

# California Coastal Commission and California State Lands Commission Coordination Project

## Common Core Materials: Key Definitions

### Background and Shared Definitions in Support of Public Trust Coordination

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## California Coastal Commission and California State Lands Commission Background and Shared Definitions in Support of Public Trust Coordination

The California Coastal Commission (CCC) and the California State Lands Commission (CSLC) each have responsibilities to protect and manage California’s coastline. While these responsibilities are not the same, an overlap in jurisdictions, agency values, and new and emerging challenges create an opportunity for CCC and CSLC to coordinate efforts to be more efficient and effective. To solidify these intentions, CCC and CSLC have entered into a Memorandum of Understanding (MOU) to facilitate coordination and exchange of information between the two agencies. This document of key definitions related to the public trust, its location, uses and resources, represents one of the first of several background documents that will make-up a set of shared “common core” materials co-developed by the two agencies to support the coordination efforts detailed in the MOU.

### I. Jurisdictions/Responsibilities

#### **CCC Jurisdiction:**

The California legislature permanently established the California Coastal Commission through the California Coastal Act of 1976 to ensure continued state coastal planning and management.<sup>1</sup> The legislature designated CCC as the state coastal zone planning and management agency under the Federal Coastal Zone Management Act of 1972 and tasked CCC with implementing the California Coastal Act. CCC’s jurisdiction is primarily the “coastal zone” which spans the California coastline from the Oregon border to the Mexican border. Mapped specifically by the California Legislature, the coastal zone varies from several hundred feet inland of the **Mean High Tide Line**<sup>2</sup> in highly urbanized areas, to up to five miles inland in certain rural areas with environmental or recreational significance (e.g., the Santa Monica Mountains). The coastal zone extends seaward to the state’s outer limit of jurisdiction (3 nautical miles seaward of the coastline – defined as the line of **Ordinary Low Water**).<sup>3</sup> The Commission’s jurisdiction in the coastal zone does not include areas under the jurisdiction of the San Francisco Bay Conservation and Development Commission.<sup>4</sup>

#### **CSLC Jurisdiction:**

In 1850, when California became a state, it received all of the rights, sovereignty, and jurisdiction that had been granted to previously admitted states by nature of the equal-footing doctrine.<sup>5</sup> One such right that California acquired at statehood was absolute and sovereign title to the beds of tidally influenced waters and navigable waters within its boundaries both inland

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<sup>1</sup> Public Resources Code section 3004, subdivision (b).

<sup>2</sup> Bolded terms are defined in Section III. Key Definitions.

<sup>3</sup> Public Resources Code section 30103; 43 U.S.C. § 1301(a)(2); § 1301(c).

<sup>4</sup> Public Resources Code section 30103.

<sup>5</sup> *Oregon v. Corvallis Sand and Gravel* (1977) 429 U.S. 363, 370.

and along the coast.<sup>6</sup> Through caselaw and federal statutes, it has been established that this includes the coast of California from the **Ordinary High Water Mark** to three nautical miles offshore from the coastline (defined as the line of **Ordinary Low Water**).<sup>7</sup> Except in the few instances where the lands were transferred out of the Trust, these sovereign lands are subject to the **Public Trust** and are held in trust by the state for those purposes.<sup>8</sup>

The boundary between State and private ownership along tidal waterways is generally the **Ordinary High Water Mark**.<sup>9</sup> In general, when a tidal waterway is unaffected by fill or artificial **Accretion**, the location of the **Ordinary High Water Mark** is the **Mean High Tide Line**. Thus, the boundary may move over time as water levels change. In some situations, the boundary between State and private ownership may be fixed by a court decision<sup>10</sup> or a land exchange agreement.<sup>11</sup>

CSLC is the primary land manager for California's sovereign lands subject to the Public Trust. Over the years the legislature has issued over 300 statutes granting certain sovereign lands to more than 80 local entities. Those lands, sovereign in character and commonly referred to as "**Granted Lands**" remain impressed with the **Public Trust** but are managed by the public agency holding the grant.

## II. Climate Change and Sea Level Rise

The CCC and CSLC's planning, permitting, and leasing decisions converge at the **Mean High Tide Line**. The ambulatory nature of this **Public Trust** boundary, coupled with California's rapidly changing coastline in the face of sea level rise and other climate change impacts, raises new and emerging challenges for the CCC and CSLC and their shared responsibility to protect California's **Public Trust Lands, Resources, and Uses**. Sea level rise is causing the **Public Trust** boundary to migrate landward, and thus, what used to be private development may encroach on **Public Trust Lands**. When this happens, the development must receive permitting approval from the CCC and leasing approval from the CSLC, and if not approved, the development must be removed. These and similar fact patterns raise a host of jurisdictional questions, data and information needs, and policy challenges, all of which require significant coordination between CCC and CSLC so that they are resolved in a way that protects **Public Trust Resources and Uses**.

### a. Common Goals and Objectives

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<sup>6</sup> *Oregon v. Corvallis Sand and Gravel* (1977) 429 U.S. 363, 372.

<sup>7</sup> 43 U.S.C. § 1301(a)(2); § 1301(c).

<sup>8</sup> *People v. California Fish Company* (1913) 166 Cal. 576.

<sup>9</sup> California Civil Code section 830

<sup>10</sup> For example in *Fogerty v. State of California*, the court determined a boundary line around Lake Tahoe at the elevation of 6228.75 feet above sea level for the Public Trust easement. *Fogerty v. State of California* (1986) 187 Cal.App.3d 224, 241.

<sup>11</sup> For example see: [https://www.slc.ca.gov/Meeting\\_Summaries/2016\\_Documents/04-05-16/Items\\_and\\_Exhibits/C56.pdf](https://www.slc.ca.gov/Meeting_Summaries/2016_Documents/04-05-16/Items_and_Exhibits/C56.pdf)

CCC and CSLC have entered into a MOU to facilitate coordination related to their shared jurisdiction. The MOU will assist the agencies in sharing information to ensure that relevant processes are both streamlined and fully informed. The MOU also anticipates regular communication on common issues including climate change and sea level rise and on how those issues impact applications for coastal development.

