

## Application of Land Use Practices and Tools to Prepare for and Adapt to Climate Change\*

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### Introduction

There are many land use practices and tools that local governments can use to prepare for and adapt to sea level rise. This guide provides: 1) a brief **Glossary (pages 2-6)** of relevant land use practices and tools that local governments can use to adapt to sea level rise and associated impacts; 2) descriptions of **Adaptation in Action: Examples from the Field (pages 7-26)**, including how these land use practices and tools currently are being put into practice in California; and 3) a list of **Resources (page 27)** including pertinent reports on additional land use practices and tools, as well as case studies outside of California.

For more detailed information, please visit <http://www.climatechangemontereybay.org>

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# Preparing for the Future: Climate Change and the Monterey Bay Shoreline

## Glossary of Land Use Adaptation Practices and Tools

**Overlay Zones:** Zoning maps divide a planning area into districts based on allowed uses. Overlay zones superimpose additional standards and/or policies on one or more established zoning districts based on characteristics of the area. Many jurisdictions use overlay zones to protect unique natural or cultural resources (e.g., wetlands, agricultural lands or historic districts). A parcel within the overlay zone is subject to both the underlying and overlaying zoning requirements.<sup>2</sup> One common example of overlay zoning is the designation of floodplain hazard areas where special building standards designed to minimize structural losses apply to parcels within the zone. Environmentally Sensitive Habitat Areas<sup>3</sup> are another kind of overlay zoning in California that can be used to protect sensitive coastal habitats and species as well as the underlying ecosystem services they provide.

**Non-Conformities:** When a zoning scheme is modified so that it changes the allowed use(s) in a district, some existing uses or structures may no longer conform to the new zoning. Non-conforming uses and structures may, however, be allowed to continue for a period of time.<sup>4</sup> By providing a phase-out period for non-conformities (commonly called an “amortization period”), a local government can mitigate the economic impact to property owners from changing a zoning scheme. However, some non-conforming uses or structures may become particularly vulnerable to coastal hazards from sea level rise over time. Local governments can minimize the risk to these structures and uses from sea level rise by identifying specific conditions under which owners must remove the non-conforming element.

**Setbacks:** Setback requirements are standards that protect structures from hazards or create buffers between structures or uses by preventing development a minimum distance from a baseline.<sup>5</sup> Coastal setbacks are often designed to prevent damage to

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<sup>2</sup> Office of Planning and Research, *A Citizen’s Guide to Planning* (January 2001), available at [http://ceres.ca.gov/planning/planning\\_guide/plan\\_index.html#anchor260736](http://ceres.ca.gov/planning/planning_guide/plan_index.html#anchor260736); Land Use Law Center, Pace University School of Law, report prepared for the Nature Conservancy of Long Island, *Local Land Use Response To Sea Level Rise* 54 (undated), available at [http://www.csc.noaa.gov/digitalcoast/inundation/pdf/Pace\\_Final\\_Report.pdf](http://www.csc.noaa.gov/digitalcoast/inundation/pdf/Pace_Final_Report.pdf).

<sup>3</sup> CALIFORNIA COASTAL ACT, 20 CAL. PUB. RES. CODE § 30107.5.

<sup>4</sup> City of Malibu, *Local Coastal Program Local Implementation Plan* § 13.5 (adopted September 13, 2002).

<sup>5</sup> James G. Titus, *Rolling Easements* at 167 (June 2011), available at [www.epa.gov/cre/downloads/rollingeasementsprimer.pdf](http://www.epa.gov/cre/downloads/rollingeasementsprimer.pdf).

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infrastructure from flooding and erosion.<sup>6</sup> The distance from the baseline is typically calculated either as a fixed number (e.g. 100 feet) or is based on an algorithm, such as the average erosion rate over the economic life of the structure. In California, coastal setback requirements are established locally through the Local Coastal Program process and vary geographically. Setback requirements based on *anticipated* sea level rise (as opposed to strictly historical erosion rates) can be used to help protect new development from future inundation and erosion risks.

Buffers: Similar to setback requirements, buffers are standards typically designed to protect natural resources, rather than buildings. Buffers provide “a transition zone between a resource and human activities” and are intended to reduce the impacts of development on natural resources and protect the beneficial services provided by natural resources.<sup>7</sup> Buffers provide a valuable form of adaptation to changes in sea level, both in their ability to limit potential costs from infrastructure or private structural damage and their benefit to human and natural systems.

Development Conditions: State and local governments often impose special conditions when issuing development permits. Impact fees, one form of development condition, seek to recover costs borne by the local jurisdiction associated with the development or to otherwise mitigate the impacts of the development.<sup>8</sup> Development conditions can be used to manage risks to development in areas that are vulnerable to sea level rise by restricting future construction of coastal armoring, requiring monitoring to assess how a development may impact other properties or community assets, and assessing fees to compensate the public, such as for lost coastal access or recreation.

Shoreline Protection Devices: Shoreline protection devices are used to protect coastal properties from hazards, like flooding and erosion, and include hard- and soft-engineered structures. Governments and private landowners have typically relied on

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<sup>6</sup> NOAA Office of Ocean and Coastal Resource Management, *Adapting to Climate Change: A Planning Guide for State Coastal Managers* at 71 (2010), available at <http://coastalmanagement.noaa.gov/climate/docs/adaptationguide.pdf>.

<sup>7</sup> NOAA Office of Ocean and Coastal Resource Management, *Adapting to Climate Change: A Planning Guide for State Coastal Managers* at 85 (2010), available at <http://coastalmanagement.noaa.gov/climate/docs/adaptationguide.pdf>.

<sup>8</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 29 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

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hard-engineered structures such as revetments, groins, bulkheads, seawalls and cliff retaining walls. Soft-armoring alternatives are “man-made barriers that replenish or mimic natural buffers or elevate land so that structures are less vulnerable to flooding, storm surge, and erosion” and can include beach nourishment, dune management, wetlands restoration and living shorelines.<sup>9</sup>

Managed Retreat: Managed retreat or “realignment” is a land use practice that allows wetlands and beaches to migrate inland unimpeded as sea level rises. As the shore erodes, structures are removed or relocated inland. Managed retreat is most effective when there is sufficient land available for relocating structures.<sup>10</sup>

Capital Improvement Programs: Capital Improvement Programs are financing plans that identify and budget for new construction or maintenance of local government infrastructure. Local governments can consider changes in sea level rise when developing their Capital Improvement Programs (through local ordinance, state law, or by voluntary action designed to, “discontinue maintenance and repairs to infrastructure that is repetitively damaged, and relocate infrastructure or retrofit existing infrastructure to be more resilient to sea level rise”<sup>11</sup>). The plans can be used to proactively discourage investment in projects vulnerable to sea level rise and storm damage.

Acquisition Programs: State and local governments can purchase land for public purposes. For example, state and local governments can acquire property at risk from sea level rise to prevent future development in vulnerable areas, conserve natural resources, ensure public access and/or protect upland development.<sup>12</sup>

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<sup>9</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 39 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

<sup>10</sup> NOAA Office of Ocean and Coastal Resource Management, *Managed Retreat Strategies* (October 2007), [http://coastalmanagement.noaa.gov/initiatives/shoreline\\_ppr\\_retreat.html](http://coastalmanagement.noaa.gov/initiatives/shoreline_ppr_retreat.html).

