Draft Findings of the Monterey County LCP Periodic Review

CHAPTER 6: Coastal Hazards

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A. Coastal Act Policy Framework

Coastal Act Section 30253 requires that new development be sited and designed to: 1) minimize risk to life and property in areas of high geologic, flood and fire hazard; and 2) assure stability and structural integrity and neither create nor contribute significantly to erosion or require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs. With regards to shoreline hazards, Coastal Act Section 30235 states that the construction of shoreline protective devices shall be permitted when required to serve coastal dependent uses or to protect a existing structures or public beaches threatened from erosion, and when designed to eliminate or mitigate impacts on shoreline sand supply. With respect to flooding hazards, Coastal Act Section 30236 allows alteration of rivers and streams for flood control projects if they incorporate the best mitigation measures feasible and if they are limited to: 1) necessary water supply projects, 2) projects where no other method for protecting existing structures in the floodplain is feasible and where such protection is necessary for public safety or to protect existing development, and 3) projects where the primary function is the improvement of fish and wildlife habitat. Finally, the Coastal Act provides that structures damaged or destroyed by natural disasters can be rebuilt in the same area, exempt from coastal permits, if they are not expanded by more than 10% and they conform to existing zoning requirements (Section 30610(g)).

In carrying out Coastal Act policies in permits, appeals and in certifying LCPs for shoreline development, the Commission has used a variety of development controls. These include such methods as: ensuring adequate setbacks (to prevent the need for seawalls in the first place); limiting seawalls to protect existing *primary* structures at risk rather than ancillary structures; allowing placement of seawalls only where there is no less environmentally damaging alternative to protect the structure; ensuring that seawalls are designed to minimize impacts such as encroachment onto sandy beach, replenishing beach sand trapped behind walls, and restoring sand berms or dunes to provide alternative protection.

Since certification of the Monterey County LCP in 1988, based on new information and its experience with increasing numbers of shoreline structures in California, the Commission has continued to learn about the impacts of shoreline armoring on beaches and wave refraction, visual resources, public access and recreation, and environmentally sensitive habitats such as marine haul-out sites.[1] In recent years, the Commission has implemented stricter measures to encourage resiting of new structures outside of hazardous areas and to avoid potential future armoring. In some cases, where an applicant's geologic assessment determines that new development is sited on vacant land in such a manner that it would have no need of a seawall over the life of the structure, the Commission has required an explicit condition waiving any right to such future armoring. In carrying out Coastal Act policies to address river mouth flooding, the Commission's general intent

[1] California Coastal Commission, *Beach Erosion and Response Guidance Document,* December 1999.

has been to try to maintain the natural, unrestricted riverine cycle, to the extent feasible. In particular the Commission has discouraged breaching for human convenience unless there are unavoidable public health and safety issues at hand.

In order for a jurisdiction to effectively implement its local coastal program in conformance with the Coastal Act, it must have and follow policies that, for example:

- Identify hazard areas;
- Guide more specific delineation of the hazards during project review;
- Direct development away from hazard areas where feasible; and
- Determine and provide for avoidance and mitigation of impacts from and on developments in or adjacent to hazardous areas.

B. Monterey County Certified Local Coastal Program

1. Background

Coastal hazards are a significant presence in Monterey County. The region is seismically active with major earthquake faults running through the County. In addition, there are many areas of steep slopes, particularly in the Big Sur area, where landslides are prevalent along the Highway One corridor (see Issue LU-13 for more detail). Although the County' shoreline geology differs somewhat from other areas of California, particularly given the more stable granitic bedrock of the Monterey Peninsula area, shoreline erosion and wave runup is still a significant concern in Del Monte Forest, the Carmel area, and Moss Landing. Flooding from rivers, streams, and lagoons occurs in the County as well. Finally, much of the County's rural coastal zone has high potential for wildland fire.

2. Summary of Local Coastal Program Provisions

To carry out the Coastal Act policies relating to coastal hazards, the certified Monterey County LCP has provisions to address shoreline hazards, steep slopes and unstable areas, wildland fire, and coastal flooding.

a. Hazard Identification

The LCP identifies high hazard areas specific to each coastal planning area. The *North County LUP* (page 28) identifies seismic and geologic high hazard areas as:

- Zones 1/8 mile wide on each side of active or potentially active faults;
- Areas of Tsunami Hazard;

- Areas indicated as "Underlain by Recent Alluvium" and "Relatively Unstable Upland Areas" in the County Seismic Safety Element;
- Geotechnical Evaluation Zones IV, V, and VI on the County Seismic Safety Element maps;
- Geotechnical Evaluation Zones V and VI on the Monterey Peninsula Map of the County Seismic Safety Element; and
- The 100-Year Flood Plain and areas classified as having a high to extreme fire hazard through application of the Department of Forestry criteria are also listed as high hazard areas.