### III. Key Definitions and Examples

**Accretion.** Land formed by imperceptible degrees upon the bank of a river, stream, lake, or tidewater, either by accumulation of material or recession of the water.<sup>12</sup> California case law finds accretions attributable to natural processes is awarded to the upland owner, whereas accretions attributable to artificial or human induced changes do not.<sup>13</sup>

**Example:** Longshore currents deposit sediment on sandy beaches over time.

#### **Datum.**

**datum (horizontal).**<sup>14</sup> A horizontal datum is a reference that allows coordinates (e.g., latitudes and longitudes) to be ascribed to points on the earth. The current horizontal datum for the United States is the North American Datum of 1983 (NAD83).

**datum (vertical).**<sup>15</sup> A vertical datum is a surface of zero elevation to which heights of various points are referenced. Traditionally, vertical datums have used classical survey methods to measure height differences (i.e., geodetic leveling) to best fit the surface of the earth. The current vertical datum for the contiguous United States and Alaska is the North American Vertical Datum of 1988 (NAVD88). Hawai'i, Puerto Rico and Pacific Island territories have separately defined datums.

**North American Vertical Datum of 1988 (NAVD88).**<sup>16</sup> A fixed reference for elevations determined by geodetic leveling. The datum was derived from a general adjustment of the first-order terrestrial leveling nets of the United States, Canada, and Mexico. In the adjustment, only the height of the primary tidal bench mark, referenced to the International Great Lakes Datum of 1985 (IGLD 85) local mean sea level height value, at

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<sup>12</sup> Brown, *Boundary Control and Legal Principles*(5<sup>th</sup> ed. 2003)

<sup>13</sup> *Carpenter v. Santa Monica* (1944) 63 Cal. App. 2d 772, 794. Examples identified include construction of a seawall or jetty.

<sup>14</sup> *National Geodetic Survey*. NOAA, July 12, 2018. <https://www.ngs.noaa.gov/datums/vertical/index.shtml>. Accessed Mar. 27, 2019.

<sup>15</sup> *National Geodetic Survey*. NOAA, July 12, 2018. <https://www.ngs.noaa.gov/datums/vertical/index.shtml>. Accessed Mar. 27, 2019.

<sup>16</sup> *Tides and Currents*. NOAA, Aug. 8, 2018. [https://tidesandcurrents.noaa.gov/datum\\_options.html](https://tidesandcurrents.noaa.gov/datum_options.html). Accessed Mar. 27, 2019.

Father Point, Rimouski, Quebec, Canada was held fixed, thus providing minimum constraint. NAVD 88 and IGLD 85 are identical. However, NAVD 88 bench mark values are given in Helmert orthometric height units while IGLD 85 values are in dynamic heights. See International Great Lakes Datum of 1985, National Geodetic Vertical Datum of 1929, and geopotential difference. NAVD 88 should not be used as Mean Sea Level.

**datum (tidal).**<sup>17</sup> In general, a datum is a base elevation used as a reference from which to reckon heights or depths. A tidal datum is a standard elevation defined by a certain phase of the tide. Tidal datums are used as references to measure local water levels and should not be extended into areas having differing oceanographic characteristics without substantiating measurements. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. Tidal datums are also the basis for establishing privately owned land, state owned land, territorial sea, exclusive economic zone, and high seas boundaries.

**Erosion.** The wearing away of land by the action of natural forces. On a beach, the carrying away of beach material by wave action, tidal currents or wind.<sup>18</sup>

**Meander Lines.** The traverse run at the line of **Mean High Water** of a permanent natural body of water. In original surveys, meander lines are not run as boundary lines. They are run to generally define the sinuosity (i.e., curviness) of the bank of shore line and for determining the quantity of land in the fractional sections remaining after segregation of the water area.<sup>19</sup>

**Mean High Tide Line or Mean High Water Line (MHTL).** The intersection of the tidal plane of **Mean High Water** with the shore.<sup>20</sup> The Mean High Tide Line represents the physical location of the **Ordinary High Water Mark**, except in certain cases.<sup>21</sup> Due to the dynamic nature of the beach, the Mean High Tide Line is not a fixed line, but one that moves over time as the beach face changes, often necessitating multiple surveys of the beach to determine the ambulatory range for the **Mean High Water** intersection.

**Mean High Water (MHW).** The average height of all high waters that occur during the National Tidal Datum Epoch, a 19-year period.<sup>22</sup>

**National Tidal Datum Epoch.** The specific 19-year period adopted by the National Ocean Service as the official time segment over which tide observations are taken and reduced to

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<sup>17</sup> *Tides and Currents*. NOAA, Aug. 8, 2018. [https://tidesandcurrents.noaa.gov/datum\\_options.html](https://tidesandcurrents.noaa.gov/datum_options.html). Accessed Mar. 27, 2019.

<sup>18</sup> U.S. Army Corps of Engineers, (1984), Shore Protection Manual Appendix A: Glossary of Terms, pp. A-29.

<sup>19</sup> U.S. Department of the Interior Bureau of Land Management, Glossaries of BLM Surveying and Mapping Terms (1980), Page 39.

<sup>20</sup> Shalowitz, Shore and Sea Boundaries (1964), Vol. 2, Page 581.

<sup>21</sup> *Borax Consolidated, Ltd. v. Los Angeles*, (1935) 296 U.S. 10.

<sup>22</sup> Shalowitz, Shore and Sea Boundaries (1964), Vol. 2, Page 581.

obtain mean values (e.g., mean higher high water) for tidal datums. The present National Tidal Datum Epoch is 1983 through 2001 and is actively considered for revision every 20-25 years.<sup>23</sup>

**Neap Tides.** The tides that rise and fall least, and thus have a lesser range, occur at about the time of the moon's first and third quarters and are known as "neap tides." These tides are produced when the sun and moon are opposite each other.<sup>24</sup>

**Ordinary High Water Mark (OHWM):** The Ordinary High Water Mark is a legal concept based in English common law and is the line of high water as determined by the course of the tides.<sup>25</sup> The Ordinary High Water Mark is the boundary line for sovereign state lands on tidal waterways and the boundary line for the state's **public trust easement** on non-tidal navigable waterways.<sup>26</sup> This ambulatory boundary line is indicated at a given place and time by the **Mean High Tide Line**, except in certain cases.<sup>27</sup>

**Ordinary Low Water Mark (OLWM).** The seaward boundary of **tidelands** and the landward boundary of **submerged lands**, which is typically shown by the mean-low line.<sup>28</sup>

**Patent.** A document by which the United State conveys, to those entitled thereto, legal title to some portion of public lands. See PATENT, TRUST; PATENT, CURATIVE; FEE SIMPLE and DEED in the Glossary of BLM Surveying and Mapping Terms, Cadastral Survey Training Staff Denver Service Center 1980 for more information.

