point Road, where the "shoreline" is shown as running along and beneath the revetment. CSLC, Sand Point Road Lease W27217 (Santa Barbara County) https://www.slc.ca.gov/Meeting_Summaries/2018_Documents/12-03-18/Items_and_Exhibits/C54.pdf.

line determinations to assure that state tidelands are not given over to upland interests as the mean high tide line moves. For example, in multiple cases the CSLC has maintained and assured through legal agreement that a public trust easement continues, even if title to uplands has been fixed, though this is not always the case.[93] In a relatively recent discussion of sea level rise and boundary agreements generally, and a specific agreement in Santa Monica, the CSLC stated:

> *The Commission is a land and resource trust manager and thus has significant influence over development and uses of public trust lands that will be affected by sea-level rise. Future sea-level rise is expected to compound the effects of natural hazards on existing critical coastal infrastructure, and may affect the boundaries between sovereign public trust lands and privately owned uplands. In consideration of these concerns, Commission staff has consistently included a provision in all open-coast BLAs to reserve back a springing easement for commerce, navigation, fisheries and other recognized public trust purposes in the event the Upland Parcel becomes submerged or subject to the ebb and flow of the tide. However, the site-specific California Supreme Court Muchenberger decision fixing and affirming the 1921 MHTL as the boundary line at this location has resulted in a situation unique as compared to other Commission-owned lands where this language would ordinarily be appropriate. Therefore, this language has not been included in the Philbin BLA.*[94]

As a matter of sea level rise policy going forward, the CSLC has also articulated the understanding that consistent with public trust doctrine and state law,[95] a public trust easement will move inland over agreed boundaries, directing CSLC staff to:

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[93] For example, 1000 Steps - South Laguna Beach Agreement (1984) https://www.slc.ca.gov/Programs/Granted_Lands/G09_Orange/G09-01_Laguna_Beach/BLA242.pdf.

[94] CSLC, https://www.slc.ca.gov/Meeting_Summaries/2016_Documents/04-05-16/Items_and_Exhibits/C56.pdf.; referencing *Muchenberger v. City of Santa Monica*, 275 P. 803 (Cal. 1929).

[95] PRC 6339(a) states:

> *Boundaries established by boundary agreements entered into and recorded pursuant to Section 6336, as to all parties thereto, shall be fixed and permanent without change by reason of fluctuation due to the forces of nature,* ***except that any lands that may thereafter be submerged or become subject to the ebb and flow of the tide, shall, so long as such conditions exist, be subject to the easement in favor of the public for commerce, navigation, and fisheries*** *[emphasis added].*

Give careful consideration to future Boundary Line Agreements and Title Settlements. Include a standard provision in such agreements stating that the Public Trust easement will move with submergence or when subject to the ebb and flow of the tide.[96]

It seems, therefore, that an easement in favor of the public may generally persist in many boundary line agreements or leases as sea level rises.

Figure 21. SLR Erosion Uncertainty and BLA -- Laguna Beach (CoSMoS, Id. note 21).

What are the Public Trust Resources at Risk?

Consistent with the Coastal Act, the CCC has always construed broadly the various coastal resources that need protection, including in the policy area of access to the shore and public tidelands. From a public trust perspective, the understanding of what values and resources are protected by the trust has evolved from the original

[96] CSLC, A Report on Sea Level Rise Preparedness, 2009, p. 27; and https://www.slc.ca.gov/Meeting_Summaries/2009_Documents/12-17-09/Complete_Items/39.pdf.

recognized trust interest in "commerce, navigation, and fisheries" to include a right to swim, boat, engage in water recreation, and protect the natural resource, habitat and scenic values of state tidelands.[97]

The question of how broadly to construe tideland resources protected by the trust is not necessarily reframed by the concern for sea level rise, but it is important to reflect on the context of the CCC's or other state agencies' expanding focus on the protection of the public trust through various statutory authorities.[98] For example, though the California Constitution and the Coastal Act broadly assert the need for protection of public shoreline access, California's public trust doctrine has not developed a right to shoreline access as broadly as in some other states. In New Jersey, the courts have extended the public trust to the protection of privately held dry beach uplands, explaining" "where use of dry sand is essential or reasonably necessary for enjoyment of the ocean, the doctrine warrants the public's use of the upland dry sand area subject to an accommodation of the interests of the owner".[99] A similar approach has been taken in Oregon, where the Supreme Court has found a common law public right to dry sand by virtue of customary use.[100] However, as summarized by the CSLC: "While several states and European countries recognize custom or common usage as authorizing passage across certain privately owned property, including to access navigable waters, the legal system in California has not recognized such a general right."[101]

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[97] *Marks v. Whitney*, 6 C.3d 251 (1971).

[98] Harris, A. O., & Marsh, C. L. (2016). The expansion of the public trust doctrine in an era of resource scarcity: Have we reached the tipping point. Natural Resources & Environment, 31(1), 43-47. Margaret E. Peloso & Margaret R. Caldwell, Dynamic Property Rights: The Public Trust Doctrine and Takings in a Changing Climate, 30 Stanford Environmental Law Journal 51 (2011).

[99] *Matthews v. Bay Head Improvement Ass'n*, 471 A.2d 355 (N.J. 1984); *Raleigh Ave. Beach Ass'n. v. Atlantis Beach Club, Inc.*, 879 A.2d 112, 119–20 (N.J. 2005).

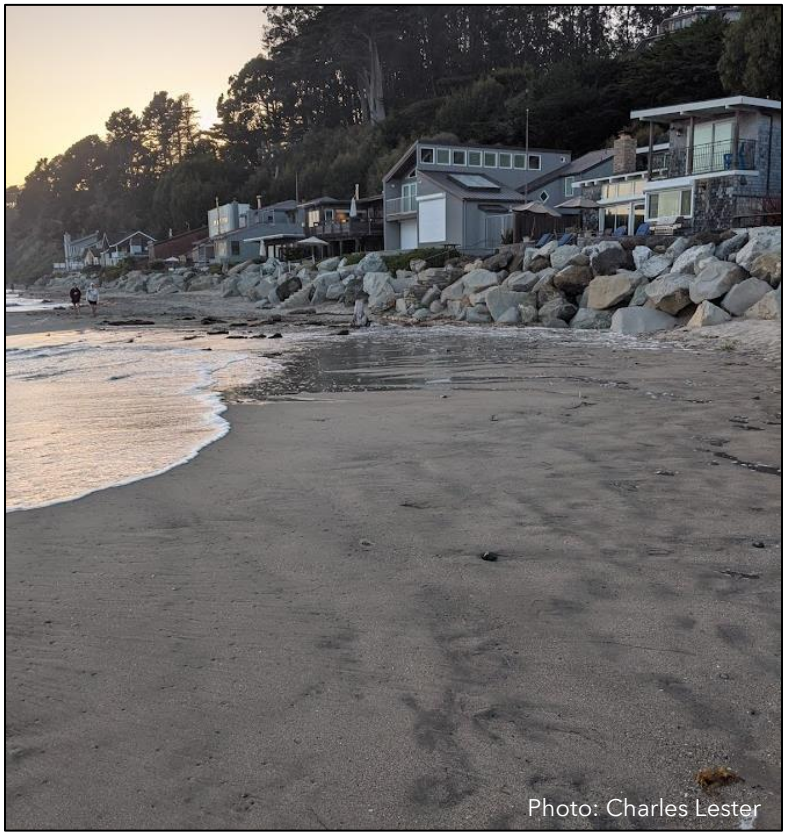
[100] *Thornton v. Hay*, 462 P.2d 671, 673 (Or. 1969):

> *. . . from the time of the earliest settlement to the present day, the general public has assumed that the dry-sand area was a part of the public beach, and the public has used the dry-sand area for picnics, gathering wood, building warming fires, and generally as a headquarters from which to supervise children or to range out over the foreshore as the tides advance and recede.*

[101] CSLC, A Legal Guide to the Public's Rights to Access and Use California's Navigable Waters, (2017), p. 3. www.slc.ca.gov/wp-content/uploads/2018/11/2017-PublicAccessGuide.pdf.

As discussed previously, the decision in *National Audubon* regarding the affirmative duty of state agencies to protect trust resources counsels a broader view of tideland trust resources. In addition, the recent *ELF v. SWRCB* case extending this duty to administrative actions that may have a causal impact on trust resources suggests that the CCC should be attuned to broader planning actions and decisions that could affect public tideland access, or the ecological value of tidelands.[102] Coupled with the increasing pressure from sea level rise on tidelands (see below), it may be that the CCC's affirmative duty to protect the trust requires a more expansive analysis of planning and development decisions, including cumulative, secondary and indirect impacts. As stated by the ELF Court in discussing the scope of the public trust doctrine: ". . .the determinative fact is the impact of the activity on the public trust resource[]" and "[t]he analysis begins and ends with whether the challenged activity harms a navigable waterway and thereby violates the public trust."[103] Such a holistic understanding of the development actions and

Figure 22. Higher Tides at Potbelly Beach, Santa Cruz.



[102] *Environmental Law Foundation v. State Water Resources Control* Bd., 26 Cal. App. 5th 844 (2018).