<sup>11</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 45 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

<sup>12</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 47 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

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Conservation Easements: Conservation easements are voluntary agreements between a landowner and government agency or non-profit organization designed to preserve property for open space, habitat, recreation, or agriculture purposes, among others. Conservation easements restrict development but allow the landowner to retain ownership of the property. The development restrictions “run with the land” and therefore are binding on all future landowners. Conservation easements can be used to prevent development on the portion of a property that is vulnerable to sea level rise.<sup>13</sup> Existing conservation easements can also be amended to provide a rolling boundary to allow the shoreline and ecosystems to migrate inland.

Rolling easements: Rolling easements include “a broad collection of arrangements under which human activities are required to yield the right of way to migrating shores.”<sup>14</sup> Rolling easements allow wetlands and beaches to migrate inland as sea level rises by acknowledging that as sea level rises and the mean high tide moves inland, the public trust follows.<sup>15</sup> Rolling easements are generally created through state statutes, rolling conservation easements and development conditions.<sup>16</sup>

Tax Incentives: State and local governments can use tax policies to influence the use and development of land. *Present use* tax policies, such as the Williamson Act, represent one model for tax incentives that could encourage sea level rise adaptation. Because real estate taxes are commonly calculated based on development *potential* instead of current use, coastal landowners may perceive an incentive to develop property.<sup>17</sup> By assessing taxes according to the current use of the property, landowners are not

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<sup>13</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 50 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf); Cal. Civ. Code §§ 815-816.

<sup>14</sup> James Titus, *Rising Seas, Coastal Erosion, and the Takings Clause: How to Save Wetlands and Beaches Without Hurting Property Owners*, 57 MD. L. REV. 1279, 1313 (1998).

<sup>15</sup> James G. Titus, *Rolling Easements* (June 2011), available at [www.epa.gov/cre/downloads/rollingeasementsprimer.pdf](http://www.epa.gov/cre/downloads/rollingeasementsprimer.pdf).

<sup>16</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 41 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

<sup>17</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 54 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

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encouraged to “build out” their property. This type of tax policy can help manage development in areas that are vulnerable to impacts from sea level rise. Preferential assessment programs can offer lower tax assessments to landowners who agree to preserve their property.

Transfer Development Rights: Transfer of Development Credit (TDC) programs, also known as Transfer of Development Rights (TDR) programs, shift development from donor or source sites (parcels that are unsafe or warrant protection) to receiver sites (parcels where development is preferred). These programs allow the owner of a source site to sell her right to develop on her property to the owner of a receiving site, compensating her for preserving her property. The owner of the receiving site is able to use the TDC or TDR to intensify development on his parcel. A TDC or TDR program could be designed to prevent development on lands vulnerable to sea level rise by compensating a landowner who yields her land to sea level rise.<sup>18</sup>

Real Estate Disclosures: State and federal laws require property owners to disclose certain information to potential buyers when the property is sold, including information about natural hazards that the property is vulnerable to. These disclosure requirements could be expanded to include areas vulnerable to impacts associated with sea level rise, including flooding and erosion.<sup>19</sup>

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<sup>18</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 57 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf); see also James Titus, *Rolling Easements* at 67-68 (June 2011), available at [www.epa.gov/cre/downloads/rollingeasementsprimer.pdf](http://www.epa.gov/cre/downloads/rollingeasementsprimer.pdf).

<sup>19</sup> NOAA Office of Ocean and Coastal Resource Management, *Adapting to Climate Change: A Planning Guide for State Coastal Managers* at 61 (2010), available at <http://coastalmanagement.noaa.gov/climate/docs/adaptationguide.pdf>.

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## Adaptation in Action: Examples from the Field

### Overlay Zones:

Zoning maps divide a planning area into districts based on allowed uses. Overlay zones superimpose additional standards and/or policies on one or more established zoning districts based on characteristics of the area. Many jurisdictions use overlay zones to protect unique natural or cultural resources (e.g., wetlands, agricultural lands or historic districts). A parcel within the overlay zone is subject to both the underlying and overlaying zoning requirements.<sup>20</sup> One common example of overlay zoning is the designation of floodplain hazard areas where special building standards designed to minimize structural losses apply to parcels within the zone.

The Federal Emergency Management Agency (FEMA) administers the National Flood Insurance Program (NFIP), offering federal flood insurance to landowners in communities that adopt a floodplain management ordinance regulating new development in high flood risk areas mapped by FEMA.<sup>21</sup> Although FEMA relies on historical flood data and does not account for anticipated sea level rise, local governments can impose more stringent development standards within floodplains.<sup>22</sup> “The NFIP’s Community Rating System (CRS) recognizes communities who exceed minimum floodplain management regulations by reducing flood insurance premiums for the community’s property owners.”<sup>23</sup>

*Example: City of Huntington Beach Floodplain Overlay District.* The City of Huntington Beach participates in the NFIP program by implementing floodplain overlay zones in “areas of special flood hazard identified by the Federal Emergency Management

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<sup>20</sup> Office of Planning and Research, *A Citizen’s Guide to Planning* (January 2001), available at [http://ceres.ca.gov/planning/planning\\_guide/plan\\_index.html#anchor260736](http://ceres.ca.gov/planning/planning_guide/plan_index.html#anchor260736); Land Use Law Center, Pace University School of Law, report prepared for the Nature Conservancy of Long Island, *Local Land Use Response To Sea Level Rise* at 54 (undated), available at [http://www.csc.noaa.gov/digitalcoast/inundation/pdf/Pace\\_Final\\_Report.pdf](http://www.csc.noaa.gov/digitalcoast/inundation/pdf/Pace_Final_Report.pdf).

<sup>21</sup> Federal Emergency Management Agency, *The National Flood Insurance Program* (last modified August 11, 2010), available at <http://www.fema.gov/plan/prevent/floodplain/index.shtm>.

<sup>22</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 21 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

<sup>23</sup> California Department of Water Resources, *Community Rating System* (2011), available at <http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fas/nfip/crs/>.

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Agency.”<sup>24</sup> Because the City’s floodplain overlay zones require more stringent regulations than the minimum requirements for participation in NFIP, landowners within Huntington Beach floodplain overlay districts qualify for discounts up to 15% off of federal flood insurance through CRS.<sup>25</sup>

Environmentally Sensitive Habitat Areas (ESHA) are another kind of overlay zoning in California that can be used to protect sensitive coastal habitats and species as well as the underlying ecosystem services they provide. The California Coastal Act defines an “environmentally sensitive area” as “[a]ny area in which plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could be easily disturbed or degraded by human activities and developments.”<sup>26</sup> An ESHA can be designated if the following three conditions are met: (1) individual species of animal or plant or their habitat is present in the geographic area, (2) the species is rare or valuable, and (3) the area could be easily disturbed or degraded by human activity.<sup>27</sup> Designation as ESHA limits the types of development allowed,<sup>28</sup> protecting not only the habitats and species in the area, but also ecosystem services, like storm protection, provided by that habitat.