**Public Trust Doctrine.** A legal principle traced back to the Roman emperor Justinian and later rooted in English common law whereby title to lands under tide waters is vested in the Sovereign "as a public trust, to subserve and protect the public right to use them as common highways for commerce, trade and intercourse."<sup>29</sup> Now established in U.S. common law, each state holds these lands "in trust for the people of the State that they may enjoy the navigation of the waters, carry on commerce over them, and have the liberty of fishing therein freed from the obstruction or interference of private parties."<sup>30</sup> The State holds its **Sovereign Lands** in Public Trust for the benefit of the people. See **Public Trust (Resources, Uses, etc.)** for description on the application of the Public Trust Doctrine.

**Public Trust Easement.** A property interest the public enjoys over **Sovereign Lands** for public purposes and uses.<sup>31</sup> "Public trust easements are traditionally defined in terms of navigation,

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<sup>23</sup> NOAA, Tidal Datums, [https://tidesandcurrents.noaa.gov/datum\\_options.html](https://tidesandcurrents.noaa.gov/datum_options.html) (last visited December 12, 2018).

<sup>24</sup> Flushman, *Water Boundaries: Demystifying Land Boundaries Adjacent to Tidal or Navigable Waters*, (2002).

<sup>25</sup> *Borax Consolidated v. City of Los Angeles* (1935) 296 U.S. 10, 22.

<sup>26</sup> Civil Code section 830; *California v. Lyon* (1981) 29 Cal.3d 210, 226-233.

<sup>27</sup> *Borax Consolidated v. City of Los Angeles* (1935) 296 U.S. 10, 26.

<sup>28</sup> Flushman, *Water Boundaries: Demystifying Land Boundaries Adjacent to Tidal or Navigable Waters*, (2002) p. 123; *City of Long Beach v. Mansell* (1970) 3 Cal.3d. 462, 478.

<sup>29</sup> *Illinois Central Railroad Co. v. Illinois* (1892) 146 U.S. 452, 458.

<sup>30</sup> *Illinois Central Railroad Co. v. Illinois* (1892) 146 U.S. 452.

<sup>31</sup> Flushman, *Water Boundaries: Demystifying Land Boundaries Adjacent to Tidal or Navigable Waters*, (2002) p. 24.

commerce and fisheries. They have been held to include the right to fish, hunt, bathe, swim, to use for boating and general recreation purposes the navigable waters of the state, and to use the bottom of the navigable waters for anchoring, standing or other purposes...The public uses to which [sovereign lands] are subject are sufficiently flexible to encompass changing public needs.”<sup>32</sup> See the **Public Trust (Resources, Uses, etc.)** definition for more description of public purposes and uses.

**Public Trust (Resources, Uses, etc.)**. Each state defines its own public trust boundary and uses. The Public Trust in California has evolved and expanded over time to encompass changing public needs. California caselaw has established that in addition to the traditional “triad” of uses (navigation, commerce, fishing), it also includes the right to swim, boat, hunt, bathe, access, and engage in other forms of water recreation, as well as to use the bottom for anchoring or standing. Administering the public trust is “an affirmative duty of the state to protect the people’s common heritage of streams, lakes, marshlands and tidelands.”<sup>33</sup> This duty extends to preserving lands in their natural state in order to protect scenic and wildlife habitat values,<sup>34</sup> and has included restrictions on water diversions that may impact navigable waterways such as streams and lakes.<sup>35</sup> It has also been applied to groundwater extractions that adversely affect public trust uses of a navigable waterway.<sup>36</sup> The authority and obligations of the state are ongoing, requiring “the power and duty to exercise *continued supervision* over the trust.”<sup>37</sup>

**Public Trust Lands**. Lands impressed with the public trust. Applies to **Tidelands**, navigable<sup>38</sup> lakes, and navigable streams.

**Rancho Lands**. The Treaty of Guadalupe Hidalgo established the rights of Mexicans to land title within the conquered territories. Over 800 grants of land were made. Burden of proof was placed on individuals seeking confirmation of private land claims.

**Reliction**. A legal term for the physical process where land once covered with water becomes gradually exposed or uncovered by the imperceptible recession of water, often when the water level lowers.<sup>39</sup>

**Example:** Evaporation of water from a lake due to drought exposes newly dry land.

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<sup>32</sup> *Marks v. Whitney* (1971) 6 Cal.3d at 259-260.

<sup>33</sup> *National Audubon Society v. Superior Court* (1983) 33 Cal. 3d 419.

<sup>34</sup> *Marks v. Whitney* (1971) 6 Cal.3d. 251, 259.

<sup>35</sup> *National Audubon Society v. Superior Court* (1983) 33 Cal. 3d 419.

<sup>36</sup> *Environmental Law Foundation et al. v. State Water Resources Control Board* (2018) 26 Cal.App.5th 844.

<sup>37</sup> *National Audubon Society v. Superior Court* (1983) 33 Cal. 3d 437 (emphasis added).

<sup>38</sup> For more information on navigable waterways, see CSLC, *A Legal Guide to the Public’s Right to Access and Use California’s Navigable Waters*, (2017) pp. 29-38. <https://www.slc.ca.gov/wp-content/uploads/2018/11/2017-PublicAccessGuide.pdf>.

<sup>39</sup> See CSLC, *A Legal Guide to the Public’s Right to Access and Use California’s Navigable Waters*, (2017) pp. 29-38. <https://www.slc.ca.gov/wp-content/uploads/2018/11/2017-PublicAccessGuide.pdf>.

**Submerged Lands.** Lands that reach from the **Ordinary Low Water Mark** out to the state-federal fixed boundary three miles offshore.