The *Carmel Area Land Use Plan* (p.35) mirrors this list except that it also includes existing landslides and adds consideration of the Fire Hazard Severity Scale in determining fire hazards. The *Del Monte Forest LUP* (p.25) identifies high hazard areas related to seismic and fire risk. Slopes over 30% in combination with unstable bedrock or soils are noted as potentially hazardous and the Cypress Point fault (potentially active) and minor faulting in the Pescadero Canyon area are the most significant local hazards. Most forested areas of the Del Monte Forest are considered high fire hazard areas. While not specifically identified as a high flood hazard area, *Del Monte Forest LUP* policies address areas subject to potential wave run-up and prohibition of development on bluff faces. The *Big Sur Coast LUP* (p.38) notes the entire area presents a high degree of hazards, including seismic, geologic, flood, and fire hazards.

b. General Hazard Avoidance

In general, the LCP seeks to site and design new development to minimize risks and to avoid new development in high hazard areas. Policies require that areas of a parcel subject to high hazard are generally not suitable for development and open space uses are preferred. Land divisions are restricted unless it can be demonstrated that development will not create nor contribute to hazards nor require construction of protective devices. Geotechnical reports are required for any new development in high hazard areas.

c. Shoreline Hazards

All four coastal planning area land use plans contain similar general policies that preclude or limit seawall development by prohibiting further alteration of natural shoreline processes, except for protection of public beaches, existing structures, and coastal dependent development.[2] The *North County LUP* also allows protection for purposes of "public health and safety." The *Del Monte Forest LUP* Policy 47 and corresponding *County Code* Section 20.147.060.E.2 permit seawalls necessary to protect existing recreational facilities. Furthermore, Policy 47 states that for the purposes of application of the policy, existing development shall mean substantial structures such as a primary residence, road, or other facility usable by the public. The *Carmel Area LUP* also

[2] *No. County LUP* Policy 2.4.2.1, *County Code* Section 20.144.060.C.1; *Del Monte Forest LUP* Policy 29, *County Code* Section 20.147.040C.3.c; *Carmel Area LUP* Policies 2.3.4.4 and 2.7.4.10, *County Code* Section 20.146.080.D.1.i.

prohibits shoreline alteration unless necessary to protect existing development. (See Issue CH-3 for further detail on these policies.) And *County Code* Section 20.145.040.2.b for the Big Sur Coast planning area precludes alteration of the shoreline except for work essential to the maintenance of Highway 1.

Three of the four Monterey County land use plans contain policies to address siting of development to avoid or minimize potential shoreline armoring. The *Del Monte Forest LUP* Policy 49 permits bluff and cliff top development only if design and setback provisions are adequate to assure stability and structural integrity for the economic life span of the development, which the policy states as a minimum of 50 years. The *Big Sur Coast LUP* Policy 3.9.1.1 and *County Code* Section 20.145.080.2.h require adequate blufftop setbacks to avoid the need for seawalls during the development's economic life span. The *Del Monte Forest LUP* Policy 46 precludes habitable structures along the shoreline in areas subject to wave runup. Because there are no shoreline bluffs in North County, its LUP does not contain specific blufftop policies but does include policies addressing new development on slopes greater than 30 percent.

The *Coastal Implementation Plan* (CIP) provisions, which cover all four coastal planning areas, require a geologic report for any development project "within 50 feet of the face of a cliff or bluff or within the area of a 20 degree angle above horizontal from the face of a cliff, whichever is greater." The report is required to evaluate the effect of the proposed development, including effect of the siting and design of structures, the slope stability, and potential erodability of the site. Soils and geologic reports are required for all new development on slopes exceeding 30 percent. (See Issue CH-7 in Appendix A for more detailing of various slope policies in the County.) Mitigations are not to include measures that would substantially alter natural landforms.[3]

d. Fire Hazards

Polices addressing fire hazards also vary among the four land use plans. Policies in the *North County*, *Carmel Area* and *Big Sur Coast LUPs* provide that creation of new subdivisions be avoided in very high wildfire hazard areas as determined by site specific assessments. In the Big Sur Coast planning area this is not limited to creation of subdivisions alone, but applies to all development. In the *North County* and *Carmel LUPs***,** policies require that portions of parcels in high or very high hazard areas be allowed to develop only if there is no alternative location on the parcel suitable for site the development. In the *North County LUP* use of fire resistant materials is required. The policies provide that roads are to be adequate to serve emergency equipment. The *Del Monte Forest LUP* allows exceptions to application of fire hazard clearance requirements where the Del Monte Forest Open Space Advisory Committee (OSAC) maintenance standards for open space parcels specifies otherwise for environmental protection reasons. Issue CH-9 below contains a further discussion of the LCP's fire provisions.

e. Flood Hazards

[3] *North County LUP* Policies 2.8.3.3, 2.8.3.4, 2.8.3.5.