*Example: City of Malibu Local Implementation Plan.* The City of Malibu’s Local Implementation Plan for its Local Coastal Program includes ESHA overlay zones in which “[o]nly uses dependent on the environmentally sensitive habitat areas and which do not result in significant disruption of habitat values” are permitted.<sup>29</sup> By protecting these habitats and limiting or prohibiting development around these areas, communities can make themselves more resilient to the impacts of climate change by allowing these habitats to migrate landward as sea level rises.

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<sup>24</sup> City of Huntington Beach, Zoning and Subdivision Ordinance, § 222.04(A).

<sup>25</sup> City of Huntington Beach, *City Manager’s Weekly Report* at 3 (September 26, 2011), available at [http://www.huntingtonbeachca.gov/residents/news\\_publications/weekly\\_report/files/September-26-2011.pdf](http://www.huntingtonbeachca.gov/residents/news_publications/weekly_report/files/September-26-2011.pdf). See also, Federal Emergency Management Agency, *National Flood Insurance Manual* at CRS 4 (May 1, 2011), available at [http://www.fema.gov/pdf/nfip/manual201105/content/19\\_crs.pdf](http://www.fema.gov/pdf/nfip/manual201105/content/19_crs.pdf).

<sup>26</sup> CALIFORNIA COASTAL ACT, 20 CAL. PUB. RES. CODE § 30107.5.

<sup>27</sup> Memorandum from Dr. John Dixon, Coastal Commission Ecologist/Wetland Coordinator, *Designation of ESHA in the Santa Monica Mountains* at 2 (March 25, 2003), available at <http://www.coastal.ca.gov/ventura/smm-asha-memo.pdf>.

<sup>28</sup> CALIFORNIA COASTAL ACT, 20 CAL. PUB. RES. CODE § 30240.

<sup>29</sup> City of Malibu, *Local Coastal Program Local Implementation Plan* § 4.1 (adopted September 13, 2002).

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Although ESHA may be identified in Local Coastal Program Resource Maps, like the City of Malibu's ESHA overlay maps, the Coastal Commission has made it clear that "the presence of ESHA on the ground dictates the application of policies."<sup>30</sup> Local governments reviewing development applications should always conduct site-specific assessments of habitat and resources to ensure that "new scientific information and changes in the natural environment" are accounted for.<sup>31</sup> Malibu's ESHA overlay policy expressly recognizes the limitations of mapping sensitive habitat areas: "Additionally, those areas not mapped as ESHA, but found to be ESHA under the provisions of Section 4.3 of the Malibu LIP shall also be subject to these provisions."<sup>32</sup>

### Non-Conformities:

When a zoning scheme is modified so that it changes the allowed use(s) in a district, some existing uses or structures may no longer conform to the new zoning. Non-conforming uses and structures may, however, be allowed to continue for a period of time.<sup>33</sup> By providing a phase-out period for non-conformities (commonly called an "amortization period"), a local government can mitigate the economic impact to property owners from changing a zoning scheme. However, some non-conforming uses or structures may become particularly vulnerable to coastal hazards from sea level rise over time. For example, a home built on a coastal bluff predating setback requirements that were designed to safeguard structures from erosion may become vulnerable as the bluff erodes. Local governments can minimize the risk to these structures and uses from sea level rise by identifying specific conditions under which owners must remove the non-conforming element (e.g. relocate the home further from the bluff edge).

Although local governments are responsible for regulating non-conforming uses and structures, the California Coastal Commission has "an interest in abating certain

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<sup>30</sup> California Coastal Commission, *Local Coastal Program Update Guide: Sensitive Habitats and Natural Resources* at 3 (last updated April 3, 2007), available at [http://www.coastal.ca.gov/la/lcpguide/lcpguide\\_resources\\_4.pdf](http://www.coastal.ca.gov/la/lcpguide/lcpguide_resources_4.pdf).

<sup>31</sup> California Coastal Commission, *Local Coastal Program Update Guide: Sensitive Habitats and Natural Resources* at 3 (last updated April 3, 2007), available at [http://www.coastal.ca.gov/la/lcpguide/lcpguide\\_resources\\_4.pdf](http://www.coastal.ca.gov/la/lcpguide/lcpguide_resources_4.pdf).

<sup>32</sup> City of Malibu, *Local Coastal Program Local Implementation Plan* § 4.2 (adopted September 13, 2002).

<sup>33</sup> City of Malibu, *Local Coastal Program Local Implementation Plan* § 13.5 (adopted September 13, 2002).

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nonconforming structures or the nonconforming elements of specific buildings that adversely impact coastal resources or public recreational opportunities.”<sup>34</sup> As further described below, Coastal Commission staff recently recommended rejection of the City of Carlsbad’s proposed Local Coastal Program (LCP) amendment because its treatment of non-conforming uses and structures would have allowed development to persist that is or would become vulnerable to impacts of erosion and sea level rise.<sup>35</sup>

*Example: City of Carlsbad Local Coastal Program Amendment.* In 2009, the City of Carlsbad submitted a proposed LCP amendment to the Coastal Commission for certification. The City sought to remove and replace its Nonconforming Buildings and Uses zoning chapter to replace outdated language and “streamline the process by which nonconforming buildings and uses can be repaired, expanded, or replaced.”<sup>36</sup> The Coastal Commission found that the new zoning language was inconsistent with the City’s certified LCP and could exacerbate impacts to coastal resources.

As an example, in areas adjacent to coastal bluffs, allowing a nonconforming setback may result in impacts to geologic stability within the life expectancy of the structure. . .Specifically, at a certain point, re-siting the structure and abating the nonconforming setback may be necessary to provide adequate geologic setbacks, open public accessways, or open public view corridors.<sup>37</sup>

The Coastal Commission advised that “concerns pertaining to geologic stability and the construction of shoreline protection devices should be examined especially

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<sup>34</sup> California Coastal Commission, *Staff Recommendation on City of Carlsbad Major LCP Amendment No. 4-09A (Non-Conforming Buildings and Uses)* at 2 (Feb 23, 2011), available at <http://documents.coastal.ca.gov/reports/2011/3/W14a-3-2011.pdf>.

<sup>35</sup> California Coastal Commission, *Staff Recommendation on City of Carlsbad Major LCP Amendment No. 4-09A (Non-Conforming Buildings and Uses)* at 9 (Feb 23, 2011), available at <http://documents.coastal.ca.gov/reports/2011/3/W14a-3-2011.pdf>.

<sup>36</sup> California Coastal Commission, *Staff Recommendation on City of Carlsbad Major LCP Amendment No. 4-09A (Non-Conforming Buildings and Uses)* at 9 (Feb 23, 2011), available at <http://documents.coastal.ca.gov/reports/2011/3/W14a-3-2011.pdf>.

<sup>37</sup> California Coastal Commission, *Staff Recommendation on City of Carlsbad Major LCP Amendment No. 4-09A (Non-Conforming Buildings and Uses)* at 10 (Feb 23, 2011), available at <http://documents.coastal.ca.gov/reports/2011/3/W14a-3-2011.pdf>.