**Submergence.** A legal term for the physical process of the gradual and imperceptible disappearance of land under water and the formation of a navigable water body over it (the reverse of **Reliction**).<sup>40</sup>

**Example:** Rising sea levels or land subsidence that submerges wetlands.

**Swamp and Overflowed Lands.** Swamplands are lands requiring drainage to make them fit for cultivation. Overflowed Lands are lands subject to periodic overflow and flooding and require levees to protect them from water and to make them tillable. Legal title did not pass to the State for these types of lands until they were identified by survey and approved by the Federal Government. The approved list was then sent back to the State and upon request by the Governor, a **Patent** was issued. The California legislature authorized the Surveyor General to sell Swamp and Overflowed Lands. However, historically, some sovereign lands may have been miscategorized as Swamp and Overflowed Lands and inappropriately sold. As such, the validity of a historic sale of Swamp and Overflowed Land should always be investigated to ensure that the sale did not improperly include sovereign lands.

**Tidelands.** Lands covered and uncovered by the flow and ebb of the tides or lands situated between the **Ordinary High Water** and **Ordinary Low Water** lines of tidal waters.

**(Granted) Tidelands and Submerged lands.** The legislature has granted sovereign Public Trust lands to over 80 local public entities, known as grantees or local trustees. The granted lands must be managed in trust for the people of California. The specific uses permitted in each granting statute vary. Some trust grants authorize the construction of ports, harbors, airports, wharves, docks, piers, and other structures necessary to facilitate commerce and navigation, while others allow only visitor-serving recreational uses or open space. All grants reserve to the people the right to fish in the waters over the lands and the right to convenient access to those waters for that purpose. Local trustees must manage granted lands in trust pursuant to the common law **Public Trust Doctrine**, the specific granting statute(s), the California Constitution, and other law governing the trust and the trustee's fiduciary duties. While granted lands and assets are managed locally, CSLC has residual and review authority over these granted lands.

**Historic Tideland Patents.** A limited number of State tidelands sales occurred between 1850-1909 (77,000 acres +/-) and were primarily in San Francisco Bay. Except in very rare circumstances where tidelands were granted to private parties free of the public trust, sold tidelands are subject to the **Public Trust Easement**, requiring that land be

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<sup>40</sup> Flushman, *Water Boundaries: Demystifying Land Boundaries Adjacent to Tidal or Navigable Waters*, (2002) p. 93

used in a manner consistent with the public trust. In 1909 the California Legislature withdrew from all tidelands sales (Ch. 444, Stats. 1909).

**(Ungranted or Sovereign) Tidelands and Submerged Lands.** Tidelands owned by the State. Most tidelands are ungranted lands where title was derived by virtue of California's sovereignty. These lands are held in trust for the people of California. Ungranted or Sovereign Tidelands do not include manmade channels built after 1850.

#### IV. Mean High Tide Line Surveys

A **Mean High Tide Line** survey is the technical procedure conducted to determine the location of the **Mean High Tide Line**. The survey must be conducted by a licensed surveyor. To determine the elevation of the **Mean High Tide Line** on the shore one should use either the published **Mean High Water** elevation from a National Oceanic and Atmospheric Agency published tide station closest to the project or a linear interpolation between two adjacent tide stations, depending on the most appropriate approach in light of tidal regime characteristics. The current **tidal datum** should be used (Mean High Water presently using vertical datum NAVD88). The most current **National Tidal Datum Epoch** should also be used (Presently 1983-2001 epoch).

Local, published control benchmarks should to be used in determining elevations at the survey site. Control benchmarks are the monuments on the ground that have been precisely located and referenced to the local tide stations and **vertical datum** used to calculate the Mean High Tide elevation. Elevation **datum** must match that of the **tidal datum** (NAVD88).

When locating the **Mean High Tide Line**, the appropriate stationing intervals should be used (typically 50-100 foot stations).

For questions relating to **Mean High Tide Line** surveys, please contact either a licensed surveyor or the CSLC, Boundary Division Lead Surveyor: [Jim.Koepke@slc.ca.gov](mailto:Jim.Koepke@slc.ca.gov)

#### V. Additional Information/Resources

Staff is encouraged to look to these for additional information.

a. Water Boundaries:

- A. [http://www.slc.ca.gov/Info/Water\\_Boundaries.html](http://www.slc.ca.gov/Info/Water_Boundaries.html)
- B. <https://nauticalcharts.noaa.gov/publications/shore-and-sea-boundaries.html>

b. Public Trust:

- A. <https://oceansolutions.stanford.edu/publications/public-trust-consensus-statement>
- B. <https://www.slc.ca.gov/public-engagement/#pubtrust>

VI. Relevant Caselaw

Caselaw on the extent and scope of the state’s affirmative duty over public trust lands, resources and uses continues to evolve. The following fundamental California public trust cases are particularly relevant to the terms defined within this document.