Land use plan policies address flood hazards by restricting new or intensified development in the 100-year floodplain. In the *North County* and *Big Sur Coast LUPs*, flood hazard policies provide, with some exceptions such as utilities, that new or intensified development be prohibited in the 100 yr floodplain to the maximum extent feasible and that land uses within the 100-year floodplain be limited to agriculture and resource conservation. Allowable new development is required to submit a hydrology assessment and either site structures outside the floodplain or conform to National Flood Control insurance guidelines. The *Carmel Area LUP* acknowledges the existing development and levees in the floodplain. The *LUP* calls for a floodplain management program for the lower Carmel River and policies that emphasize non-structural methods of flood control. Allowable structures are to be sited outside of the riparian zone and designed to maintain resources. New or intensified development in 100-yr floodplain is allowed if structures are built above the 100-yr flood level and mitigated. In most of the coastal area *LUP*s, streambank restoration is required with any allowed flood control measures.

f. Other Hazards

All coastal area land use plans require that new development be setback a minimum of 50 feet from active or potentially active faults to minimize seismic risks. In the *North County*, *Del Monte Forest* and *Carmel Area LUPs*, development on steep slopes >30% is allowed only with mitigation. The *Carmel Area LUP* restricts land disturbance and vegetation removal in areas with unstable, or erodable soils and prohibits development on steep slopes >30% of Santa Lucia Shale.[4]

C. Local Coastal Program Implementation Issues

1. Overview of Issues and Recommendations

Implementation of LCP policies related to coastal hazard management issues raises concerns related to giving adequate consideration to alternatives that balance the need to respond appropriately to hazard prevention with the need to provide adequate natural resource protection. In order to assure that the LCP carries out its hazards policies consistent with Coastal Act policies, the County needs to require more extensive management plans to avoid adverse impacts that result from incremental permit decisions.

In implementing shoreline hazards policies, the potential for additional shoreline armoring, especially along the scenic shoreline in the Del Monte Forest planning area, can be the result of a number of factors, including: 1) how the County has interpreted existing policies; 2) lack of adequate consideration of alternatives designed to avoid the need for armoring; and 3) lack of requirements to incorporate state of the art mitigation measures. The LCP needs revisions to address these factors, to improve setback policies, and policies designed to avoid the need for future seawall development.

[4] The *Carmel Area LUP* also requires that such steep slopes on Santa Lucia Shale be maintained in open space due to the high risk of erosion and landslides associated with this soil type.

In addressing rural fire hazards, LCP implementation is resulting in impacts to scenic and natural resources from application of fire prevention standards. LCP revisions are needed to require fire protection standards be applied in a more flexible manner in order to avoid or minimize impacts to coastal resources. Consolidation of fire protection policies will help clarify measures necessary to ensure protection of scenic and natural resources.

In addressing flood hazards along the County's rivers and sloughs, protection of environmentally sensitive habitat areas continues to be problematic. The County should require flood management projects to be designed within a watershed management framework that supports the consideration of alternatives to breaching of the Pajaro River, Salinas River, and Carmel River Lagoons. To ensure that the LCP is implemented in conformance with the resource protection and hazard policies of the Coastal Act, future flood management of the Tembladero Slough and the Pajaro River must seek environmentally superior alternatives that increase habitat value in addition to increased flood capacity. The County should also seek to minimize the future need for increased flood capacity through requiring infiltration and detention of stormwater within the urban growth areas.

a. Shoreline Hazard Issues

Although Monterey County experiences many of the same shoreline hazards found in other California counties, problems associated with these hazards occur less frequently due to the particular geologic setting and development patterns found in the County. Much of the Monterey County shoreline is relatively undeveloped, containing abundant agricultural lands such as those located along the inner Monterey Bay area in North Monterey County, and along the rural Big Sur coastline. In addition, the extent of granitic bedrock geology and thus rocky shoreline along the Monterey Peninsula, where much of the County's urban development is located, is such that erosion risks are relatively small compared to, for example, the higher, mainly unconsolidated bluffs of Santa Cruz County (see below).