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conservatively with respect to potential future impacts,” including increases in sea level rise, erosion, and shoreline retreat.<sup>38</sup>

Commission staff recommended the Commission approve the LCP amendment if it were revised to include a 50% alteration threshold. A property owner could then repair or maintain a nonconforming structure without losing its status as a nonconforming building where less than 50% of the interior and/or exterior walls are modified. If, on the other hand, more than 50% of the structure was altered, the nonconforming element must be abated and the structure brought into compliance with all new development standards.<sup>39</sup> The Coastal Commission has also recommended that a 50% threshold be calculated on a cumulative basis so that all repairs or redevelopment of a nonconforming structure would count toward the threshold, regardless of whether the work is done all at once or over time.<sup>40</sup>

## Setbacks:

Setback requirements are standards that protect structures from hazards or create buffers between structures or uses by preventing development a minimum distance from a baseline, often the shoreline.<sup>41</sup> Coastal setbacks are often designed to prevent damage to infrastructure from flooding and erosion.<sup>42</sup> The distance from the baseline is typically calculated either as a fixed number (e.g. 100 feet) or is based on an algorithm, such as the average erosion rate over the economic life of the structure. In California,

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<sup>38</sup> California Coastal Commission, *Staff Recommendation on City of Carlsbad Major LCP Amendment No. 4-09A (Non-Conforming Buildings and Uses)* at 11 (Feb 23, 2011), available at <http://documents.coastal.ca.gov/reports/2011/3/W14a-3-2011.pdf>.

<sup>39</sup> California Coastal Commission, *Staff Recommendation on City of Carlsbad Major LCP Amendment No. 4-09A (Non-Conforming Buildings and Uses)* at 2 (Feb 23, 2011), available at <http://documents.coastal.ca.gov/reports/2011/3/W14a-3-2011.pdf>.

<sup>40</sup> California Coastal Commission, *Staff Report and Preliminary Recommendation on Coastal Development Permit Application No. 6-10-064* at 2 (Jan 6, 2011), available at <http://documents.coastal.ca.gov/reports/2011/1/Th10b-1-2011.pdf>.

<sup>41</sup> James Titus, *Rolling Easements* at 167 (June 2011), available at [www.epa.gov/cre/downloads/rollingeasementsprimer.pdf](http://www.epa.gov/cre/downloads/rollingeasementsprimer.pdf).

<sup>42</sup> NOAA Office of Ocean and Coastal Resource Management, *Adapting to Climate Change: A Planning Guide for State Coastal Managers* at 71 (2010), available at <http://coastalmanagement.noaa.gov/climate/docs/adaptationguide.pdf>.

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coastal setback requirements are established locally through the Local Coastal Program process and vary geographically. Setback requirements based on *anticipated* sea level rise (as opposed to strictly historical erosion rates) can be used to help protect new development from future inundation and erosion risks.

*Example: California Adaptation Strategy.* The California Adaptation Strategy recommends “mandatory construction setbacks . . . to prohibit construction and significant redevelopment in areas that will likely be impacted by sea-level rise within the life of the structure.”<sup>43</sup>

*Example: Del Monte Beach Land Use Plan.* The City of Monterey’s Land Use Plan for Del Monte Beach requires site-specific geotechnical studies and that new development not require shoreline protection for the life of the project.<sup>44</sup> Future sea level rise must be accounted for in the siting and design of new coastal development. New development must be set back and elevated to eliminate or minimize hazards associated with expected sea level rise over the 100-year economic life of the structure.<sup>45</sup>

*Example: City of Rancho Palos Verdes Coastal Development Permit Appeal.* In 2006 a bluff top coastal homeowner installed a swimming pool, barbeque and a retaining wall and graded the bluff without first obtaining a coastal development permit from the City of Rancho Palos Verdes. In considering whether to permit the construction after the fact, a dispute arose regarding the methodology used to locate the coastal setback line. The City decided that the unpermitted construction was landward of the setback and granted the homeowners a local coastal development permit (after the fact). The permit decision was appealed to the Coastal Commission.

The Commission found that until the City amended its local coastal program with more up to date maps and requirements for setbacks, the City should continue to use its historic methodology for determining the setback line.<sup>46</sup> The Coastal Commission found that any future LCP amendment or new development on coastal bluffs should require

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<sup>43</sup> California Natural Resources Agency, *2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008* at 77 (2009), available at <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>.

<sup>44</sup> City of Monterey, Del Monte Beach, *Local Coastal Program Land Use Plan* (2003) at 36.

<sup>45</sup> City of Monterey, Del Monte Beach, *Local Coastal Program Land Use Plan* (2003) at 37.

<sup>46</sup> California Coastal Commission, *Staff Report: Appeal – Substantial Issue, Appeal No. A-5-RPV-10-002* at 13 (June 1, 2011), available at <http://documents.coastal.ca.gov/reports/2011/6/Th19a-6-2011.pdf>.

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setbacks that ensure stability of the coastal bluff for the economic life of the structure, accounting for accelerated erosion rates due to sea level rise.<sup>47</sup>

## Buffers:

Similar to setback requirements, buffers are standards typically designed to protect natural resources, rather than buildings. Buffers provide “a transition zone between a resource and human activities” and are intended to reduce the impacts of development on natural resources and protect the beneficial services provided by natural resources.<sup>48</sup> Buffers provide a valuable form of adaptation to changes in sea level, both in their ability to limit potential costs from infrastructure or private structural damage and their benefit to human and natural systems. Wetlands are one example of a resource for which buffers are typically required. Coastal wetlands buffer the impacts of storms, reduce shoreline erosion, improve water quality, provide scenic recreation areas and provide habitat for many species.<sup>49</sup>

*Example: California Climate Adaptation Strategy.* The California Climate Adaptation Strategy recommends the use of buffer areas to avoid risks to structures within projected “high” future sea level rise or flooding inundation zones.<sup>50</sup>

*Example: California Coastal Act.* The California Coastal Act suggests the use of buffers to protect the biological productivity and water quality of “coastal waters, streams, wetlands, estuaries, and lakes.”<sup>51</sup>

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<sup>47</sup> California Coastal Commission, *Staff Report: Appeal – Substantial Issue, Appeal No. A-5-RPV-10-002* at 13 (June 1, 2011), available at <http://documents.coastal.ca.gov/reports/2011/6/Th19a-6-2011.pdf>.

<sup>48</sup> NOAA Office of Ocean and Coastal Resource Management, *Adapting to Climate Change: A Planning Guide for State Coastal Managers* at 85 (2010) available at <http://coastalmanagement.noaa.gov/climate/docs/adaptationguide.pdf>.

<sup>49</sup> California Coastal Commission, *Definition and Delineation of Wetlands in the Coastal Zone* at 1-2 (October 5, 2011), available at <http://documents.coastal.ca.gov/reports/2011/10/W4-10-2011.pdf>.

<sup>50</sup> California Natural Resources Agency, *2009 California Climate Adaptation Strategy: A Report to the Governor of the State of California in Response to Executive Order S-13-2008* at 176 (2009), available at <http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF>.

<sup>51</sup> CALIFORNIA COASTAL ACT, 20 CAL. PUB. RES. CODE § 30231.