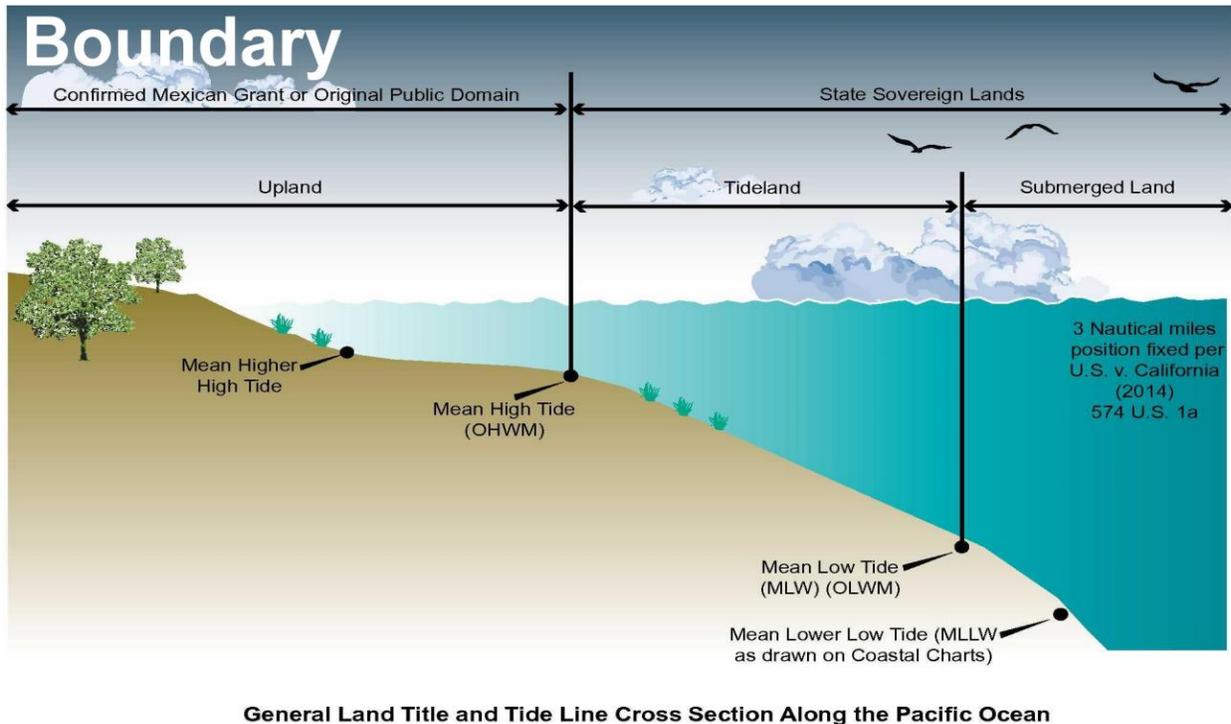
<b>Determining boundaries for Public Trust Lands</b>	
<i>People v. California Fish Co.</i> (1913) 166 Cal. 576.	Discusses state’s ability to sell <b>Tidelands</b> that have been cut off from navigable waters. Notes that unless the legislature clearly states the intent to remove the <b>Public Trust Easement</b> from the lands, any sale of such land will be subject to the <b>Public Trust Easement</b> . Discusses constitutional limitations for selling <b>Tidelands</b> within 2 miles of an incorporated city.
<i>City of Long Beach v. Mansell</i> (1970) 3 C3d 462.	Discusses constitutional limitations for selling <b>Tidelands</b> within 2 miles of an incorporated city. Introduces narrow application of the Doctrine of Estoppel for some historic Tideland sales within cities.
<i>State of California v. Superior Court</i> (Lyon) (1981) 29 C3d 210.	Establishes that on nontidal navigable waters, private fee ownership extends to the low water mark but is subject to a <b>Public Trust Easement</b> up to the <b>Ordinary High Water Mark</b> . Civil Code section 830.
<i>State of California v. Superior Court</i> (Fogerty) (1981) 29 C3d 240.	Limits use of Doctrine of Estoppel against the state when it harms a strong public policy. Discusses use of last natural level of Lake Tahoe vs. current level of Lake Tahoe for determining the boundary of the state’s interests.
<i>State of California ex rel. State Lands Commission v. Superior Court</i> (Lovelace) (1995) 11 C4th 50.	Discusses California’s artificial <b>Accretion</b> rule, where land that artificially accretes along navigable waterways remains with the state.
<i>Summa Corporation v. California State Lands Commission</i> (1984) 466 U.S. 198.	Establishes that California cannot assert a <b>Public Trust Easement</b> , belatedly, over lands that had been federally <b>Patented</b> to a private party and confirmed through a <b>Patent</b> proceeding without any mention of the easement.
<i>Lechuza Villas West v. California Coastal Commission</i> (1997) 60 Cal.App.4th 218.	Reinforces that the boundary line is ambulatory.

<b>Public Trust Definitions and Responsibilities</b>	
<i>National Audubon Society v. Superior Court</i> (1983) 33 C3d 419.	Notes that the state has an ongoing duty to take into account the <b>Public Trust</b> when deciding whether to allocate water rights. Expands upon <i>Marks v. Whitney</i> by noting that scenic vistas, air purity, and habitat align with the purposes of the <b>Public Trust</b> .
<i>Carstens v. California Coastal Commission</i> (1985) 182 Cal.App.3d 277.	Discusses Coastal Commission’s duty to consider and balance the various uses of tidelands under the Public Trust Doctrine
<b>Defining acceptable uses on Public Trust lands</b>	
<i>Marks v. Whitney</i> (1971) 6 C3d 251.	Notes that the <b>Public Trust Doctrine</b> is flexible to adapt to changing public needs. Provides that preservation of habitat and open space can be public uses under the <b>Public Trust Doctrine</b> .
<i>San Francisco Baykeeper v. California State Lands Commission</i> (2015) 242 Cal.App.4th 202.	Discusses California State Lands Commission’s duties to take the public trust into account when making a decision about the management and use of trust property and to consider whether a private use of trust property constitutes a permissible use of that property. Also discusses what types of activities constitute public trust uses.
<i>Environmental Law Foundation et al. v. State Water Resources Control Board</i> (2018) 26 Cal.App.5th 844.	Finds that the <b>Public Trust Doctrine</b> was not displaced by California’s Sustainable Groundwater Management Act when it was enacted in 2014.

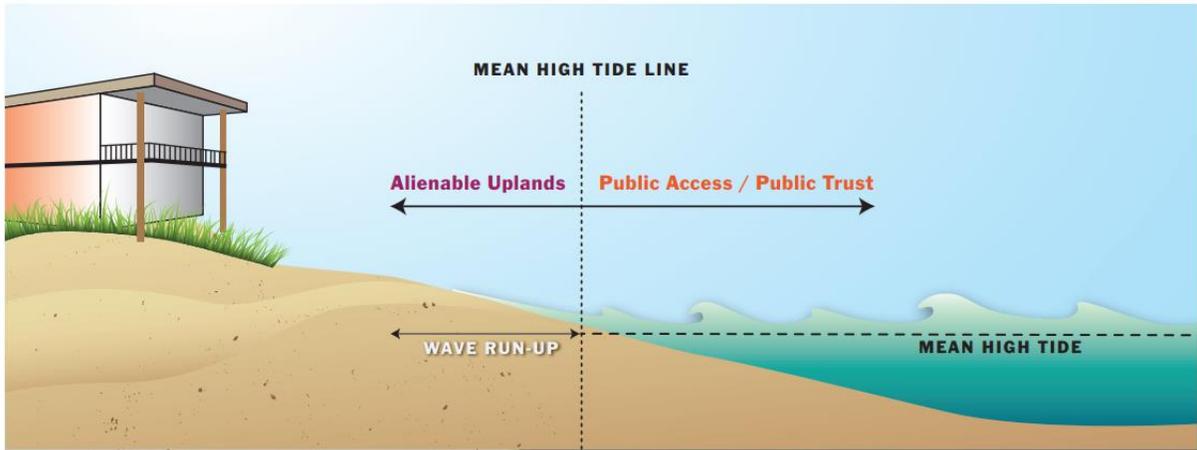
## VII. Visual Aids

The following selection of visual aids are included here to help illustrate many of the previous terms and highlight how in many cases individual terms interrelate. Although each visual aid is taken from a different source and addresses a specific issue area (e.g., water boundaries, tidal datums, etc.), they are provided to help explain the overlapping and complex terms and physical processes related to public trust.