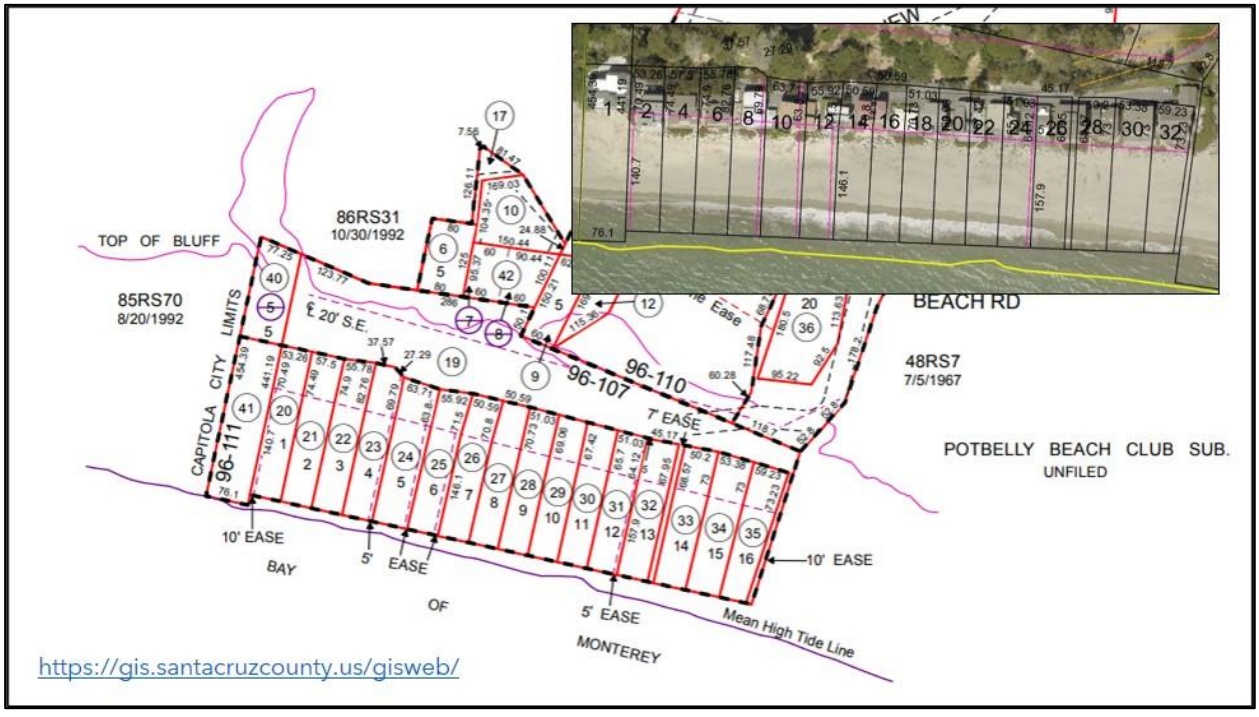
[103] ELF also makes clear that the affirmative duty to avoid harm to public trust resources extends to local governments as agents of the state, which is significant in the framework of the Coastal Act and LCP requirements:

> *A county is a legal subdivision of the state and references to the "state" may include counties. (Baldwin v. County of Tehama (1994) 31 Cal.App.4th 166, 175-176.) Although the state as sovereign is primarily responsible for administration of the trust, the county, as a subdivision of the state, shares responsibility for administering the public trust and "may not approve of destructive activities without giving due regard to the preservation of those resources." (Center for Biological Diversity, Inc. v. FPL Group, Inc. (2008) 166 Cal.App.4th 1349, 1370, fn. 19.)*

activities that could affect tideland values is not unlike the historic approach of the CCC to analyzing public access issues before the somewhat chilling effect of the *Nollan* decision in 1987.[104]

Considering sea level rise, there may be reason for the CCC to consider using the public trust doctrine to support a broader view of tideland resources that must be protected for public use. For example, as beaches continue to be squeezed out by sea level rise, and usable tideland and upland beach areas become increasingly narrow and rare, they will become more and more important as recreational and beach access space. The public trust doctrine may provide a basis for protecting such upland sandy areas from development in light of projected sea level rise. It could, for example, provide a basis for overriding prior buffer requirements between private development and the MHT, such as the CCC has routinely applied in places like Malibu.[105] More generally, if the CCC embraces a "zone of concern" approach for tideland resources, this would extend resource protection concerns further into areas considered to be upland by some. This will raise questions with existing delineations of the mean high tide, such as at Potbelly Beach, where a Santa Cruz County parcel map shows the mean high tide line as seaward of the private upland parcels and yet on any given day, wet beach areas may occur well landward of this location (Figures 22 and 23). Reassessing such situations will become increasingly important in order

Figure 23. County Parcel Map at Potbelly Beach -- Santa Cruz County GIS.



[104] *Nollan v. California Coastal Commission*, 483 U.S. 825.
[105] For example, CCC, Application 4-98-342, Baumgartner (1999).

to protect usable beach space as sea level rises and beach areas shrink or access thereto becomes increasingly difficult.[106] Therefore, the CCC should consider how using a zone of concern approach may broaden the nature of public access and other coastal resources to be protected, or actions affecting such resources, in specific contexts. Public trust findings should elaborate on the full array of management and development impact concerns entailed by a broad public trust framework.

What Are the Present and Future Impacts to Identified PT Resources, and are they Allowable?

As discussed, the CCC has long identified and regulated development impacts on public tidelands, including more recently in relation to potential future impacts due to projected sea level rise. The CCC should continue and expand this practice through the application of the zone of concern when evaluating and making public trust findings about potential shoreline developments and LCP submittals. The CCC should coordinate to the maximum extent feasible with the CSLC on each of the questions of the analytic framework outlined below.

1. General Public Trust Analytic Framework

In making a public trust finding, the CCC should use an analytic framework that identifies (a) the baseline public tideland conditions; (b) the zone of public tideline concern in a specific place; (c) potential impacts to tideland resources over the life of a proposed development; (d) whether the development is an allowable use; (e) whether the development will cause a substantial impairment of the public trust; and (f) ways to reduce any identified impairment through avoidance, minimization and mitigation. As a corollary, LCPs should be amended to incorporate policies and standards to implement a more systematic treatment and protection of public tidelands.[107]

(a) Identify the baseline public tideland conditions.
The baseline public tideland conditions in the vicinity of a project or planning area should be identified, including whether tidelands are granted to a local

[106] This is true ecologically, also. Jenny Dugan et al. has documented how the upper beach zone habitat will be the area to suffer first and foremost with rising seas. Dugan J.E., D.M. Hubbard, I.F. Rodil, D. Revell. (2008). Ecological effects of coastal armoring on sandy beaches. Mar. Ecol. 29: 160-170.

[107] Detailed discussion of LCP policy issues and language is beyond the scope of this study, but is a critically-important aspect of effective implementation of public trust protection policy, given the primary jurisdiction of local governments over upland development once an LCP is certified.

entity; the existence of Rancho Lands; and whether tidelands are sovereign, state lands, or in private ownership.[108]

(b) Identify the zone of tideland concern for the life of the development. Best available science should be used to identify the zone of tideland concern over the life of development under different sea level rise scenarios (see section B (2) above).

(c) Analyze Potential Impacts to Tidelands. Analyze whether the development might impact tidelands, when, how, and by how much. Evaluate the cumulative impact of potential encroachment considering adjacent existing and reasonably foreseeable developments. Consider: physical displacement during the life of the project; impacts to trust resources, such as to existing public access, OTDs and easements; water quality and intertidal habitat.

(d) Analyze whether the development is an allowable use. In the context of analyzing the proposed land use for consistency with the Coastal Act, evaluate whether it is considered a "public trust" use (navigation, fishing, recreation, ecological protection, etc.).

(e) Analyze whether public trust resources are substantially impaired. Assess whether any identified impacts are a substantial impairment of public tideland resources. If the impacts will be a substantial impairment of tidelands but the use is an allowable public trust use, consider how to avoid, minimize and mitigate the impacts. Any unavoidable impacts should be weighed against competing trust uses.[109] If impacts can't be adequately addressed, don't approve the development. If impacts are substantial but the use is not an allowable public trust use (e.g., private residential), don't approve the development.

(f) Identify Alternatives to Avoid, Minimize and Mitigate Impacts. Evaluate alternatives, conditions and mitigation measures to avoid, minimize or mitigate impacts of allowable uses on or adjacent to tidelands. Coordinate mitigation with the CSLC lease requirements when approving allowable uses on tidelands.

2. Substantial Impairment of the Public Trust

An important policy implication of elevating the CCC's focus on public trust tidelands is the need to analyze whether proposed or potential development impacts are allowable under the public trust doctrine. In general, the Coastal Act echoes the

[108] See, CSLC, https://www.slc.ca.gov/land-types/.
[109] See, for example, *Carstens v. California Coastal Commission*, 182 Cal.App.3d 277.

public trust doctrine, limiting allowable land uses on trust lands to developments and uses that are consistent with the broad public interest in the use of tidelands, such as navigation, fishing, public recreation, and environmental protection. Public coastal-dependent uses, such as a pier or commercial fishing facility, are generally allowable uses of public trust lands.

But it is more challenging to confront the many and perhaps increasing cases of private residential and commercial development that may either be located on or eventually will be located on tidelands. Common law is clear that the public trust does not allow the state to completely give up public trust lands for private use, with the exception that some use might be appropriate as long as there is no "substantial impairment" of the public trust. As stated in Illinois Central:

> *[t]he control of the state for the purposes of the trust can never be lost, except as to such parcels as are used in promoting the interests of the public therein, or can be disposed of without any substantial impairment of the public interest in the lands and waters remaining.*[110]

Both the CCC and the CSLC have authorized private development on tidelands, including construction of shoreline structures to protect residential development. In general, these authorizations have been made in a framework of "static" consideration of the MHTL. The CSLC may make a finding that the incursion onto tidelands is minimal or not a significant impact to tidelands, especially in light of required mitigation, such as access dedications or payment of rent. The CCC typically relies on Coastal Act section 30235, which has often been interpreted as a mandate to approve shoreline structures if they are *required* to protect an existing structure in danger from erosion and impacts to sand supply are mitigated. [111]

Regardless of the reasoning, the looming analytic question is how to address the increasing and cumulative encroachment of proposed and existing private developments on public trust lands. The question becomes, at what point has the state effectively given away a public tideland interest to a private interest? There are some situations where a strong argument could be made that this has already happened, such as in Solana Beach, where there are multiple leases for private shoreline structure development on state lands (Figure 24). Indeed, even giving away