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*Example: City of Malibu Local Implementation Plan.* New development within an ESHA overlay zone under the City of Malibu’s local coastal program is subject to a variety of development standards and must “provide native vegetation buffer areas to serve as transitional habitat and provide distance and physical barriers to human intrusion.”<sup>52</sup>

### Development Conditions:

State and local governments often impose special conditions when issuing development permits. Impact fees (one form of development condition) seek to recover costs borne by the local jurisdiction associated with the development or to otherwise mitigate the impacts of the development.<sup>53</sup> Development conditions can be used to manage risks to public assets and private development in areas that are vulnerable to sea level rise by restricting future construction of coastal armoring, requiring monitoring to assess how a development may impact other properties or community assets, and assessing fees to compensate the public, such as for lost coastal access or recreation.

*Example: Restrictions on future shoreline protection devices.* The California Coastal Commission often conditions approval of coastal development permits on a landowner’s agreement not to construct bluff or shoreline protection devices in the future. Such permits also contain provisions that waive risk and liability and impose a permanent deed restriction to notify subsequent owners of limits on future development.<sup>54</sup> Where hard armoring projects are permitted to protect existing structures, the Coastal Commission often requires a mitigation fee to compensate the public for impacts, including lost recreational opportunity, caused by the armoring.<sup>55</sup>

*Example: Goleta Beach Sand Retention Coastal Development Permit.* In 2009 the Santa Barbara County Department of Parks and Recreation submitted a coastal development

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<sup>52</sup> City of Malibu, *Local Coastal Program Local Implementation Plan* § 4.2 (adopted September 13, 2002).

<sup>53</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 29 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

<sup>54</sup> Meg Caldwell & Craig Holt Segall, *No Day at the Beach: Sea Level Rise, Ecosystem Loss, and Public Access Along the California Coast*, 34 *ECOLOGY L.Q.* 564-566 (2007).

<sup>55</sup> Meg Caldwell & Craig Holt Segall, *No Day at the Beach: Sea Level Rise, Ecosystem Loss, and Public Access Along the California Coast*, 34 *ECOLOGY L.Q.* 566 (2007).

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permit application to the Coastal Commission to replace a rock revetment with a permeable pier sand retention system. The county believed that its proposed permeable pier sand retention system would widen the sandy beach and extend the usable life of the park relative to sea level rise impacts.<sup>56</sup> However, the design was experimental: no pier had ever been constructed for the purpose of retaining sand. The County relied on anecdotal evidence from other pier projects that retained sand once constructed or lost sand when removed.<sup>57</sup> In addition, engineering consultants disagreed on whether the permeable pier would cause erosion further down the coast.<sup>58</sup>

Coastal Commission staff recommended approval of the permit subject to 18 special conditions to address this uncertainty and other concerns.<sup>59</sup> Because the design was experimental, Commission staff recommended the sand retention system be approved for a ten year term, after which time it would need to be removed or re-permitted by the Coastal Commission.<sup>60</sup> Although the permit application was ultimately denied by the Coastal Commission over concerns regarding uncertainty of the physical modeling, the special conditions recommended by staff would have required the County to prepare annual monitoring reports and take adaptive management actions based on the monitoring results. For instance, if bluffs or beaches down coast of the permeable pier experienced increased retreat in five consecutive years, the County would be required to remove the permeable pier.<sup>61</sup> Finally, the County would have been required to execute an agreement acknowledging that the site may be subject to coastal hazards,

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<sup>56</sup> California Coastal Commission, *Staff Report: Coastal Development Permit No. 4-08-006* at 2 (June 25, 2009), available at <http://documents.coastal.ca.gov/reports/2009/7/W8b-7-2009.pdf>.

<sup>57</sup> California Coastal Commission, *Staff Report: Coastal Development Permit No. 4-08-006* at 4 (June 25, 2009), available at <http://documents.coastal.ca.gov/reports/2009/7/W8b-7-2009.pdf>.

<sup>58</sup> California Coastal Commission, *Staff Report: Coastal Development Permit No. 4-08-006* at 3 (June 25, 2009), available at <http://documents.coastal.ca.gov/reports/2009/7/W8b-7-2009.pdf>.

<sup>59</sup> California Coastal Commission, *Staff Report: Coastal Development Permit No. 4-08-006* at 1-2, 9-30 (June 25, 2009), available at <http://documents.coastal.ca.gov/reports/2009/7/W8b-7-2009.pdf>.

<sup>60</sup> California Coastal Commission, *Staff Report: Coastal Development Permit No. 4-08-006* at 9 (June 25, 2009), available at <http://documents.coastal.ca.gov/reports/2009/7/W8b-7-2009.pdf>.

<sup>61</sup> California Coastal Commission, *Staff Report: Coastal Development Permit No. 4-08-006* at 14 (June 25, 2009), available at <http://documents.coastal.ca.gov/reports/2009/7/W8b-7-2009.pdf>.

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including from sea level rise, and agreeing to assume the risks of those coastal hazards and waive any future claim of liability against the Coastal Commission.<sup>62</sup>

## Shoreline Protection Devices:

Shoreline protection devices are used to protect coastal properties from hazards, like flooding and erosion, and include hard- and soft-engineered structures. Governments and private landowners have typically relied on hard-engineered structures such as revetments, groins, bulkheads, seawalls and cliff retaining walls. However, hard-armoring “can increase flooding and erosion on neighboring property and destroy beaches and wetlands that provide natural flood protections and other ecological services.”<sup>63</sup> Hard-armor solutions also can encourage development in vulnerable coastal areas, increasing the risk to communities in the event of failure.

As the impacts from hard-armoring have become apparent, attention has increasingly turned to soft-armoring alternatives. Soft-armoring alternatives are “man-made barriers that replenish or mimic natural buffers or elevate land so that structures are less vulnerable to flooding, storm surge, and erosion” and can include beach nourishment, dune management, wetlands restoration and living shorelines.<sup>64</sup>

*Example: California Coastal Act.* The California Coastal Act allows for hard armoring in order “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.”<sup>65</sup> However, the Coastal Commission uses “no future armoring” conditions in coastal development permits for *new* development to

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<sup>62</sup> California Coastal Commission, *Staff Report: Coastal Development Permit No. 4-08-006* at 30 (June 25, 2009), available at <http://documents.coastal.ca.gov/reports/2009/7/W8b-7-2009.pdf>.

<sup>63</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 37 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf); see also Monterey Bay National Marine Sanctuary, *MBNMS Resource Management Issues: Coastal Armoring*, available at <http://montereybay.noaa.gov/resourcepro/resmanissues/coastal.html>.

<sup>64</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 39 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

<sup>65</sup> CALIFORNIA COASTAL ACT, 20 CAL. PUB. RES. CODE § 30235.