### *Water Boundaries*

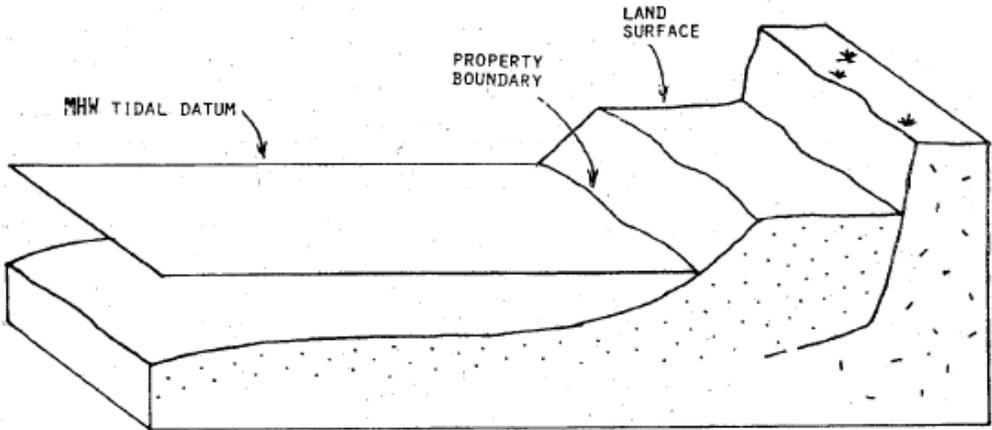


Source: CSLC



**FIGURE 1** Important coastal boundaries. The mean high water line, or mean high tide line, is the boundary between public tidelands and uplands in California.

Source: Center for Ocean Solutions. *The Public Trust Doctrine: A Guiding Principle for Governing California's Coast Under Climate Change* (2017), p.17.



Source: Lesley Ewing (CCC). The Mean High Tide Line is the Intersection of the Mean High Tide Elevation with the land. It does not include the influence of waves.

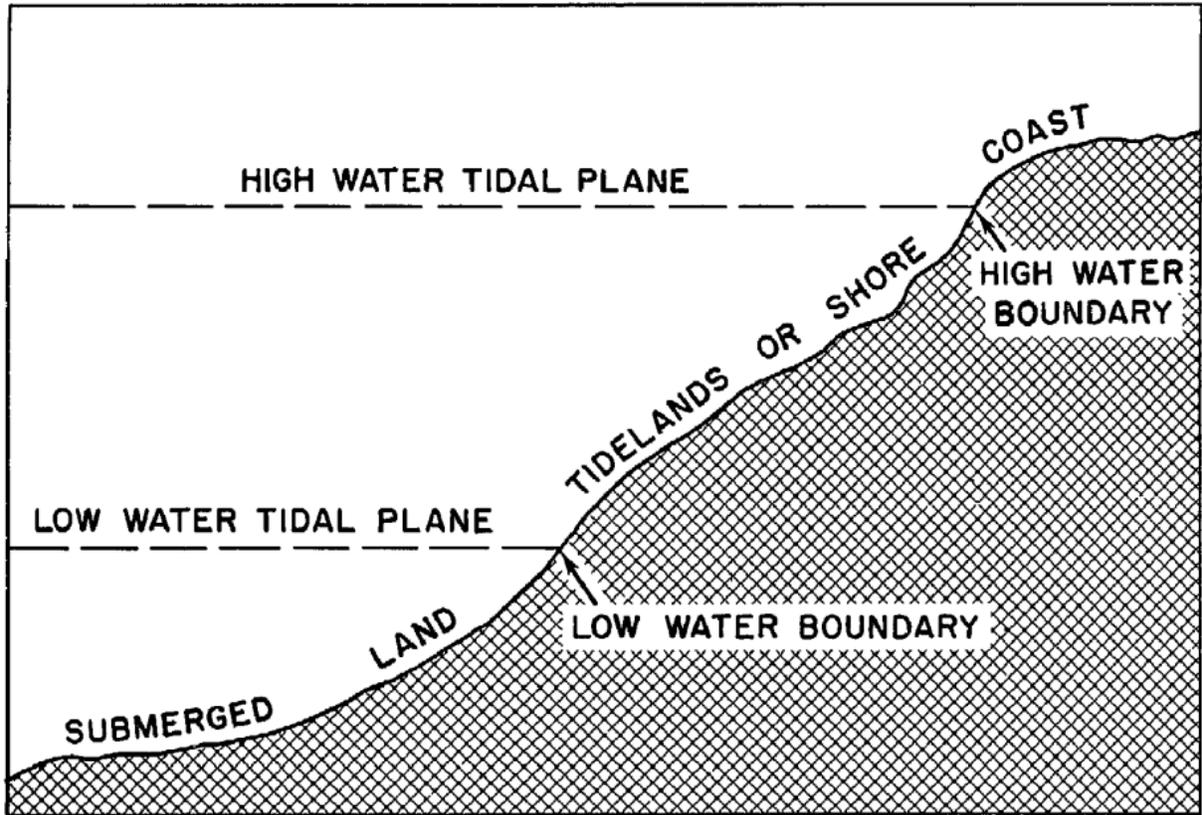
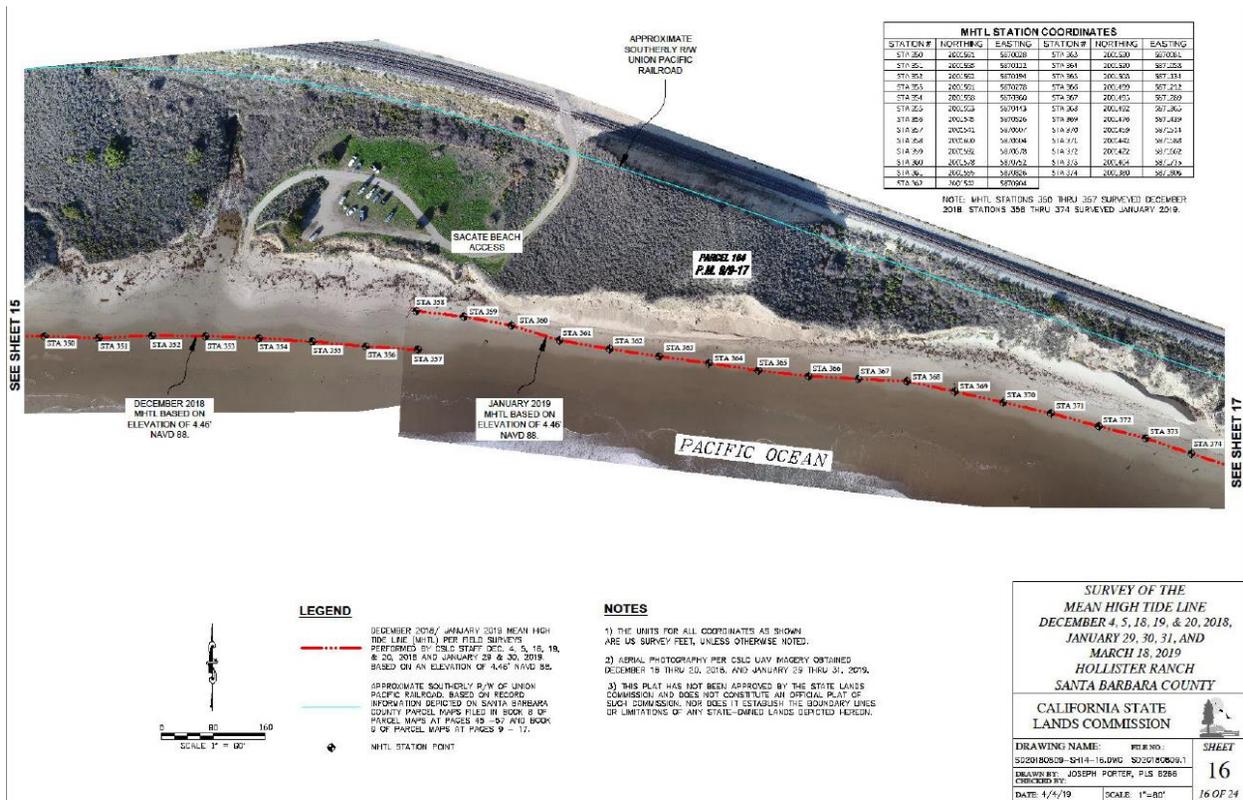