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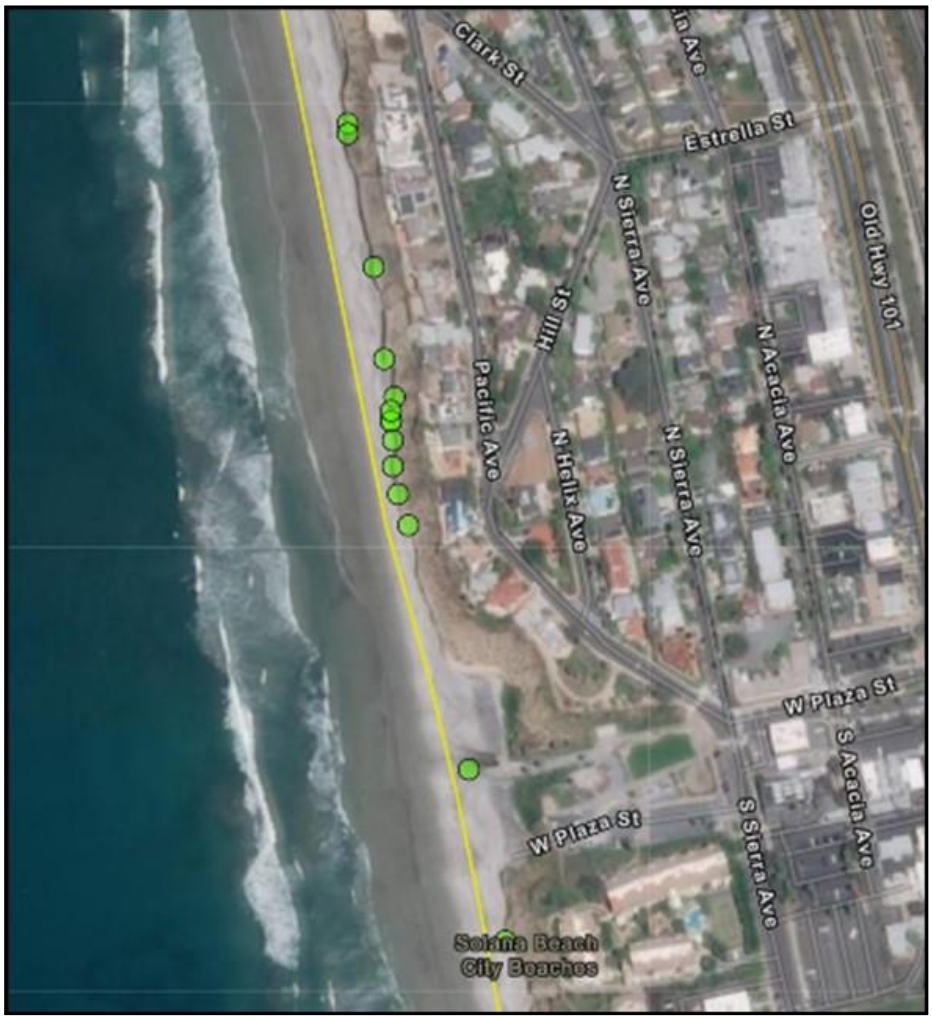
[110] *Illinois Central R. Co. v. Illinois*, 146 U.S. 387, 453 (1892).

[111] For example, CSLC, General Lease – Protective Structure Use, Las Brisas Condominium Association, Inc., https://www.slc.ca.gov/Meeting_Summaries/2016_Documents/06-28-16/Items_and_Exhibits/C61.pdf; and CCC, 6-05-72 (Las Brisas Condominium HOA) https://documents.coastal.ca.gov/reports/2005/10/W8e-10-2005.pdf.

a small section of tideland beach for a seawall constitutes essentially a permanent loss of public beach space.[112]

Other cases may be more straightforward. For example, if a private residence and/or seawall is or becomes located on tidelands, it may be that it blocks lateral access to adjoining public beach areas. It would be harder to argue that such a situation did not constitute a substantial impairment of the public tidelands trust.

Figure 24. State Lands Leases in Solana Beach (CSLC GIS: Leases).

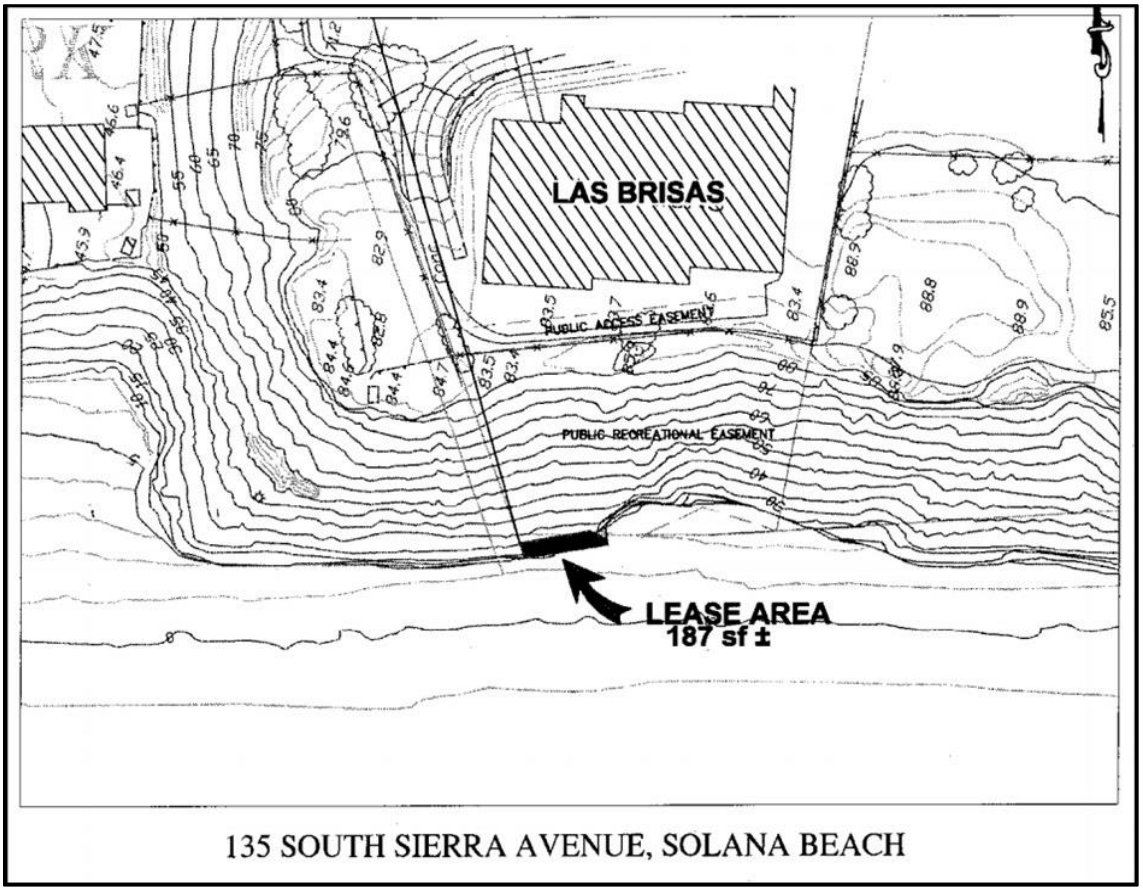


[112] As the CCC found in its Regional Cumulative Impact Assessment Project, (1998) for the Santa Monica Mountains/Malibu Area (p. 70):

> *The cumulative effect of these authorizations is that since 1978, an additional 2.8 miles of shoreline has been approved for armoring. This represents about 9% of the project area's shoreline. Based on staff estimates for an average size of a vertical wall and revetment authorized by the Commission, approximately 3.5 acres of beach have been covered by shoreline armoring. This additional armoring represents beach area lost to recreational use and sand lost to the littoral system.*

Analyzing the substantial impairment of tidelands is a concern for proposed and existing development. With respect to the former, the CCC should articulate a general policy that it will not allow public trust lands to be alienated, and will only allow non-public trust uses on tidelands (e.g., residential, non-coastal dependent or related uses) if they do not substantially impair public tidelands and if all impacts are mitigated.[113] Concerning existing development, the CCC and CSLC should cooperatively identify all places where development has been authorized or may be encroaching on tidelands and analyze the direct, indirect and cumulative impacts of such encroachment. Both agencies should identify existing permits and leases and seek to synchronize their terms. This should include consideration of both procedural/timing terms (e.g., coordinate permit/lease terms for purposes of extension and/or lease renewal), and substantive terms, such as concerning impact avoidance and mitigation. Hotspots where development may be encroaching on tidelands without a required lease or permit authorization should also be identified.

Figure 25. Private Seawall Lease Area -- Las Brisas (note 112).



[113] Such consideration should be done in coordination with the CSLC, which is the primary governmental authority for making determinations regarding substantial impairment of the public trust. For example, https://www.slc.ca.gov//wp-content/uploads/2019/03/04-05-19_C40.pdf.

Shoreline Structure Policy

Recognizing that the CCC and CSLC are independent agencies with their specific statutory mandates, it may be useful to coordinate and potentially align certain policy interpretations central to the treatment of shoreline structure impacts and the protection of tidelands. This is particularly true given that the agencies' implementation of the laws that they carry out has evolved over the years, especially in light of recent concerns for climate change and sea level rise. The CSLC lease findings, for example, have evolved from relatively simple statements of consistency with the basic classification scheme of tidelands, to more specific attention to the ideas of substantial impairment of public trust interests.[114] This has included identification of public interest benefits. For example, the CSLC has allowed some shoreline development for private residential development by recognizing a public health and safety benefit for beach goers from stabilization of the bluff:

Figure 26. Seaward Encroachment of Private Development, Ventura County.

[114] Public Resources Code Section 6370 required the CSLC to prepare an inventory, classify, and issue regulations to protect environmentally significant public trust lands. A common tidelands lease finding was that the activity "involves lands identified as possessing significant environmental values" and that the use was consistent with the classification scheme.

> *Many seawalls and plugged sea caves exist along the bluff in the Santa Cruz area. While these seawalls protect the upland property on top of the bluff, they also provide for the health and safety of the public by helping to stabilize the bluff and prevent bluff failure and protect the public while recreating on the beach.*[115]

Typically, the CCC has not recognized such a "public benefit" in the scheme of the Coastal Act as a basis for approving shoreline structures, including in recent legislative discussions following a catastrophic bluff collapse in Encinitas.[116] Both agencies, and future decision-making about public trust concerns, would benefit from coordination regarding such policy interpretations.