Permit data for shoreline protective devices Monterey County also shows relatively less activity compared to other jurisdictions. Monterey County has approved approximately 25 permits for new, repaired or expanded shoreline protective devices since 1988. Many of these were emergency permit actions – a familiar trend in shoreline erosion response.[5] In terms of geographic distribution, one third of the permits for shoreline protection devices were for new or repaired shoreline structures in the Del Monte Forest planning area, where nationally famous golf courses and 17 Mile Drive front most of the coastline. A more specific case study evaluation of shoreline protective devices located in Del Monte Forest and Coastal Act issues raised by this activity is developed below (see Issue CH-8).

Staff review and analysis of local coastal development permits through the post-certification monitoring process and the Periodic Review, as well as evaluation of the certified LCP, also revealed that more general shoreline hazard policy changes are warranted, in order to update the

[5] See California Coastal Commission *ReCAP Pilot Project Findings and Recommendations: Monterey Bay Region*, 1995 pp. 30-32 for a further discussion of this issue.

Monterey County LCP consistent with current policy implementation and practices of the Commission. For example, the LCP needs updated and more detailed policies to address setback methodologies (**Issue CH-2: Bluff-top Setbacks**), geotechnical reporting requirements (**Issue CH-1: Technical Reports**), guarantees that no future seawalls will be proposed for new development (**Issue CH-3: Seawalls**), and to assure adequate alternatives analysis and structure designs are conducted to protect public access and visual resources (**Issues CH-5: Shoreline Structure Design** and **CH-6: Tunnels**). These detailed shoreline structure recommendations are found on pages 148 – 156 and 158 -162 of Appendix A. The LCP also needs more clarity in how to address additions and improvements to structures on blufftops or in other hazardous areas (**Issue CH-4: Structural Changes in Hazardous Areas**). Recommendations to ensure that additions comply with hazard area setback requirements are found on pages 157-158 of Appendix A. Finally, certain issues related to coastal hazards, such as the difficulty of planning for coastal resource protection through emergency permitting, are noted in Chapter 10.

b. Flooding Issues

Issue scoping revealed on-going flood-prevention planning and/or flood control activities on various waterways in the County's coastal zone that potentially conflict with other resource objectives, such as habitat protection or water quality improvement. Thus, the Periodic Review has identified a need for the County to integrate various objectives into its waterway management, as the LCP policies already require. Flood control initiatives regarding the Carmel River, Salinas River, Tembladero Slough, and Pajaro River are briefly addressed in this context under Issues CH-10, CH-11, CH-12, and CH-13, respectively, below.

c. Slope and Fire Hazards Issues

The problem of landslides and protecting Highway 1 along the Big Sur Coast is discussed in detail under Issue LU-13 in Chapter 2. In addition, Appendix A includes some detailed recommendations to update the County's policies to prevent development on steep slopes (**Issue CH-7: Steep Slopes**). Finally, as discussed in detail in Issue CH-9 below, the Periodic Review has identified a need to improve the County's implementation of fire hazard avoidance policies to better protect environmentally sensitive habitat areas and public viewsheds.

2. Issues Analyzed in Detail

In addition to the issues mentioned above that are covered in Appendix A, the following issues are discussed in more detail in this section: Issue CH-8: Del Monte Forest Shoreline Erosion and Issue CH-9: Rural Fire Standards. An overview of each issue leads, followed by background information, applicable County LCP provisions, a description of how the policies have been implemented, analysis, and, finally, corrective recommendations. These are followed by briefer discussions of Issue CH-10: Carmel River Mouth Breaching, Issue CH-11: Salinas River Mouth Breaching, Issue CH-12: Tembladero Slough, and Issue CH-13: Pajaro River.

a. Issue CH-8: Del Monte Forest Shoreline Erosion

(1) Overview

This subchapter addresses the following concern identified through issue scoping: **Ensure that there are adequate shoreline protective policies to address issues raised in the Del Monte Forest planning area, especially involving existing golf courses.**

The Del Monte Forest shoreline is comprised primarily of unprotected cliffs. Except for a dozen or so residential parcels, the bluff top is developed with golf courses and other recreational attractions concentrated in four ownerships. While the cliffs are somewhat threatened with erosion, their beauty, integrity, and the beaches below are threatened by continued armoring. Reponses to date have been to incrementally address erosion threats as they occur. Permit review of coastal development permits since certification has revealed eight approvals for new or improved shoreline structures, where the need for them (compared to alternative strategies) has not always been documented. The LCP has not been implemented in a manner totally consistent with Coastal Act directives to limit shoreline protective devices to certain uses in certain circumstances. Part of this is due to the County not fully implementing LCP provisions that require alternatives analysis. Part of this is due to the wording of the LCP policies that are not fully consistent with the Coastal Act. However, performing alternatives analyses for discrete portions of a golf course (such as a tee, green or fairway) may be problematic, and applying Coastal Act provisions (which address existing structures in danger from erosion) to golf courses requires a broader interpretation of Coastal Act policies. Thus, recommendations are made to comprehensively develop a shoreline management plan for the non-residential portions of the Del Monte Forest shoreline.