FIGURE 20.—The intersection of the tidal plane with the shore defines the tidal boundary.

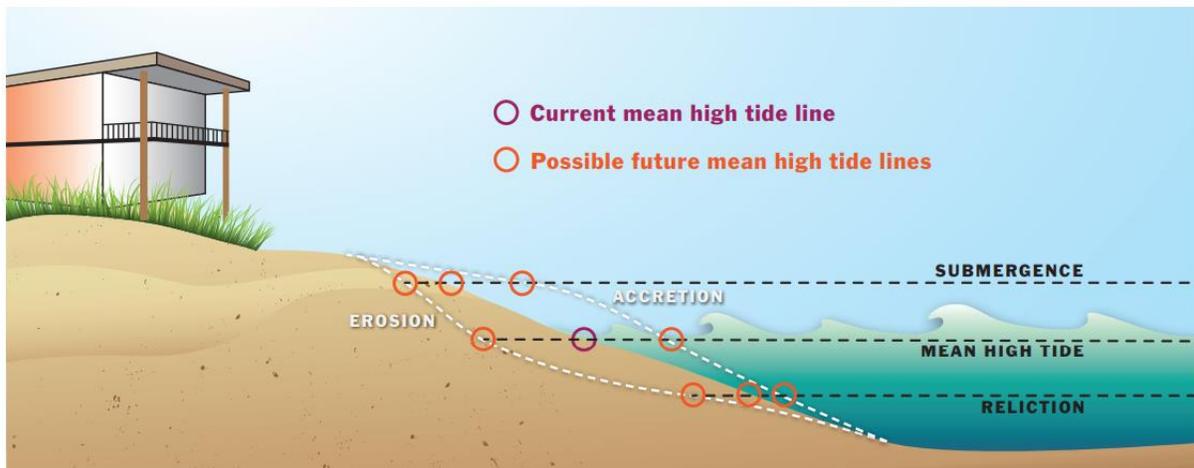
Source: A. Shallowitz. *Shore and Sea Boundaries: With Special Reference to the Interpretation and Use of Coast and Geodetic Survey Data Volume 1* (1962), p. 90.

## Ambulatory Mean High Tide Line:



CS 513

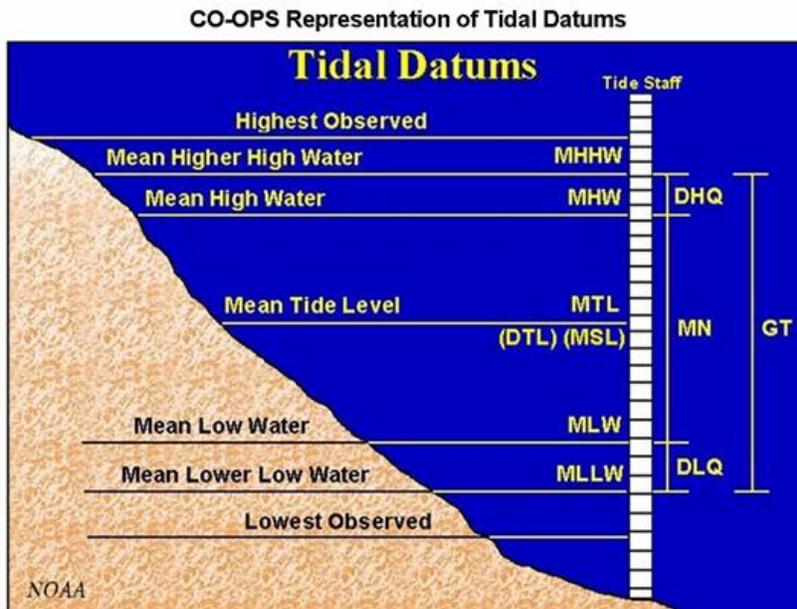
Source: CSLC. The figure demonstrates the ambulatory nature of the Mean High Tide Line based on the status of the shoreline at any given time of year. In this case, the image shows a section of the Hollister Ranch shoreline surveyed in December 2018 and January 2019, demonstrating a shift landward of the MHTL in just one month's time.