Similarly, while recent sea level rise policy guidance promulgated by the Ocean Protection Council recognizes the need to avoid impacts to public trust resources, the language could be read as conflicting with the strict requirements of the public trust doctrine:

> *Negative impacts to other Public Trust values, including coastal habitats and public access, should be minimized in all existing and future use of shoreline protective structures. Innovative and resilient design alternatives to conventional grey infrastructure should be explored when retrofitting existing protective structures or contemplating future protective structures.*[117]

Subsequent updates and other policy documents concerned with sea level rise and the protection of the public trust should be drafted to more closely track the analytic requirements of the public trust doctrine by clearly stating that only some uses are considered to be consistent with the public trust, and by focusing on the standard of "no substantial impairment" to public tidelands.

More generally, the two agencies could consider aligning their analyses of sea level rise and shoreline structure impacts to address both the public trust doctrine and the Coastal Act. A recent and pending case in Santa Cruz County is illustrative. The CSLC has recently renewed a lease for an existing seawall that protects a property with a proposed development that as of this writing is pending on appeal to the CCC

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[115] CSLC, General Lease – Protective Structure Use, Sisney, (2019) https://www.slc.ca.gov//wp-content/uploads/2019/03/04-05-19_C40.pdf.
[116] See, Opinion: Seawalls Are Not the Answer to Coastal Bluff Erosion, Voice of San Diego, Jan. 11, 2021, https://www.voiceofsandiego.org/topics/opinion/seawalls-are-not-the-answer-to-coastal-bluff-erosion/.
[117] CA Ocean Protection Council, State of California Sea-Level Rise Guidance, 2018 Update, p. 31. https://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf.

(Figure 27).[118] The CSLC analyzed the impacts of the structure and concluded that at least for the term of the ten-year lease, the project would not substantially interfere with the Public Trust needs and values:

> *The lease area includes an existing seawall and two plugged sea caves. The seawall within the lease area is vulnerable to the impacts from sea-level rise and more frequent and intense storms that are the result of climate change. The seawall is likely to degrade over the lease term due to increased time of exposure to wave action, storm surge, and higher total water levels. Bluff erosion as a result of precipitation, groundwater drainage, wind force, and slumping may also exert pressure on the seawall from the landward side. Therefore, the seawall may require more frequent maintenance to ensure continued function during and after storm seasons, and to reduce the potential risk to public safety should it become a source of marine debris or a coastal hazard as a result of dislodgement or structural failure.*
>
> *The seawall also has the potential to exacerbate the impacts of sea-level rise and increased storm and wave activity on State sovereign land adjacent to the lease area. The beach area seaward of the seawall is subject to width reduction and loss from erosion, scour, and coastal squeeze (the reduction of beach width due to the inability of the beach to naturally migrate landward as a result of hard armoring infrastructure). In addition to the seawall exerting an artificial influence on the natural landward migration of the beach, it is also a barrier between the naturally eroding bluffs and the beach, and effectively prevents beach replenishment via natural passive erosion. In general, seawalls increase beach scour at the toes and sides of the walls by reflecting and refracting wave energy back on to the beach with higher force due to their placement and composition. Beach loss is anticipated to increase over the term of the lease because of the combined factors of climate change impacts, natural dynamic coastal processes, and the presence of the seawall.*
>
> *The 10-year lease term provides both the Commission and the Lessee an opportunity to check in after a relatively short-term interval to assess the effects of sea-level rise and evaluate the design and functionality of the*

[118] CCC, A-3-SCO-20-0027 (Sisney), https://documents.coastal.ca.gov/reports/2020/9/F11a/F11a-9-2020-report.pdf. The CCC found that an appeal of the proposed demolition of a house and construction of a new house, as well as creation of two new vacant lots, raised a substantial issue with the Santa Cruz County LCP requirements.

existing protective structure in order to make incremental adaptation steps as necessary and appropriate.[119]

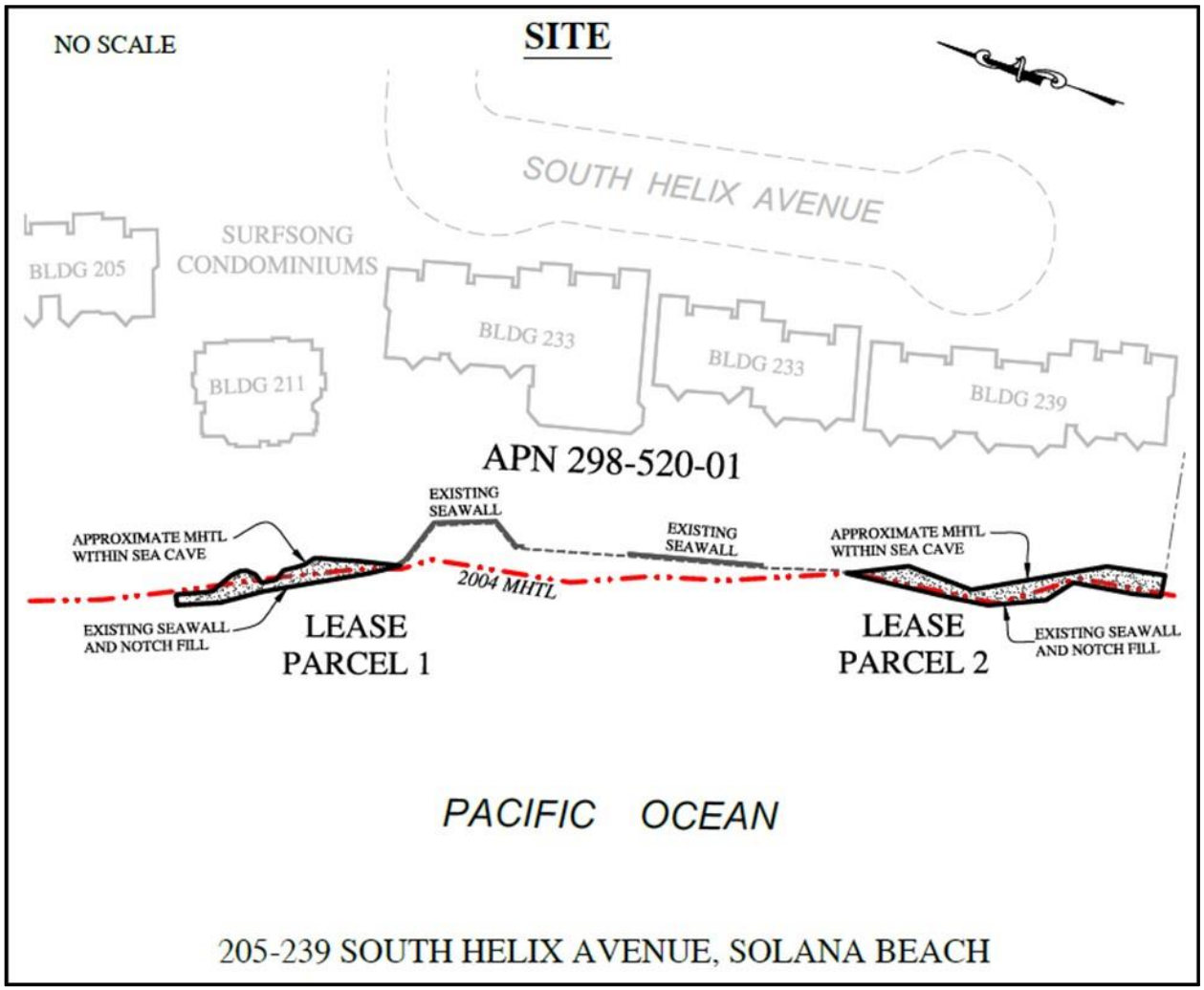
The CSLC issued a lease for $8,512 per year for the estimated 1,069 square feet of encroachment on public tidelands.

Figure 27. Shoreline Structure on Tidelands – Santa Cruz County.

Coordination between the two agencies is also important because each may rely on the other to support its findings. For example, the CSLC recently renewed a lease for a seacave fill in Solana Beach, finding in part that because of mitigation measures "already required by the CCC" that the fill would not substantially interfere with the public trust.[120] The CSLC is also beginning to anticipate the timing of its actions in relation to CCC actions, which will become increasingly important as existing leases expire and are renewed. One of the best examples may be a recent lease issued for the Surfsong development in Solana Beach. In addition to presenting a detailed

[119] CSLC, Sisney, PRC 7971.1, https://www.slc.ca.gov//wp-content/uploads/2019/03/04-05-19_C40.pdf.
[120] CSLC, 06/23/20 Lease 8185.1 General Lease – Protective Structure Use, Wardner Jason Nezat and Carol Ann Nezat, 205 Pacific Avenue, Solana Beach. Other factors included the limited (10 year) term of the lease and the "public safety benefits."