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ensure new development minimizes “alteration of natural landforms” and does not eventually result in or require the construction of protective devices.<sup>66</sup>

*Example: San Francisco Bay Plan.* The San Francisco Bay Conservation and Development Commission recently amended the San Francisco Bay Plan to require that permitted shoreline protection projects must be designed to “provide erosion control and flood protection for the expected life of the project based on a 100-year flood event that takes future sea level rise into account.”<sup>67</sup>

*Example: San Francisco Bay Living Shorelines.* Large tracts of wetlands are preserved in the northern and southernmost portions of San Francisco Bay. Examples of these larger tracts of living shorelines include the North Bay wetlands, including Richardson Bay and Sonoma wetlands, and the San Pablo Bay National Wildlife Refuge and the Suisun Marsh, also to the north. Don Edwards Wildlife Refuge and the South Bay Salt Pond Restoration Project are also good examples of living shorelines located in the south and east portions of the bay.<sup>68</sup>

*Example: Goleta Beach Sand Retention Coastal Development Permit.* In 2009 the Santa Barbara County Department of Parks and Recreation proposed a combination of hard- and soft-armoring to address shoreline erosion at Goleta Beach. The County sought to replace a rock revetment with a permeable pier sand retention system and a seasonal beach nourishment program, examples of both hard- and soft-engineered shoreline protection devices.<sup>69</sup>

*Example: City of Malibu Local Implementation Plan.* The City of Malibu’s Local Implementation Plan for its Local Coastal Program requires that wherever feasible,

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<sup>66</sup> Meg Caldwell & Craig Holt Segall, *No Day at the Beach: Sea Level Rise, Ecosystem Loss, and Public Access Along the California Coast*, 34 *ECOLOGY L.Q.* 564-566 (2007).

<sup>67</sup> San Francisco Bay Conservation & Development Commission, *Resolution No. 11-08: Adoption of Bay Plan Amendment No. 1-08 Adding New Climate Change Findings and Policies to the Bay Plan; And Revising the Bay Plan Tidal Marsh and Tidal Flats; Safety of Fills; Protection of the Shoreline; and Public Access Findings and Policies* at 22 (October 6, 2011), available at [http://www.bcdc.ca.gov/proposed\\_bay\\_plan/10-01Resolution.pdf](http://www.bcdc.ca.gov/proposed_bay_plan/10-01Resolution.pdf).

<sup>68</sup> *Strategies for managing sea level rise*, Urbanist (November 2009), available at [http://www.spur.org/publications/library/report/strategiesformanagingsealevelrise\\_110109](http://www.spur.org/publications/library/report/strategiesformanagingsealevelrise_110109).

<sup>69</sup> California Coastal Commission, *Staff Report: Coastal Development Permit No. 4-08-006* at 2 (June 25, 2009), available at <http://documents.coastal.ca.gov/reports/2009/7/W8b-7-2009.pdf>.

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“alternative ‘soft solutions’ to the placement of shoreline protection structures shall be required to protect new or existing development.”<sup>70</sup>

### Managed Retreat:

Managed retreat or “realignment” is a land use practice that allows wetlands and beaches to migrate inland unimpeded as sea level rises. As the shore erodes, structures are removed or relocated inland. Managed retreat is most effective when there is sufficient land available for relocating structures.<sup>71</sup>

*Example: Surfer’s Point Managed Shoreline Retreat.* In order to manage coastal erosion at Surfer’s Point, a popular surf spot at the mouth of the Ventura River, the City of Ventura installed a rock revetment in the 1990s. The armoring exacerbated erosion elsewhere along the coast. In 2000 a working group proposed a managed retreat plan that called for relocation of a bike path and parking lot inland, removal of the rock revetment, and restoration of natural beach habitat using a cobble berm and sand nourishment.<sup>72</sup> The first phase of the project was completed in July 2011.

*Example: Pacifica State Beach Improvement.* To reduce the threat of flooding to homes and businesses and erosion of the Pacifica/Linda Mar State Beach, as well as maintain steelhead trout habitat in the San Pedro Creek, the City of Pacifica partnered with the State Coastal Conservancy and Pacifica Land Trust to pursue a managed retreat plan. In the 1990s, tidal wetlands at the mouth of San Pedro Creek were restored, enhancing steelhead habitat and providing flood protection for the neighboring community. In 2002, the City, Coastal Conservancy and the Pacifica Land Trust purchased and removed two homes that were particularly vulnerable to flooding and restored dune, beach and estuary habitat. Today one building remains along the shore and the City of Pacifica

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<sup>70</sup> City of Malibu, *Local Coastal Program Local Implementation Plan* § 10.4P (adopted September 13, 2002).

<sup>71</sup> NOAA Office of Ocean and Coastal Resource Management, *Managed Retreat Strategies* (October 2007), [http://coastalmanagement.noaa.gov/initiatives/shoreline\\_ppr\\_retreat.html](http://coastalmanagement.noaa.gov/initiatives/shoreline_ppr_retreat.html).

<sup>72</sup> California Coastal Commission, *Staff Report: Coastal Development Permit No. 4-05-148* at 32-33 (November 2, 2006), available at <http://documents.coastal.ca.gov/reports/2006/11/Th17c-s-11-2006.pdf>.

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plans to relocate the building landward of Highway 1 pursuant to its planned retreat strategy.<sup>73</sup>

## Capital Improvement Programs:

Capital Improvement Programs are financing plans that identify and budget for new construction or maintenance of local government infrastructure. Local governments can consider changes in sea level rise when developing their Capital Improvement Programs (through local ordinance, state law, or by voluntary action designed to, “discontinue maintenance and repairs to infrastructure that is repetitively damaged, and relocate infrastructure or retrofit existing infrastructure to be more resilient to sea level rise”<sup>74</sup>). The plans can be used to proactively discourage investment in projects vulnerable to sea level rise and storm damage.

To date, we are not aware of any local government in California that has used their Capital Improvement Program to systematically reduce infrastructure vulnerability.

## Acquisition Programs:

State and local governments can purchase land for public purposes. For example, state and local governments can acquire property at risk from sea level rise to prevent future development in vulnerable areas, conserve natural resources, ensure public access and/or protect upland development.<sup>75</sup>

*Example: California Coastal Conservancy.* The California Coastal Conservancy is a state agency that uses public funds to purchase, protect and restore coastal resources as well

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<sup>73</sup> NOAA Office of Ocean and Coastal Resource Management, *Managed Retreat Strategies* (October 2007), [http://coastalmanagement.noaa.gov/initiatives/shoreline\\_ppr\\_retreat.html](http://coastalmanagement.noaa.gov/initiatives/shoreline_ppr_retreat.html).

<sup>74</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 45 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

<sup>75</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 47 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

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as provide public access to the coast. Projects funded by the Conservancy must meet key criteria. One protect selection criterion is that the project site is vulnerable to sea level rise.<sup>76</sup>

*Example: Jenner Headlands Acquisition.* The Jenner Headlands, a 5,630 acre property along the Sonoma County coast, was purchased by the Sonoma Land Trust in December 2009 using funding from multiple partners.<sup>77</sup> The Headlands are located adjacent to the Sonoma Coast State Park. Protection of the Jenner Headlands “will create a larger, contiguous block of wildlife habitat and corridors. These connections will also provide a buffer to help species adapt to the effects of climate change.”<sup>78</sup>

### Conservation Easements:

Conservation easements are voluntary agreements between a landowner and government agency or non-profit organization designed to preserve property for open space, habitat, recreation or agriculture purposes, among others. Conservation easements restrict development but allow the landowner to retain ownership of the property. The development restrictions “run with the land,” and therefore are binding on all future landowners. Conservation easements can be used to prevent development on the portion of a property that is vulnerable to sea level rise.<sup>79</sup> Existing conservation easements can also be amended to provide a rolling boundary to allow the shoreline and ecosystems to migrate inland (see Rolling Easements section).