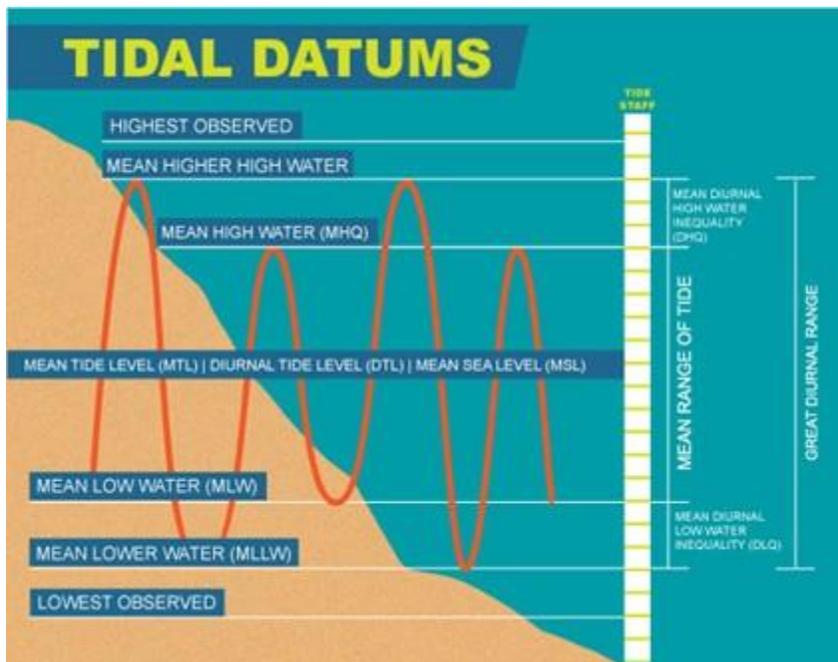
**FIGURE 2** Diagram of four dynamic processes and how they may change the location of the mean high tide line.

Source: Center for Ocean Solutions. *The Public Trust Doctrine: A Guiding Principle for Governing California's Coast Under Climate Change* (2017), p.18. Note the image shows both the ambulatory nature of the Mean High Tide Line with the current tidal epoch as well as the shift that might occur as the Mean High Tide elevation changes with sea level rise.

Tidal Datums:



Source: NOAA Tides and Currents, Tidal Datums Coastal Flooding Terminology

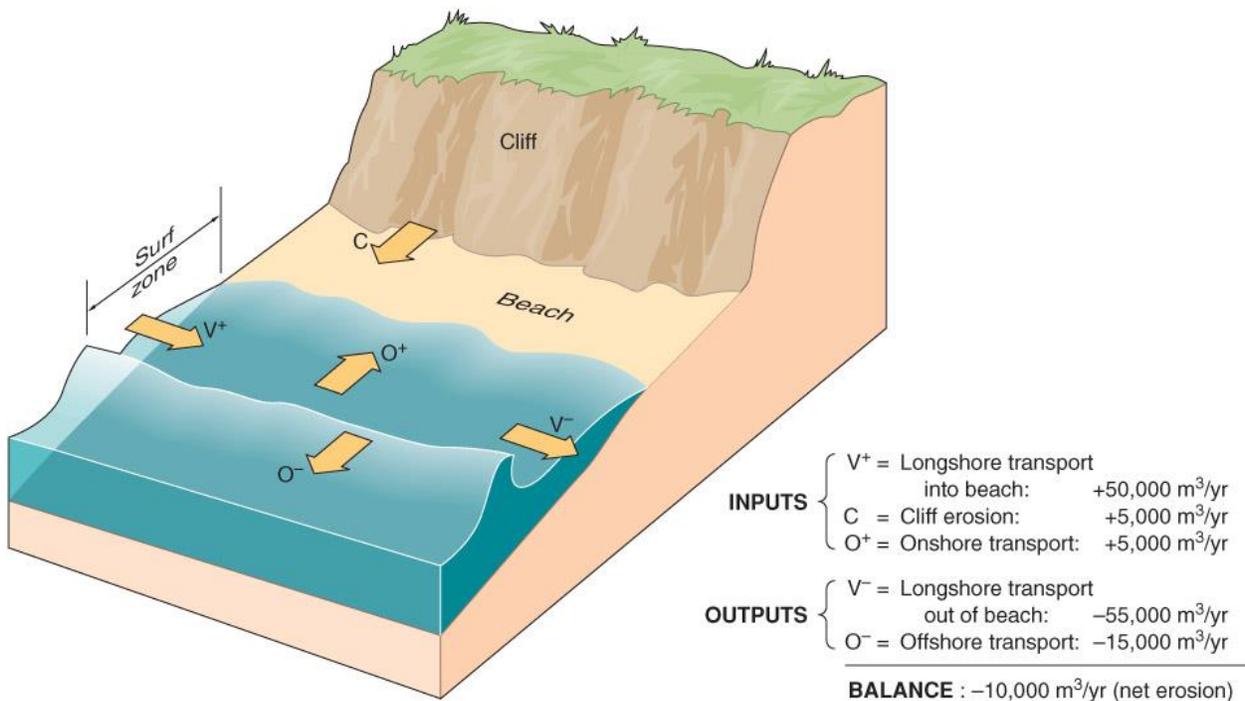


Source: NOAA Center for Operational Oceanographic Products and Services

## Shoreline Dynamics and Sand Budgets

<u>INPUTS</u>	+	<u>OUTPUTS</u>	=	<u>BALANCE</u>
Longshore transport into beach		Longshore transport out of beach		Accretion
River supply		Offshore transport		Erosion
Cliff erosion		Wind transportation into dunes		Steady state
Onshore transport				

(a) PRINCIPAL COMPONENTS OF A SAND BUDGET



(b) HYPOTHETICAL SAND BUDGET

Source: Florida International University. The sand budget is the balance between sediment added to and sediment eroded from the beach. In this hypothetical example, sand inputs are less than sand outputs, resulting in acute erosion of the beach.