Figure 28. Surfsong Shoreline Structure Lease, Solana Beach (note 122).



summary of the CCC's permit history and required mitigations for the coastal permit for the project, the CSLC findings specifically highlight the CCC requirement for the applicant to apply for a new authorization in 2029 and the alignment of the CSLC lease term with this time-frame:

> *[CCC] Special Condition 3 also requires the permittees to apply for a CDP amendment by March 11, 2029. The amendment will either authorize removal of the seawall or require mitigation for effects beyond the initial 20-year design life. This requirement allows the CCC to review the seawall to ensure that this project does not prejudice future shoreline planning options to address climate change and sea-level rise. The proposed lease requires the lessee to comply with any modifications to the CDP as a condition of the lease. The proposed lease also requires the*

Applicant to apply for a new lease from the Commission when it submits its CDP amendment application to the CCC.[121]

The CCC and CSLC should begin a systematic effort to identify and synchronize leases and permits on tidelands, particularly those older state lands leases that may not have been reviewed in some time.[122]

Potential Conflict between Coastal Act 30235 and Public Trust Doctrine

Sea level rise starkly frames a potential conflict between Coastal Act Section 30235, which allows private shoreline structures in certain instances, and the public trust doctrine, which prohibits the state from alienating tidelands and strictly limits their private use. Under the doctrine, the public is entitled to the tideland gains of the ambulatory MHTL, and as this line moves inland with sea level rise, following *Milner* and common law, an upland property owner may not prevent this movement with a shoreline structure absent authorization from the tideland owner. Allowing continued individual and aggregated authorizations of private shoreline structures and other development, therefore, would seem to inevitably result in a privatization of land that otherwise would have been public tidelands, thereby alienating public trust lands contrary to the *Illinois Central* case. Cumulatively, this eventual privatization is substantial. As summarized by Peloso and Caldwell:

> *. . . because of the large scale of land for which coastal armoring requests can be anticipated, the general permitting of coastal fortification would, in total, amount to an abdication of the state's public trust responsibilities to protect the coastal zone. Furthermore, although the state's public trust interest in lands that will be subject to future inundation has yet to be realized, simply failing to pursue the public rights over tens of thousands of acres of land that may become submerged is arguably a failure to assert the public interest on the scale with which the Illinois Central Court was concerned. Therefore, it follows from the Supreme Court's logic in Illinois Central that the full scope of a state's public trust duty under the radically different environmental circumstances of significant sea level rise may require not only that the state proactively assert the advance of the public trust title with rising*

[121] CSLC, PRC 8834.1; A2072, General Lease – Protective Structure Use, Surfsong Owners Association, 06/28/19, p. 3.

[122] For example, a lease to Santa Cruz County for rip-rap at Pleasure Point, issued for 49 years in 1982, will be expiring in 10 years; CSLC, General Permit – Public Agency Use, County of Santa Cruz, 1982, https://www.slc.ca.gov/Meeting_Summaries/1982_Documents/08-26-82/Items/082682C14.pdf.

seas, but also that the state deny permits to hold back the natural advance of mean high tide.[123]

The CCC has been prescient in its concern for sea level rise, dating back at least to its first report about the implications of global warming and sea level rise for the coastal program.[124] But in general, past CCC shoreline structure permit decisions have not anticipated a potential conflict between the public trust doctrine and section 30235. Given the current and increasingly sophisticated understanding of projected sea level rise, the CCC should anticipate and consider how to resolve potential future claims that, notwithstanding the language of Coastal Act section 30235, shoreline structures might violate the public trust by preventing the migration of the public trust boundary.

One way to do this would be to look to sand and beach replenishment to rebuild and maintain public tidelands, such as was proposed for Broad Beach in Malibu.[125] If in fact it was feasible to do this then this could be a way to avoid future encroachment of residential development on public trust lands. However, there is growing evidence that even beach replenishment strategies will be overtaken by sea level rise in the longer run.[126] In addition, if the Broad Beach case illustrates anything, it is the difficulty of implementing such a strategy on a scale necessary to be successful, even in the short term, before sea levels have significantly increased. More than eleven years have passed since the emergency revetment was placed on top of both tidelands and dedicated public access easements, and a public beach has yet to be created or restored. Nor is it clear that municipal or other public beach nourishment strategies will be sufficient to maintain public beach tidelands in places like Solana Beach or Pacifica. Beach replenishment also raises significant potential impacts to shoreline ecology that would need to be addressed.[127]

If strategies to maintain public tidelands as sea level rises are not successful, the cumulative encroachment of private residential shoreline protection (and development generally) on trust lands would seem inevitable. At some point, the CCC and others will need to confront the question of whether the authorization of

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[123] Margaret E. Peloso and Margaret R. Caldwell, *Dynamic Property Rights: The Public Trust Doctrine and Takings in a Changing Climate*, 30 Stanford Environmental Law Journal 51 (2011), p. 59.
[124] Ewing, Lesley, et al., CCC, Planning for an Accelerated Sea Level Rise Along the California Coast, 1-76 (1989).
[125] CCC, 4-15-0390 (Broad Beach GHAD) https://documents.coastal.ca.gov/reports/2015/10/f8a-10-2015.pdf.
[126] Vitousek et al., *Id*.
[127] Anderson et al., *Id*.

such development under the Coastal Act, particularly section 30235, is consistent with the public trust doctrine.

In anticipation of this challenge, the CCC should carefully evaluate its approach to shoreline structure authorizations under section 30235.[128] The CCC's interpretation and application of 30235 has evolved over the decades as it has learned and as environmental and development conditions have changed. For example, the CCC's early interpretation of "existing structure" in 30235 resulted in the approval of shoreline structures in situations arguably not contemplated by the original intent of the Coastal Act.[129] In the last decade, though, the CCC has embraced what for many is the more logical and resource-protective position that "existing structures" refers only to those in existence at the time the Coastal Act came into effect (January, 1977). The alternative interpretation that "existing" means existing at the time of consideration does not make nearly as much sense when read in conjunction with the section 30253 requirement that new development be sited and designed to not require shoreline protection in the future.[130] It also arguably does not comport with the Coastal Act's direction to "liberally construe[]" its provisions to accomplish its purposes and objectives.[131]

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[128] PRC 30235 states:

> *Revetments, breakwaters, groins, harbor channels, seawalls, cliff retaining walls, and other such construction that alters natural shoreline processes shall be permitted when required to serve coastal-dependent uses or to protect existing structures or public beaches in danger from erosion, and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. . ..*

[129] For example, CCC, A-3-PSB-02-016 (Grossman-Cavanagh), 2003, https://documents.coastal.ca.gov/reports/2003/8/W12b-8-2003.pdf.

[130] As succinctly stated in the CCC's adopted Sea Level Rise Guidance:

> *Read together, the most reasonable and straight-forward interpretation of Coastal Act Sections 30235 and 30253 is that they evince a broad legislative intent to allow shoreline protection for development that was in existence when the Coastal Act was passed, but avoid such protective structures for new development now subject to the Act.*

CCC, Sea Level Rise Policy Guidance (Adopted, 2015, Updated, 2018), p. 165; also, Lester, C., 2005. "An overview of California's coastal hazards policy." In Gary Griggs, Kiki Patsch, and Lauret Savoy, Living with the Changing California Coast, University of California Press; Melius, M.L. and M. Caldwell. (2015). Managing Coastal Armoring and Climate Change Adaptation in the 21st Century, 2015 California Coastal Armoring Report, Stanford Law School. https://law.stanford.edu/wp-content/uploads/2015/07/CalCoastArmor-FULL-REPORT-6.17.15.pdf. Cardiff, Todd T. (2001) "Conflict in the California Coastal Act: Sand and Seawalls," California Western Law Review: Vol. 38: No. 1, Article 7.

[131] PRC 30009.

Similarly, the CCC has not always interpreted the section 30235 statement that shoreline structures "shall be permitted" if certain conditions are met as an "override" of other Coastal Act requirements – a more common interpretation in recent years. In earlier decades of the coastal program, the CCC framed section 30235 not as mandating the approval of shoreline structures but rather as "allowing" them in certain situations. This is clear in the original interpretive guidelines adopted by the CCC in 1977 and reiterated in 1981, that emphasize that shoreline structures should only be "allowed" in the limited circumstances contemplated by section 30235.[132] This framing of 30235 as "allowing" approval of seawalls as opposed to mandating their approval was common in shoreline structure findings, including into the 2000s, in cases like *Ocean Harbor House*, where the CCC discusses the limited circumstances under which it "may" approve a shoreline structure under 30235, or the *Las Bris*as case in Solana Beach, where the findings focus on whether the criteria for approval of a seawall were met.[133]

In the last several decades the CCC has also made findings that characterize 30235 as a *requirement* to approve seawalls if its terms are met, but that don't refer to 30235 as an "override" of other Coastal Act policies. Often in such cases, the CCC has not found a conflict between section 30235 and other policies that needs to be overridden. Rather, it has addressed project inconsistencies with other policies through permit conditions and mitigations. For example, it was common for the CCC to conclude that a seawall was consistent with or met the criteria for approval of 30235, and that any impacts to public access or visual resources could be mitigated through conditions (such as an access dedication and aesthetic treatments), and thus that a seawall project, *as conditioned*, was consistent with the Coastal Act. Because inconsistencies with other Coastal Act policies could be avoided or mitigated, there was no need to "override" these other policies.[134]

In the last decade, as the understanding of sea level rise and the way it will exacerbate the impacts of shoreline armoring and cause the migration of tidelands has grown, it has become more common for the CCC to find that shoreline structures

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[132] The guidelines actually further narrow the "existing structure" language of 30235, by identifying "principal structures in existing developments that are in danger from erosion," and potentially broaden it, by identifying "infill" of already-armored sections in southern California, as circumstances when shoreline structures might be allowed. CCC, Statewide Interpretive Guidelines, May 3, 1977; reiterated, December 16, 1981.

[133] CCC, 3-02-024, Ocean Harbor House Seawall, Revised Findings (2005); CCC, 6-05-72 (Las Brisas Condominium HOA), *Id*.

[134] Even in cases like Ocean Harbor House, where the CCC concluded (as did the EIR), that the project would result in the loss an entire acre of recreational beach, the CCC found the project consistent with the public access policies with the inclusion of the in-lieu fee for the value of the lost beach area. CCC, 3-02-024, *Id*.

that may meet the terms of 30235 also cause fundamental inconsistencies, such as the loss of public beach area by physical encroachment of a protective structure. This approach shifts the analytic focus to one of policy "conflict" between the interpreted mandatory direction of 30235 and other mandatory policies (e.g., maximum public access *shall* be provided). To resolve this conflict, the CCC has found that section 30235 is a specific "override" of other Coastal Act requirements. As described in the CCC's sea level rise guidance:

> *Despite other Coastal Act provisions that could often serve as the basis for denial of shoreline protective devices (for example, new development requiring shoreline protection can also conflict with Coastal Act policies requiring protection of public access and recreation, coastal waters and marine resources, natural landforms, and visual resources), the Coastal Commission has interpreted Section 30235 as a more specific overriding policy that requires the approval of Coastal Development Permits for construction intended to protect coastal-dependent uses or existing structures if the other requirements of Section 30235 are also satisfied.*[135]

Moving forward, and given our increased understanding of sea level rise impacts to public trust lands as discussed throughout this report, the CCC should carefully consider its interpretation of 30235 to ensure public trust resources are protected as sea level rises.