*Example: Conservation easement for coastal habitat protection.* In 2010 the Coastal Commission conditionally approved a coastal development permit application to construct a 101-unit residential condominium in Santa Barbara County. One of the

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<sup>76</sup> California Coastal Conservancy, *Project Selection Criteria* (adopted June 4, 2009), available at <http://scc.ca.gov/project-selection-criteria/#more-204>.

<sup>77</sup> Sonoma Land Trust website, <http://www.sonomalandtrust.org/protect/campaigns/jenner/jenner.html>.

<sup>78</sup> Sonoma Land Trust, *Jenner Headlands FAQ*, available at [http://www.sonomalandtrust.org/protect/campaigns/jenner/jenner\\_faq.html](http://www.sonomalandtrust.org/protect/campaigns/jenner/jenner_faq.html).

<sup>79</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 50 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf); CAL. CIV. CODE §§ 815-816.

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permit conditions required the property owner to record an open space conservation easement on the portion of the property including wetlands. The easement was required to protect habitat and therefore prohibit future development except for specifically defined actions, including construction of pedestrian trails, benches and bridges, as well as habitat restoration activities such as planting native vegetation, within the easement boundaries.<sup>80</sup>

### Rolling Easements:

Rolling easements include “a broad collection of arrangements under which human activities are required to yield the right of way to migrating shores.”<sup>81</sup> Rolling easements allow wetlands and beaches to migrate inland as sea level rises by acknowledging that as sea level rises and the mean high tide moves inland, the public trust follows.<sup>82</sup> Rolling easements are generally created through state statutes, rolling conservation easements, and development conditions.<sup>83</sup>

*Example: Rolling Easement Statute.* California does not currently have a rolling easement statute. However, for a thorough discussion of rolling easement policies in California and the constitutional considerations, see:

Meg Caldwell & Craig Holt Segall, *No Day at the Beach: Sea Level Rise, Ecosystem Loss, and Public Access Along the California Coast* 34 *ECOLOGY L.Q.* 533-578 (2007), available at <http://www.boalt.org/elq/documents/elq34-2-09-caldwell-2007-0910.pdf>

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<sup>80</sup> California Coastal Commission, *Staff Report: Application No. 4-09-038* at 24 (November 17, 2010), available at <http://documents.coastal.ca.gov/reports/2010/11/Th8b-11-2010.pdf>.

<sup>81</sup> James Titus, *Rising Seas, Coastal Erosion, and the Takings Clause: How to Save Wetlands and Beaches Without Hurting Property Owners*, 57 *MD. L. REV.* 1279, 1313 (1998).

<sup>82</sup> James Titus, *Rolling Easements* (June 2011), available at [www.epa.gov/cre/downloads/rollingeasementsprimer.pdf](http://www.epa.gov/cre/downloads/rollingeasementsprimer.pdf).

<sup>83</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 41 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

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*Example: California Coastal Commission “no future seawall” permit conditions.* Although California law does not address rolling easements, for well over a decade, the Coastal Commission has imposed “no future seawall” conditions on Coastal Development Permits for new development of shoreline properties. See discussion of Development Conditions.

*Example: Rolling Conservation Easements.* Existing conservation easements could be amended or new conservation easements can be designed to “roll” with the shoreline so that the boundary of the easement moves inland as erosion occurs. To be effective, rolling easements would need to prohibit installation of shoreline protection devices and provide for removal or relocation of existing development as the easement rolls toward it.<sup>84</sup> See discussion of Conservation Easements.

### Tax Incentives:

State and local governments can use tax policies to influence the use and development of land. Present use tax policies, such as the Williamson Act, represent one model for tax incentives that could encourage sea level rise adaptation. Because real estate taxes are commonly calculated based on development *potential* instead of current use, coastal landowners may perceive an incentive to develop property.<sup>85</sup> By assessing taxes according to the current use of the property, landowners are not encouraged to “build out” their property. This type of tax policy can be used to help manage development in areas that are vulnerable to impacts from sea level rise. Preferential assessment programs can offer lower tax assessments to landowners who agree to preserve their property.

*Example: Present Use Tax Incentives.* The California Land Conservation Act of 1965, referred to as the “Williamson Act,” works as a present use tax incentive by allowing

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<sup>84</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 41 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

<sup>85</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 54 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf).

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“local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agriculture or related open space use.”<sup>86</sup>

Landowners are assessed lower taxes based on agriculture and open space uses instead of the full market value of the property. By taxing agricultural land for its current use, local governments can discourage conversion of the land to a more intensive use.<sup>87</sup>

Williamson Act contracts are executed for a minimum ten-year term. As of January 1, 2009, nearly 15 million acres of open space and agricultural use were preserved under the Williamson Act program.<sup>88</sup>

The Mills Act, another state statute that acts as a present use tax incentive, provides economic incentives that foster the preservation of residential neighborhoods and the revitalization of downtown historic districts.<sup>89</sup> By agreeing to maintain historic aspects of a property, the owner can enter into a contract with the local government for a minimum ten-year term that automatically renews each year. Rather than assessing the full market value of the property, local governments tax Mills Act property owners based on the income potential of the property.

### Transfer of Development Credit:

Transfer of Development Credit (TDC) programs, also known as Transfer of Development Rights (TDR) programs, shift development from donor or source sites (parcels that are unsafe or warrant protection) to receiver sites (parcels where development is preferred). These programs allow the owner of a source site to sell her right to develop on her property to the owner of a receiving site, compensating her for preserving her property. The owner of the receiving site is able to use the TDC or TDR to

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<sup>86</sup> California Department of Conservation, *Williamson Act Program*, available at <http://www.conservation.ca.gov/dlrp/lca/Pages/Index.aspx>.

<sup>87</sup> California Department of Conservation, *Williamson Act Program*, available at <http://www.conservation.ca.gov/dlrp/lca/Pages/Index.aspx>.

<sup>88</sup> California Department of Conservation, *California Land Conservation (Williamson) Act Status Report 2010* at 2 (November 2010), available at [http://www.conservation.ca.gov/dlrp/lca/stats\\_reports/Documents/2010%20Williamson%20Act%20Stat%20Report.pdf](http://www.conservation.ca.gov/dlrp/lca/stats_reports/Documents/2010%20Williamson%20Act%20Stat%20Report.pdf).

<sup>89</sup> California State Parks Office of Historic Preservation, *Mills Act Property Tax Abatement Program*, available at [http://ohp.parks.ca.gov/?page\\_id=21412](http://ohp.parks.ca.gov/?page_id=21412).