(2) Resource Background

Shoreline Characterization

The Del Monte Forest shoreline is approximately ten miles long, and is comprised primarily of unprotected rocky cliffs of granodiorite bedrock, which provide numerous pocket beaches of limited extent. Spanish Bay and Fan Shell Beach are the two major pocket beaches, both backed by vegetated dunes.[6] Atop this granitic bedrock are unconsolidated marine terrace deposits, which provide a relatively level surface approximately 8 to 15 feet above mean sea level in most places. Due to tectonic uplift, most of the shoreline within the tidal zone consists of the highly resistant granitic bedrock, which projects from the Santa Lucia Mountains into Monterey Bay in a series of steps or coastal terraces.

Land use along the Del Monte Forest shoreline includes both recreational and residential uses. Approximately 80% of the shoreline area is comprised of five golf courses, which include three public courses (the Links at Spanish Bay, Spyglass Hill Golf Course, and Pebble Beach Golf Links), and two private courses (the Monterey Peninsula Country Club and Cypress Point Golf Links), as depicted on Map CH-8.a. The remaining 20% of shoreline is designated either for dedicated open

[6] Griggs, Gary and Lauret Savoy, eds. *Living with the California Coast,* Duke University Press, 1985, pg. 213.

space or residential use. Of the 54 parcels that exist along the Del Monte Forest shoreline, approximately six of the parcels that remain vacant are zoned for residential use.

The Del Monte Forest shoreline area is located within the Carmel River littoral cell, which extends from Asilomar Beach, south to Point Lobos. The Carmel River littoral cell is the middle of three littoral cells that exist along the Monterey County coast between Moss Landing and Partington Canyon along the Big Sur Coast. In the northern section of the Carmel River cell, sediment is transported south from Asilomar dunes around Cypress Point, where some of it is transported onshore by wind, thus contributing to the nourishment of pocket beaches along most of the Del Monte Forest shoreline north of Pebble Beach. South of Pescadero Point, the main source of sediment for the Carmel River cell is discharge from the Carmel River. However most of the sediment from the river is transported into Carmel Bay in a northwesterly direction and eventually into the Carmel submarine canyon, which is located about 2 miles offshore. As a result, little sediment reaches Stillwater Cove in the southern portion of the littoral cell or the northern beaches at Spanish Bay and Fan Shell Beach.[7]

Threats to Shoreline Resources

Other than seismic shaking, ocean wave attack is the most significant geologic hazard along the Del Monte shoreline. As a result, there is a potential for increased shoreline armoring to respond to this hazard. Shoreline erosion that threatens existing development can adversely affect sand supply in some cases and can result in armoring that degrades the scenic appearance of the shoreline, impedes public access and impacts shoreline habitat.

The granitic bedrock that makes up the Monterey Peninsula has, for the most part, protected the area from shoreline erosion problems.[8] However, areas of the shoreline that have unconsolidated overlying marine terrace deposits are more prone to erosion. Coastal erosion rates within the granodiorite bedrock are very low compared with the erosion rates of the overlying terrace deposits.[9] However, areas where the granitic bedrock surface is located closer to the wave attack zone, and uncontrolled surface drainage is allowed to flow across unconsolidated marine terrace deposits, experience relatively higher shoreline erosion rates.

Areas with overlying marine terrace deposits can be subject to episodic wave attack, especially during strong storm years. Very little or no erosion of the bluff may occur for several years or decades but then a severe storm or set of storms can erode up to ten feet or more of marine terrace deposits and underlying weathered bedrock.[10] Coastal erosion analysis has indicated that the "average bluff recession rates are about 0.1 feet per year in most of the Cypress Point section of

[7] State of California, The Resources Agency, *Assessment and Atlas of Shoreline Erosion Along the California Coast*, 1977.

[8] Griggs, Gary and Lauret Savoy, eds. *Living with the California Coast,* Duke University Press, 1985, pg. 210.