For example, in interpreting section 30235, the CCC should consider the legislative intent behind the Coastal Act. There is no apparent evidence that the legislature specifically contemplated future conflicts between 30235 and the public access policies of the Coastal Act and/or the protection of the public trust at the time the Coastal Act was drafted, but the Act does have numerous references to the need to balance the rights of private property with Constitutional public access and other public rights. In considering what balance to strike between the two policies, it is useful to note Coastal Act 30214(b):

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[135] CCC, SLR Guidance, *Id*. p. 164. Notably, the guidance also anticipates in a footnote to this discussion (note 46) an alternative to the interpretation, discussed further below in the text, that section 30235 is an "override":

> *Some commenters argue that because shoreline armoring often conflicts with Coastal Act policies other than Section 30235, the Commission should evaluate proposed armoring under the conflict resolution provisions of the Act. (See Public Resources Code, § 30007.5, 30200(b).) Because the conflict resolution provisions require the Commission to resolve the conflict in a manner which on balance is the most protective of significant coastal resources, this approach could result in the more frequent denial of shoreline armoring, especially when it is intended to protect residential development or other uses that the Coastal Act does not identify as priority uses.*

> *It is the intent of the Legislature that the public access policies of this article be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to Section 4 of Article X of the California Constitution.* ***Nothing in this section or any amendment thereto shall be construed as a limitation on the rights guaranteed to the public under Section 4 of Article X of the California Constitution*** [emphasis added].

The second clause of this legislative intent policy clearly articulates the primacy of constitutionally guaranteed public access rights. It also suggests that 30235 and public access policies (and other mandates) should be treated as equally important requirements that may come into conflict, as contemplated by 30007.5.[136]

The language of 30214 also suggests that when public tideland access and a private interest in seawall development conflict, the balance should be struck in favor of the common law public trust rights to access tidelands ("nothing . . . shall be . . . a limitation . . ."). This is consistent with the early emphasis on public trust tidelands as a preeminent concern for protection under the Coastal Act, expressed first in the Coastal Plan discussion and recommendation to include a policy protecting public tidelands[137], then specifically referenced in Coastal Act sections 30210 and 30214, and finally clearly reiterated in the CCC's Statewide Interpretative Guidelines, adopted in 1977 pursuant to Coastal Act section 30620, just six months after the passage of the Coastal Act:

> *Section 30601 and 30603 of the 1976 Coastal Act retain the Commission's jurisdiction over tidelands, submerged lands, and public trust lands even after local governments have taken over the coastal development permit system or have received certification of their local coastal programs. This clearly emphasizes statewide public importance of these areas. Section 30001.5 states that among the basic goals of the*

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[136] This interpretation of the Coastal Act is clearly embraced in the CCC's statewide interpretative guidelines for public access, adopted in 1980, which articulate the view that the Coastal Act is an embodiment of Constitutional shoreline access rights. For example:

> *In reviewing projects to determine consistency with the Coastal Act of 1976, the Coastal Commission is required under Section 30210 to carry out the Constitutional requirements for provision of public access to the navigable waters of the state by maximizing such access. The access policies of the Coastal Act should be read to give liberal interpretation to the Constitutional provision that access to the shoreline should "always be attainable."*

CCC, Statewide Interpretive Guidelines, Public Access, Feb. 20, 1980.

[137] See discussion, *supra*. Cf., *Friends of the Children's Pool v. City of San Diego*, G053709 (Cal. Ct. App. Jun. 7, 2018).

> *state are to maximize public access opportunities in the coastal zone consistent with sound resources conservation principles..." and "assure priority for coastal-dependent developments**..." Thus, development proposals that may involve present or historic tidelands, submerged lands, and public trust lands should be permitted only if consistent with the public trust.** The State Lands Division will delineate on maps of the Coastal Commission's jurisdictional area a landward line beyond which public trust lands cannot reasonably be expected to exist. Any permits for proposed developments within the area so delineated, or in other areas for which public trust status is documented, should be reviewed by the Commission, the Attorney General's Office and the State Lands Commission to determine whether public trust considerations are involved and have been fully considered. **The Commission shall make specific findings as to whether the development is in an area potentially subject to the public trust and either (1) that the project would be consistent with the public trust under the Coastal Act and with established rights of the Federal government to regulate commerce and navigation on navigable waters or (2) that the project should not be approved until the question of the public trust can be resolved [**emphasis added].[138]

The interpretation of section 30235 as a requirement of the Coastal Act that could come into conflict with other requirements also is consistent with the apparent understandings at the time of the Coastal Act that the line between public and private, while ambulatory with the tides, was not marching unidirectionally inland as it is with sea level rise. Because of this, there would not have been any obvious conflict between shoreline structure development and public tideland access that would need to be resolved. This seems to be clearly reflected in the CCC's statewide interpretation guidelines for public access, adopted in 1980. Among other things the guidelines discuss how to delineate a requirement to provide lateral beach access as mitigation for the impacts of a development on access to and along public tidelands. Two primary methods are described:

> *The first is to define the accessway as extending from a fixed inland point seaward to the seaward property line (the mean high tide line). The area included in this accessway would remain constant although the "useable area" of dry sand beach would fluctuate with the changes in the tide. The second mechanism for describing a lateral accessway is to set the width of the useable beach required (e.g., 25 ft.) and have this use area extend inland from the high water line. Under this latter approach the exact location of the accessway would fluctuate daily with the change in tides although the width of the accessway would remain constant.*

[138] CCC, Statewide Interpretive Guidelines, Public Trust Lands, May 3, 1977.

Further discussion notes that under the first method, there would be times when there was little or even no public access area (e.g., extreme high tides and storm conditions). But in either case, there is an assumption that there is generally an area of private sandy beach above the mean high tide that would be available for the access dedication to either (1) shrink and expand over a constant range in a fixed location, or (2) maintain a constant width while ebbing and flowing with the tide. In other words, the impact of development on the tidelands is one of adjacency, not direct encroachment. Hence, the guidelines do not anticipate a direct conflict between the need to approve a shoreline structure and the need to protect physical tideland area. Rather, they advise that any development on public tidelands should only be permitted if it is consistent with the trust.

Finally, consistent with the Ocean Harbor House view that section 30235 is permissive, not exclusive (a view reiterated in the Lynch case[139]), the CCC has previously argued in court for a legal framework that both recognizes the inherent balance between public and private rights embodied in Coastal Act section 30214, and that would resolve conflicts between 30235 and other Chapter 3 policies using the section 30007.5 conflict resolution provision. In the Antoine case, discussed earlier in relation to the revetment at Sandyland in Carpinteria, the Attorney General argued the following on behalf of the CCC:

> *The Commission neither disputes that an improved revetment was necessary to protect the homes at Sandyland nor that the revetment, in the location proposed and as conditioned, is the least damaging feasible alternative and has been designed to eliminate or minimize effects on shoreline sand supply. The Commission so found. J.A. 920. Nonetheless, in this case the revetment was required to conform with public access and public recreation policies of the Coastal Act, in addition to general development policies. Pub. Resources Code, §. 30604(b). Furthermore, the Act specifies that when conflicts between cited goals and policies of the Act occur, they must ". . . be resolved in a manner which on balance is the most protective of significant coastal resources." Pub. Resources Code, § 30007.5; City of San Diego v. California Coastal Commn (1981) 119 Cal.App.3d 228, 233-234; see also Carstens v. California Coastal Commn, supra, 182 Cal.App.3d 277, 290 291.*
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> *While the Commission concluded, as Sandyland notes, that no feasible alternatives exist with respect to the project's effects on shoreline sand supply, it also concluded that "[f]easible alternatives are available to reduce the project's effects on public access." J.A. 918. These*

[139] *Lynch v. California Coastal Com.*, 229 Cal. App. 4th 658.

alternatives included relocation of the seawall so that its toe encroaches no further seaward than the toe of the old revetment and retaining the seawall location and providing for public access along it to the beach. Id. The Commission chose the latter alternative. In doing so, it ensured that the revetment would meet not only the provisions of the certified LCP, but the applicable policies of the Coastal Act as well. Finally, Sandyland cites section 30214 of the Coastal Act, but selectively underscores only that portion of the provision which references the "rights of the individual property owner." Section 30214 states the intent of the Legislature that the public access policies of the Coastal Act "be carried out in a reasonable manner that considers the equities and that balances the rights of the individual property owner with the public's constitutional right of access pursuant to Section 4 of Article X of the California Constitution." Emphasis added.

The walkway requirement in this case was squarely the product of the balancing contemplated by this section. With the limited exception of the downcoast portion of the revetment, the Commission could have required Sandyland to relocate the seawall landward to its preexisting location. As such, the Commission would have satisfied its constitutional and statutory obligation to ensure that the seawall neither interfere with nor reduce the public's constitutional right of access to the tidelands. Instead, it permitted the revetment to remain in the location constructed and required Sandyland to provide an alternative equivalent accessway on or behind the revetment to enable the public to continue to pass and repass along this significant stretch of beach. The walkway requirement, as one court has put it, represented a "reasonable accommodation" of Sandyland's need to protect the residences at Sandyland Cove and the public's constitutionally protected right of access to and along the State's navigable waters. See Barrie v. California Coastal Commission, supra, 196 Cal.App.3d 8, 21-22.[140]

In ruling for the CCC, the court also recognized that "the Commission's task is to balance the need to protect the public beach against the homeowners' need to protect their homes."[141]

If one assumes that the CCC must adhere to the public trust doctrine, as is supported through the above analysis of legislative intent, then interpreting section 30235 as a mandate to approve shoreline structures otherwise consistent with the section could

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[140] *Antoine v. California Coastal Com*., Appellant's Reply Brief and Cross-Respondent's Brief, 7-8, July 8, 1991.
[141] *Antoine v. California Coastal Com*., *Id*. depublished.