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intensify development on his parcel. A TDC or TDR program could be designed to prevent development on lands vulnerable to sea level rise by compensating a landowner who yields her land to sea level rise.<sup>90</sup>

*Example: Santa Monica Mountains Transfer of Development Credit Program.* In 1978 the California Coastal Commission began a TDC program in the Santa Monica Mountains/Malibu coastal zone to prevent development of thousands of small lots that lacked infrastructure, were located on a slope and would have been difficult to develop, and were subject to fire and landslide hazards. The program was later expanded to include parcels with environmentally sensitive habitats.<sup>91</sup> Implementation of the TDC program has resulted in over 1,000 retired lots in the Santa Monica Mountains.<sup>92</sup>

*Example: Big Sur Scenic Transfer of Development Credit Program.* The Big Sur coast viewshed was protected through implementation of a TDC program along Highway 1. Monterey County's Big Sur Land Use Plan identifies source sites (called donor sites) on the ocean side of Highway 1 and receiver sites on the inland side. The TDC program allows the receiver site to exceed density restrictions that would normally apply to development on that parcel. The donor site must record a permanent, irrevocable scenic easement. The County also established a revolving fund to purchase TDCs for retirement or sale.<sup>93</sup>

### Real Estate Disclosures:

State and federal laws require property owners to disclose certain information to potential buyers when the property is sold, including information about natural hazards

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<sup>90</sup> Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* at 57 (October 2011), available at [http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf); James Titus, *Rolling Easements* at 67-68 (June 2011), available at [www.epa.gov/cre/downloads/rollingeasementsprimer.pdf](http://www.epa.gov/cre/downloads/rollingeasementsprimer.pdf).

<sup>91</sup> Margaret Walls & Virginia McConnell, *Transfer of Development Rights in U.S. Communities: Evaluating Program Design, Implementation, and Outcomes* at 79-85 (September 2007), available at [http://www.rff.org/rff/News/Features/upload/30347\\_1.pdf](http://www.rff.org/rff/News/Features/upload/30347_1.pdf).

<sup>92</sup> California Coastal Commission, *Santa Monica Mountains/Malibu ReCAP: Report Summary*, available at <http://www.coastal.ca.gov/recap/smmsum.html>.

<sup>93</sup> Monterey County, *Coastal Implementation Plan*, County Code § 20.64.190.

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that the property is vulnerable to. These disclosure requirements could be expanded to include areas vulnerable to impacts associated with sea level rise, including flooding and erosion.<sup>94</sup>

*Example: Natural Hazards Disclosure Act.* California's Natural Hazards Disclosure Act requires sellers to disclose when a residential property is located within a state-mapped hazard area.<sup>95</sup> Mapped hazard areas subject to the disclosure requirements currently include:

- A *special flood hazard* area designated by the Federal Emergency Management Agency.
- An *area of potential flooding* in the event of a dam failure, designated by the state Office of Emergency Services.
- A *very high fire hazard severity zone* designated by the California Department of Forestry and Fire Protection.
- A *wildland fire area* that may contain substantial forest fire risks and hazards, designated by the State Board of Forestry.
- An *earthquake fault zone* designated by the State Geologist.
- A *seismic hazard zone* designated by the State Geologist.<sup>96</sup>

Although risks from sea level rise are not currently captured in the disclosure regulation, the State could prepare sea level rise hazard maps and amend the Natural Hazards Disclosure Act to require real estate disclosures.

*Example: Humboldt County Local Coastal Program (LCP) Amendment.* In March 2011, the Coastal Commission approved with modifications the County of Humboldt's proposed LCP amendment for redevelopment of the town of Samoa, located on the northern spit of Humboldt Bay. Samoa lies within the Cascadia Subduction Zone, making it "unusually vulnerable to coastal and geologic hazards" like earthquakes and

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<sup>94</sup> NOAA Office of Ocean and Coastal Resource Management, *Adapting to Climate Change: A Planning Guide for State Coastal Managers* at 61 (2010), available at <http://coastalmanagement.noaa.gov/climate/docs/adaptationguide.pdf>.

<sup>95</sup> Natural Hazards Disclosure Act, effective June 1, 1998. CAL. CIV. CODE § 1102.6.

<sup>96</sup> Peter M. Detwiler, *Show and Tell: The New "Natural Hazard Disclosure Statement"* at section II.A. (1998), available at <http://ceres.ca.gov/planning/nhd/showtell.html>.

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tsunamis.<sup>97</sup> The Cascadia Subduction Zone is geographically similar to the formations that triggered the subduction zone earthquake and the 2004 tsunami in Indonesia that killed a quarter of a million people.

The Coastal Commission approved the LCP amendment with modifications, including requirements to disclose risks from sea level rise.<sup>98</sup> The Samoa Town Master Plan now requires deed restrictions to disclose that property is “subject to extraordinary hazards posed by earthquake and tsunamis, and by future sea level rise, which may also increase the risks posed by coastal erosion, storm surge, and wave attack.”<sup>99</sup> The Master Plan further requires disclosure that current property owners have accounted for future sea level rise, warrant that no shoreline protection devices will be necessary, and acknowledge that no shoreline protection devices will be permitted.<sup>100</sup>

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<sup>97</sup> California Coastal Commission, *Staff Report and Recommendation: Humboldt County LCP Amendment No. HUM-MAJ-01-08 (Samoa)* at 21 (September 30, 2010), available at <http://documents.coastal.ca.gov/reports/2010/10/Th11b-10-2010.pdf>.

<sup>98</sup> California Coastal Commission, *Staff Report and Recommendation: Humboldt County LCP Amendment No. HUM-MAJ-01-08 (Samoa)* at 62 (February 24, 2011), available at <http://documents.coastal.ca.gov/reports/2011/3/Th7a-3-2011.pdf>.

<sup>99</sup> California Coastal Commission, *Staff Report and Recommendation: Humboldt County LCP Amendment No. HUM-MAJ-01-08 (Samoa)* at 62 (February 24, 2011), available at <http://documents.coastal.ca.gov/reports/2011/3/Th7a-3-2011.pdf>.

<sup>100</sup> California Coastal Commission, *Staff Report and Recommendation: Humboldt County LCP Amendment No. HUM-MAJ-01-08 (Samoa)* at 62 (February 24, 2011), available at <http://documents.coastal.ca.gov/reports/2011/3/Th7a-3-2011.pdf>.

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## Resources

Jennifer Grannis, *Adaptation Tool Kit: Sea-Level Rise and Coastal Land Use: How Governments Can Use Land-Use Practices to Adapt to Sea-Level Rise* (October 2011), available at

[http://www.georgetownclimate.org/sites/default/files/Adaptation\\_Tool\\_Kit\\_SLR.pdf](http://www.georgetownclimate.org/sites/default/files/Adaptation_Tool_Kit_SLR.pdf)

James G. Titus, *Rolling Easements* (June 2011), available at

[www.epa.gov/cre/downloads/rollingeasementsprimer.pdf](http://www.epa.gov/cre/downloads/rollingeasementsprimer.pdf)

Meg Caldwell & Craig Hold Segall, *No Day at the Beach: Sea Level Rise, Ecosystem Loss, and Public Access Along the California Coast* 34 *ECOLOGY L.Q.* 533-578 (2007), available at

<http://www.boalt.org/elq/documents/elq34-2-09-caldwell-2007-0910.pdf>

Land Use Law Center, Pace University School of Law, report prepared for the Nature Conservancy of Long Island, *Local Land Use Response to Sea Level Rise* (undated), available at

[http://www.csc.noaa.gov/digitalcoast/inundation/\\_pdf/Pace\\_Final\\_Report.pdf](http://www.csc.noaa.gov/digitalcoast/inundation/_pdf/Pace_Final_Report.pdf)

NOAA Office of Ocean and Coastal Resource Management, *Adapting to Climate Change: A Planning Guide for State Coastal Managers* (2010), available at

<http://coastalmanagement.noaa.gov/climate/adaptation.html>

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