[9] Haro, Kasunich and Associates, *Geologic & Geotechnical Report for Shoreline Protection Project – Cypress Point Golf Club,* November 1997.

[10] Haro, Kasunich & Associates, Project No. M3879, February 10, 1994, pg. 32.

coastline." Other areas within the vicinity of the Cypress Point shoreline that are more prone to wave attack have a recession rate of 0.2 to 0.3 feet per year. [11]

In areas north of Cypress Point the marine terrace is less than 20 feet in elevation above mean sea level, and is susceptible to wave run-up hundreds of yards inland that can deposit large amounts of debris.[12] Both the southern part of Asilomar State Beach and Spanish Bay have been subject to such wave damage in the past. South of Cypress Point, erosion of the coastal terraces from wave-cast debris is a potential hazard and some development has been protected by armoring along Carmel Beach. In other areas along this stretch of shoreline, armoring occurs in isolated areas exposed to wave attack. The possibility of more shoreline armoring exists in these areas subject to wave attack. In addition, an increase in severe storms in the region and potential sea level rise could possibly increase the threat of shoreline erosion. [13]

Responses to Shoreline Threats

Responses to shoreline erosion and upper bluff failure have been to install protective structures on a case-by-case basis. These are usually proposed when there is some evidence of erosion or failure, often after significant El Nino storm events. It appears that around 10% of the shoreline has been armored. Protective structures include rock and mortar, rock riprap, seawalls, and concrete cube revetments. Most of the armoring along the Del Monte Forest shoreline to date has occurred at and south of Fan Shell Beach. Prior to LCP certification, the Commission had approved 10 shoreline protective device permits in the Del Monte Forest area. Of those 10 permits, only three were for new shoreline protective devices, and seven permits were for maintenance or repair of existing shoreline protective devices. At the northern end of Del Monte Forest, the Commission approved the Spanish Bay complex with a condition to avoid future seawalls.[14] Responses since LCP certification are detailed below.

The Monterey Bay National Marine Sanctuary is preparing a Coastal Armoring Action Plan.[15] The Action Plan strategy includes steps to develop, compile and analyze data for use in planning and permit review and for implementation of long term monitoring of the impacts of shoreline armoring. It proposes to develop and implement a regional approach to minimize the negative impacts of armoring. This regional approach would include development of a hierarchy of preferred responses to erosion and development of sub-regional guidelines that consider particularly sensitive resource areas, urban areas and areas where further research is needed. Such an approach would include

[11] Haro, Kasunich & Associates, Project No. M5755, November 21, 1997.

[12] Griggs, Gary and Lauret Savoy, eds. *Living with the California Coast,* Duke University Press, 1985, pg. 210.

[13] Haro, Kasunich & Associates, Project No. M3879, February 10, 1994.

[14] Coastal Commission permit CDP 3-84-226 for Spanish Bay included a special condition requiring the Pebble Beach Company to submit to the Executive Director written acknowledgement that:

"...neither the Commission nor local government is obligated to approve construction of a shoreline protective device to protect the subject property in any event that the golf course, at some future point in time, is subject to damage from erosion or waves. In such event, the landowner (deed holder) may be required to modify the golf course as needed or take some other measure to protect the golf course than the construction of a shoreline protection device."

[15] Monterey Bay National Marine Sanctuary, *Proposed Action Plans*, June 2003, p. 12.

developing measures to reduce the need for emergency armoring, developing enforcement measures, considering a potential sand supply program, and distributing new scientific information as it becomes available. The Action Plan would also develop a means to improve the current permit approach to permitting and improve interagency coordination on coastal armoring permits.

(3) Local Coastal Program Provisions

The LCP designates the Del Monte Forest shoreline area as either Open Space/Recreation or Low-Density Residential. The LCP, as it applies to the Del Monte Forest planning area, allows shoreline protective devices and shoreline alteration to protect existing development and public recreational facilities. *Del Monte Forest Land Use Plan* Policy 47 and corresponding *County Code* Section 20.147.060.E.2 define "existing development" to mean substantial structures such as primary residences, roads, or other facilities usable by the public. *Land Use Plan* Policy 29 precludes alteration of the shoreline except when required to serve coastal-dependent uses, to protect existing structures, or to restore and enhance habitat. Policy 46 precludes habitable structures along the shoreline in areas subject to wave runup. Policy 49 permits bluff- and cliff-top development only if design and setback provisions are adequate to assure structural stability and integrity for the economic life of the structure (minimum of 50 years). Policy 40 requires geotechnical reports in high hazard areas. In addition to conformance with *Guidelines for Geologic/Seismic Reports,*[16] geotechnical reports for shoreline protective devices are required to address design wave height, frequency of overtopping, erosion rate without the protection device, and affects of the device on adjoining property.[17] Policy 49 also requires a site stability evaluation report for bluff- and cliff-top development. Additionally, Policies 50, 51, 56 and 57 and their corresponding *County Code* sections address relevant visual resource protection requirements.