Figure 29. Development Along Tidelands, Malibu.

in some cases create a fundamental conflict with the trust doctrine's prohibition on giving away trust resources. For example, in the case of a shoreline structure proposed to protect private residential use that met the tests of section 30235 (existing structure, in danger, etc.) but that was or would eventually be located on public tidelands, it may not be possible to meet both 30235 and the prohibition on giving away trust lands, unless the loss of tidelands was found to be insubstantial, for example by being temporary and fully mitigated, or otherwise somehow in the public interest[142]

One option to address this conflict would be for the CCC to consider interpreting section 30235 as but one of multiple mandatory policies of Chapter 3 – an approach that, significantly, has been specifically affirmed by the courts in the *Ocean Harbor House* case:

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[142] The CCC essentially articulates this point in its draft Coastal Adaptation Policy Guidance for Residential Development (*Id*. p. 39):

> *Because private residential development is not considered a public trust use, policies specific to residential adaptation must ensure that residences and any ancillary development, including shoreline armoring, will not substantially impair or be inconsistent with public trust needs in those lands.*

> *The language of section 30235 is permissive, not exclusive. It allows seawalls under certain conditions: (1) when necessary to protect existing structures and (2) when they can be designed to minimize sand loss.* ***The statute does not purport to preempt other sections of the Act that require the Commission to consider other factors in granting coastal development permits****. (E.g., §§ 30604, subd. (c) [the Commission "shall" make findings that the permit complies with public access and recreational policies], 30251 [scenic and visual qualities of coastal areas "shall" be considered and protected as a resource of public importance], 30240 [environmentally sensitive habitats "shall" be protected].)* [emphasis added][143]

In some cases, the CCC might still identify conflicts between the application of 30235 and other policies in specific cases, but it could then use the section 30007.5 conflict resolution provision of the Coastal Act, which specifically allows the CCC to resolve conflicts between Coastal Act policies in a manner that on balance is the "most protective of significant coastal resources."[144]

Using section 30007.5, especially in cases where a shoreline armoring device would be located on public trust lands, rather than on private uplands, enables the CCC to maintain a rigorous reading of the 30235 as a "requirement" to approve shoreline structures without weakening other Chapter 3 policies in those cases where the tension between 30235 and other policies cannot be resolved through mitigations. This would seem a particularly apt approach to address the protection of public trust tidelands. For example, in the case where an otherwise approvable seawall would be located on tidelands, the CCC could easily identify a conflict between section 30235 and section 30210[145] which, among other things embodies the constitutional

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[143] *Ocean Harbor House Homeowners Assn. v. California Coastal Com*., 163 Cal. App. 4th 215, 241, 77 Cal. Rptr. 3d 432, 452-453, 2008 Cal. App. LEXIS 770, *53-54, 38 ELR 20128 (Cal. App. 6th Dist. May 23, 2008).

[144] Section 30007.5 states:

> *The Legislature further finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources. In this context, the Legislature declares that broader policies which, for example, serve to concentrate development in close proximity to urban and employment centers may be more protective, overall, than specific wildlife habitat and other similar resource policies.*

[145] 30210 states:

prohibition on excluding public access to tidelands.[146] Applying the conflict resolution mechanism of 30007.5, the CCC could deny the shoreline structure project, or condition its eventual removal, as the outcome that was on balance most protective of significant coastal resources (public tideland access and recreation, arguably the most significant resource protected under the Coastal Act, versus private residential use, one of the Act's lowest priority land uses).[147]

3. Avoiding and Mitigating Impacts to Public Trust Resources

As discussed, the CCC has attempted to avoid and minimize development impacts on public tidelands since its inception. In the past the CCC regularly required public access mitigations such as offers to dedicate lateral access to offset potential impacts of development adjacent to tidelands, such as at Sandyland. In recent decades, the

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> *In carrying out the requirement of Section 4 of Article X of the California Constitution, maximum access, which shall be conspicuously posted, and recreational opportunities shall be provided for all the people consistent with public safety needs and the need to protect public rights, rights of private property owners, and natural resource areas from overuse.*

[146] Article X, Section 4 states:

> *No individual, partnership, or corporation, claiming or possessing the frontage or tidal lands of a harbor, bay, inlet, estuary, or other navigable water in this State, shall be permitted to exclude the right of way to such water whenever it is required for any public purpose, nor to destroy or obstruct the free navigation of such water; and the Legislature shall enact such laws as will give the most liberal construction to this provision, so that access to the navigable waters of this State shall be always attainable for the people thereof.*

[147] Early on the courts recognized that the CCC may have to weigh competing uses of tidelands:

> …the California Coastal Act of 1976 does not limit the Commission's inquiry to whether a proposed development limits access to the tidelands. The Legislature clearly requires consideration of public safety, rights of private property, and orderly economic development as well as environmental and public access concerns in granting and amending coastal development permits. The Legislature also provided guidance in resolving policy conflicts in section 30007.5, which states in part: "The Legislature further finds and recognizes that conflicts may occur between one or more policies of the division. The Legislature therefore declares that in carrying out the provisions of this division such conflicts be resolved in a manner which on balance is the most protective of significant coastal resources."

Carsten, *Id*. See, also, Megan M. Herzog and Sean B. Hecht, Combatting Sea-Level Rise in Southern California: How Local Governments Can Seize Adaptation Opportunities While Minimizing Legal Risk, 19 Hastings West Northwest J. Envtl. L & Pol'y 463 (2013).

CCC has on occasion conditioned projects to avoid future impacts to tidelands or even denied projects in part because of the impacts to tidelands. For example, the CCC denied a proposed revetment for the Cliffs Hotel in Pismo Beach, observing:

> *. . . even structures located above the mean high tide line may have an impact on shoreline processes - and ultimately to the extent and availability of tidelands. That is why the Commission also must consider whether a project will have indirect impacts on public ownership and public use of shorelands. . . . this project would result in some indirect impacts on tidelands because the proposed revetment is located in an area that is subject to wave attack and wave energy. This wave interaction with the revetment would contribute to erosion and steepening of the shore profile. The proposed revetment would fix the back beach location, retain potential beach materials, cover beach area, contribute to beach scour, potentially alter the longshore transport of materials, and contribute to erosion and steepening of the shore profile to the detriment of the availability of tidelands.*[148]

The CCC subsequently ordered the removal of the revetment, which had already been placed in an emergency action (Figure 30).

Figure 30. Cliffs Hotel Emergency Revetment, Pismo Beach.

[148] CCC, A-3-PSB-98·049, Cliffs Hotel Revetment & Dewatering Plan, 1998, https://documents.coastal.ca.gov/reports/1998/11/Th12c-11-1998.pdf; https://documents.coastal.ca.gov/reports/1998/10/W8a-10-1998.pdf; https://documents.coastal.ca.gov/reports/1999/2/W16b-2-1999.pdf.

The CCC has also essentially applied a "zone of concern" approach in certain past cases. In the Geffen case discussed earlier, the CCC described how it needed to find the most landward known location of the mean high tide in order to determine whether the project would impact public tidelands, which is the same analysis used in the Sandyland case:

> *The Commission must consider a project's direct and indirect impact on public tidelands. In order to protect public tidelands when beachfront development is proposed, the Commission must consider (1) whether the development or some portion of it will encroach on public tidelands (i.e., will the development be located below the mean high tide line as it may exist at some point throughout the year) and (2) if not located on tidelands, whether the development will indirectly affect tidelands by causing physical impacts to tidelands. In order to avoid approving development that will encroach on public tidelands during any time of the year, the Commission, usually relying on information supplied by the State Lands Commission**, will look to whether the project is located landward of the most landward known location of the mean high tide line**.*[149] [emphasis added]

In other cases, the CCC has limited any future seaward encroachment of coastal armoring out of concern for rising sea level and shrinking tidelands.[150]

The CCC specifically recognized the implications of rising sea level for shoreline structure development in its 2015 Guidance, stating that:

Figure 31. Buena Vista Lagoon Revetment Encroachment.

[149] Geffen, *Id.*, *p.25.*

[150] In considering a revetment at Buena Vista Lagoon, the CCC found "that with future rising sea level and episodic storm events, the area seaward of the revetment could erode significantly, resulting in the area becoming public tidelands. Based on these findings, the Commission finds that no further seaward encroachment of the revetment is permitted." CCC, A-6-0CN-00-71 (Alanis) Jan. 9, 2001, https://documents.coastal.ca.gov/reports/2001/1/T18b-1-2001.pdf.

> *. . . shoreline protective devices should be sited, designed, and conditioned to ensure that they do not result in the loss of public trust lands or encroach onto public trust lands without the permission of the appropriate trustee agency.*

The guidance advises that in future permit actions, "[t]he Commission or local governments could approve permit conditions to ensure permittees obtain authorization to retain or remove structures if they ever become located on public trust lands."

Consistent with this guidance, the CCC has added a clause in recent "no future seawall" conditions to require that development not encroach on public tidelands in the future. This condition has taken several forms. One version requires future removal of the approved development if "migration of the public trust boundary has caused the development to become subject to the public trust,"[151] or because "the development is no longer located on private property due to the migration of the public trust boundary."[152] Another version leaves open the possibility of continued tideland encroachment, adding a clause after the specific requirements for removal:

> *Approval . . . does not allow encroachment onto public trust lands. Any future encroachment onto public trust lands shall be removed unless authorized by the Coastal Commission. Additionally, encroachment onto public trust lands is subject to approval by the State Lands Commission or other designated trustee agency.*[153]

Still another version does not identify encroachment on tidelands as a specific trigger for removal of the development, but does incorporate the concern for future encroachment into a required acknowledgment of coastal hazard risks:

> *3. Coastal Hazard Risk. By acceptance of this permit, the Permittee acknowledges and agrees, on behalf of itself and all successors and assigns: . . .*

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[151] For example, CCC, *1-20*-0360 (Yates), https://documents.coastal.ca.gov/reports/2020/12/F8a/F8a-12-2020-report.pdf.
[152] CCC, 5-17-0017, Redhill, https://documents.coastal.ca.gov/reports/2017/11/th13a/th13a-11-2017-report.pdf.
[153] CCC, 6-20-0506, Messenger, 1/13/21, https://documents.coastal.ca.gov/reports/2021/1/W7e/w7e-1-2021-report.pdf. For a variation, see CCC, 5-19-0272 (3805 Seashore Drive, LLC); Yet another version is less direct, stating "[i]f any portion of the development at any time encroaches onto public property, the permittee shall either remove the encroaching portion of the development or apply to retain it. Any application to retain it must include proof of permission from the owner of the public property." CCC, TA-5-VEN-20-0023 (305 Ocean Front Walk Development, LLC).