(4) Local Coastal Program Implementation

Permit Review In General

Since LCP certification, Monterey County has issued eight coastal permits for shoreline protective work along the Del Monte Forest shoreline.[18] Two permits were issued to Pebble Beach Company for a combined total of five eroding locations along 17 Mile Drive north of Cypress Point (at Point Joe and Fan Shell Beach). Three permits were issued to the Cypress Point Golf Club for a combined total of nine eroding locations along the golf course shoreline. And two permits were issued again to Pebble Beach Company for a combined total of five locations south of Cypress Point, along the Pebble Beach Golf Links shoreline. Only one permit was issued to a private residence just north of the Pebble Beach Golf Links for a repair of a failing existing seawall. The location of each of these

[16] California Division of Mines & Geology (CDMG Notes 37); now the California Geological Survey.

[17] *County Code* Section 20.147.060.A.9.j for Del Monte Forest. See Issue CH-1 for further discussion of report requirements.

[18] Monterey County actually issued a ninth permit: an emergency permit for the same work as the follow-up permit. These two permits are discussed together as one action. The Coastal Commission itself issued four permits, both for repairs; one to a riprap rock revetment protecting a Beach Club. (3-96-091-DM) and one to reinforce a previously approved seawall at Cypress Point (3-83-141-A-1) and two amendments involving shoreline protection at four locations along the Pebble Beach golf course (3-83-197-A2 and 3-83-197-A-4).

permitted structures is shown on Map CH-8b. The following descriptions of these eight permits focuses on several factors, including: whether a shoreline structure was necessary; whether it was required to protect an existing use; and whether it was properly designed and mitigated.

All permits issued for shoreline protective devices along the Del Monte Forest shoreline included the submittal of geotechnical reports as part of the permit process. Regarding the necessity of installing a shoreline protective structure, permits were generally issued based on the threat posed to existing development from bluff-top erosion and/or failure. In two instances permits were issued for repair and maintenance of existing shoreline protective devices. One of these included extension of the existing shoreline protective device in addition to repair work. The remaining permits issued were for new shoreline protective devices; however, two of these were after-the-fact permits for shoreline structures that had already been installed. Only, one permit's findings explicitly listed a range of alternatives, including a no-structural-protection option. The one residential permit was for after-the-fact repair of an existing seawall, in conjunction with the demolition and reconstruction of the existing single-family dwelling. However, the County made no indication in the permit findings as to the necessity of the wall to protect the new home; rather necessity for the permit was based on the fact that the existing wall was in danger of collapse.

All the permits issued were to protect existing facilities, including, as noted, a road, a house, and portions of existing golf courses. In one instance, the permit actually approved a design modification to move a course's hole closer to the ocean on the coastal bluff, with no condition prohibiting future shoreline protection. Only one of the golf courses located along the Del Monte Forest shoreline – The Pebble Beach Golf Links - is public. The other course – The Cypress Point Golf Course- is a private golf course and does not allow public access to its facilities. The elements of these courses protected through shoreline armoring include tees, fairways, and greens.

For the most part, the County has considered public access, visual resources, and potential impacts to environmentally sensitive habitat areas when issuing shoreline protection permits. The permits reviewed contain assessments of whether or not the proposed shoreline protective device would have significant impacts on the public viewshed and have required that structures be designed to resemble the surrounding bluffs when these proposed devices were located within the public viewshed.[19] And, for the most part, visual inspection of the completed structures shows that they have blended into the surrounding landscape. However, there is variability in the designs, with some of the walls looking less than natural. In one case where a permit was issued for rip-rap installed originally without a permit,[20] the County found that the work, as built and located in an area designated as a visual resource area, was inconsistent with the LCPs requirements that it blend in with the surroundings. The County thus imposed conditions that required use of boulders of the same color as that of the surrounding geology and creation of a habitat enhancement landscape plan to encourage restoration of native vegetation and animal life. In another example, a regular permit

[19] County coastal permits PLNs 965322, 970480, 000595 (3-MCO-97-103, 3-MCO-98-071, 3-MCO-01-543, respectively).
[20] County coastal permit PC-7252 (3-MCO-90-198).

approved as a follow-up to an emergency authorization for riprap required design modifications to create a surface that more closely resembled the surrounding bluffs.[21]