Shifting Property Boundaries and Permit Intent: The boundary between public land (tidelands) and private land may shift with rising seas, the structure(s) may eventually be located on public trust lands, the development approval does not permit encroachment onto public trust land; any future encroachment must be removed unless the Coastal Commission determines that the encroachment is legally permissible pursuant to the Coastal Act and authorizes it to remain, and any future encroachment would also be subject to the State Lands Commission's (or other trustee agency's) leasing approval. The intent of this permit is to allow for the approved project to be constructed and used consistent with the terms and conditions of this permit for only as long as it remains

Figure 32. Differing Shorelines, SLR Projections and Conditions.

CosMos up to 9.75 ft SLR "erosion uncertainty".
"The applicant further agrees, on behalf of himself and all successors and assigns, that the landowner(s) shall remove the development authorized by this permit, including the residence, garage, foundations, permitted encroachments, and patio if (c) the development is no longer located on private property due to the migration of the public trust boundary;" 5-17-0792 (Dhawan Family Limited Partnership); 5-19-0405(Maxwell); 5-18-0651 (Diversified Holdings, LLC)

CosMos up to 200 cm SLR.
"In addition, the boundary between public tidelands and private land may shift with rising seas, the structure(s) may eventually be located on public trust lands, and the development approval does not permit encroachment onto public trust land; any future encroachment must be removed unless the Coastal Commission determines that the encroachment is legally permissible pursuant to the Coastal Act and authorizes it to remain, and any future encroachment would also be subject to the State Lands Commission's (or other trustee agency's) leasing approval." 5-19-0272 (3805 Seashore Drive, LLC)

CosMos up to 200 cm SLR.
"By acceptance of this permit, the applicant further agrees, on behalf of itself and all successors and assigns, that the landowner(s) shall remove the development authorized by this permit, including the residence, garage, foundations, and hardscape if: . . . (c) the development is no longer located on private property due to the migration of the public trust boundary; . . ." 5-17-0017 (Redhill) Sunset Beach

CoSMoS, *Id*. Note 21.

> *reasonably safe for occupancy and use without additional substantive measures beyond ordinary repair and/or maintenance to protect it from coastal hazards, and for only as long as the approved project remains on private property.*[154]

Yet another version uses both the risk disclosure condition and the no future seawall condition trigger language.[155] Going forward, the CCC should evaluate these various conditions as well as potential "rolling easement" formulations that might invoke third-party monitoring and enforcement functions.[156]

There are also instances where the CCC has not focused directly on whether an encroachment on tidelands is appropriate, deferring essentially to the CSLC leasing process. Such was the case in the recent staff recommendation for a private stairway repair permit at Seascape Shores in Solana Beach:

> *Lastly, the portion of the existing stairway proposed for repair is on sovereign lands subject to State Lands Commission jurisdiction. A General Lease (Lease No. PRC 8660.1) for recreational and protective structure use –including use of the existing beach access stairway– expired in February 2016. Since the lease has expired, Special Condition No. 3 requires the applicant to obtain a lease renewal authorizing continued use of the subject stairway on public trust lands, prior to issuance of this coastal development permit.*[157]

The CSLC has not yet reconsidered a lease, but has previously authorized 1,307 square feet of development encroachment on public tidelands, with an annual lease payment of $9,852 (Figure 33).[158]

In another recent case, the CCC acknowledged the impacts that a revetment at the Capistrano Shores Mobile Home Park may have on tidelands, but found that it could not directly address those impacts through conditions on a new mobile home because the revetment was not on land owned by the permittee. However, it did

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[154] CCC, A-4-VNT-18-0070 (Kaplan), Sept. 13, 2019, https://documents.coastal.ca.gov/reports/2019/9/F13c/F13c-9-2019-report.pdf.
[155] CCC, A-4-OXN-18-0053 (JREJ Mandalay Properties LLC), https://documents.coastal.ca.gov/reports/2019/3/Th15a/Th15a-3-2019-report.pdf.
[156] For detailed discussion, see Titus, Rolling Easements, *Id*.
[157] CCC, 6-20-0200 (Seascape Shores HOA, Solana Beach) (withdrawn), https://documents.coastal.ca.gov/reports/2021/2/W18b/W18b-2-2021-report.pdf.
[158] CSLC, Recreational and Protective Structure Use, Seascape Shores Homeowners Association, https://www.slc.ca.gov/Meeting_Summaries/2006_Documents/02-09-06/Items/020906C20.pdf; also, https://documents.coastal.ca.gov/reports/2005/2/F6b-2-2005.pdf; https://www.slc.ca.gov/Meeting_Summaries/2011_Documents/06-23-11/Complete_Items/C29.pdf.

require a condition to alert future owners of the coastal hazards on the site and of the fact that any future repair or enhancement of the revetment (which protects the new structure) might or might not be permitted by the CCC.[159] What is clear, though, is that sea level rise and the mean high tide line would eventually overtake the revetment, and the developments sitting behind it if it were allowed to retreat naturally (Figure 34).

Figure 33. Seascape Shores Tidelands Encroachment.

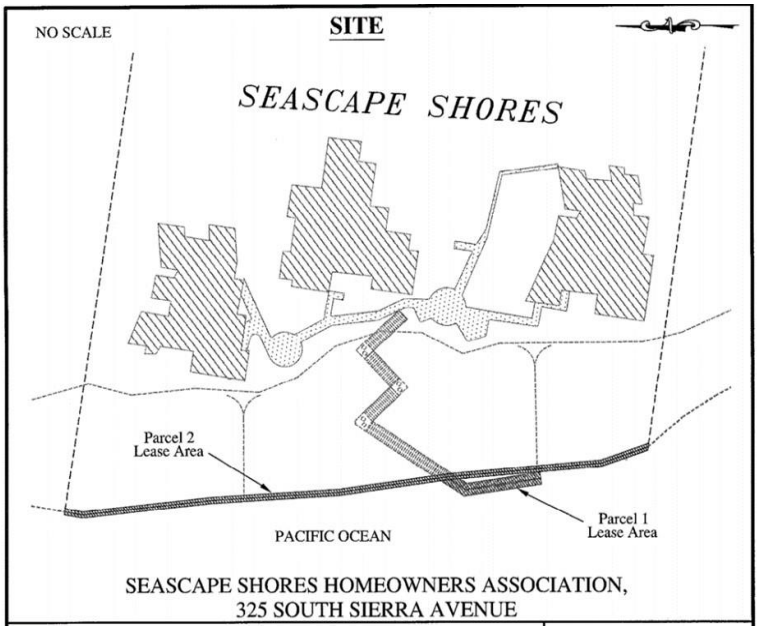

Figure 34. CosMoS (Id. Note 21) SLR Projections at Capistrano Shores, San Clemente.

[159] Application No. 5-20-0432 (Russell Family Trust, San Clemente) https://documents.coastal.ca.gov/reports/2021/5/W12c/W12c-5-2021-report.pdf.

IV. Conclusion

This report has discussed both the geophysical aspects of public tidelands and some of the legal, policy and management concerns raised by a consideration of the public trust doctrine in the face of inevitable sea level rise. Rising seas will challenge California's coastal management program like never before. Most fundamental, there will be increasing conflict between public and private interests as public tidelands make their way inexorably inland.

As stated at the outset, many of the questions raised in the report do not differ in their basic focus from longstanding concerns of the CCC and CSLC – concerns that are themselves rooted in the Coastal Act and the common law public trust doctrine. But sea level rise puts the historic tensions and conflicts between public and private rights and land uses along the shoreline in sharp relief. Sea level rise will continue to accelerate the impacts of development and structures on public tideland resources, including public access and recreation, shoreline ecology and the intrinsic beauty of the coast. Over the long run, the state faces catastrophic loss of public trust resources as beaches are squeezed between the ocean and hardened shorelines.

The CCC has a long tradition of seeking to protect the public's interest in tidelands, including by focusing on the fact that these lands are to be held in trust by the state for the public. It also has a long history of coordination with the CSLC, identifying and protecting tidelands, resources and uses. The CCC can build on this history and practice to strengthen its focus on tidelands and the protection of coastal resources in light of sea level rise. The recommendations of this report convey a precautionary approach, based on tideland science and the public trust doctrine, that liberally construes the Coastal Act's mandate to protect public tideland resources. In particular, the CCC should reaffirm its duty to protect the public trust, and shift its planning and regulatory focus from the identification of a *static* mean high tide line to a *dynamic* framing of a tideland "zone of concern." It should also carefully consider its current policy interpretations concerning shoreline protection, and directly address the inevitable conflict between attempts to fix the shoreline with protective works, and the public rights inherent in tidelands.

There are no doubt many more ideas and concerns to be identified and addressed beyond those in this report. In addition, many of the recommendations herein will require increased investment by the state in the capacity of the CCC and the CSLC to meet their duties to protect the public trust. It will be incumbent on the legislature to meet this need for public investment to protect public tidelands. Anticipating this need may also avert unnecessary conflict as the tensions between public and private interests along the shoreline increase with sea level rise.

Figure 35. Managing Public and Private Space on the Beach, Santa Cruz County.