The County has factored in compliance with environmentally sensitive habitat area policies in its seawall permits.[22] Where proposed shoreline protective devices have been determined to be inconsistent with LCP habitat policies, projects have been conditioned to address environmental impacts.[23] Permits have been conditioned to avoid or mitigate impacts in areas known to have the presence of certain sensitive animal species based on biology report recommendations. For example, required biology reports have contained recommendations for avoiding any construction activity during specific periods of the year when harbor seals are in their birthing and nursing season, and where the biology report has documented that areas adjacent to the proposed shoreline protective device contain habitat for these species (e.g., offshore rocks).[24] Biology reports that have indicated a presence of listed plants such as coastal dune buckwheat and/or Smith's Blue butterfly habitat have included recommendations to replace loss of plants as a mitigation measure for impacts associated with the development. In some instances, conditions of permits included replacing invasive non-native ice plant with native plants that are endemic to the area and have required weed control immediately following construction to avoid non-native plant colonization.

With respect to the County's consideration of impacts to shoreline access by proposed shoreline protective devices, a majority of permits reviewed do not include findings of consistency with LCP public access policies. The remaining permits had findings either noting that public access was not affected or that the project occurred where public access was not available. In one case, the geotechnical report recommendations included constructing revetments designed to minimize beach coverage.[25]

Permit Review Influenced by Coastal Commission Actions

Shoreline protective structures along the Cypress Point shoreline have been approved by both Monterey County and Coastal Commission permits. Approximately 10 shoreline structures are located along the Cypress Point shoreline. Of those structures, only one had originally been approved by Coastal Commission action in 1983, along with a subsequent amendment in 1998 for reinforcement and repair.[26] This same structure was also included in a 1998 County-approved bluff restoration project.[27] Six structures were originally approved through County permits, and three other structures, having neither Coastal Commission nor County permits, were likely constructed prior to enactment of the Coastal Act.

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[21] County coastal permit PLN000595 (3-MCO-01-543).

[22] *Del Monte Forest LUP* Policy 8, 9, 12, 14, & 15; *County Code* Section 20.147.040.B.2, B.4, B.5, B.8, B.9.

[23] County coastal permits PC 94022, PLN 970480 (3-MCO-94-074, 3-MCO-98-071).

[24] County coastal permits PLNs 970480, 990546, 00059 (3-MCO-98-071, 3-MC0-01-137, 3-MCO-01-543).

[25] Haro, Kasunich & Associates, Project No. M3879, February 10, 1994, County permit PC 94022 (3-MCO-94-74). Geotechnical report recommended a seawall face gradient of 1.5:1 (H: V) to minimize beach coverage.

[26] Coastal Commission Permit 3-83-141, and subsequent amendment 3-83-141-A1.

[27] County coastal permit PLN 970480 (3-MCO-98-071).

Shoreline protective structures along the Pebble Beach Golf Course shoreline have also been permitted through both Monterey County and Coastal Commission permits. Structures located along the 5th, 9th, and 10th holes have all been permitted by County permits alone. Structures located along the 17th green, 18th tee, and 18th green have been permitted by Coastal Commission actions. The Coastal Commission also permitted the repair or modification of some of these structures after LCP certification through amendments to the earlier Coastal Commission permits, as required by conditions of those permits.[28] The Commission also approved a *de minimis* waiver for repairs of the existing riprap revetment along the shoreline of the Beach Club at Stillwater Cove.[29]

Nine other shoreline protective devices have been constructed along other areas of the Del Monte Forest shoreline (e.g., Fanshell Beach area or between Cypress Point and the Pebble Beach Golf Course). The Coastal Commission permitted one of these in 1987, prior to the County's LCP certification.[30] The County permitted three, none of which had any prior Commission action.[31] Four structures show no permits from either the County or the Coastal Commission, and were likely constructed prior to enactment of the Coastal Act.

(5) Analysis of Coastal Act Conformance

The Coastal Act Sections 30235 and 30253 provide standards to minimize risks of shoreline hazards and to avoid or minimize structural devices that alter shoreline process or natural landforms. The implementation of LCP policies that result in continued seawall construction may conflict with the Coastal Act objectives of limiting shoreline protective devices. Some new shoreline protective structures along the Del Monte Forest shoreline have been authorized by County coastal permits and some have been approved by the Coastal Commission. In implementing its LCP policies, the County has not adequately considered whether alternatives are available that would avoid the need for shoreline structures, whether the use being protected is one for which a shoreline protective device is allowed and whether the shoreline protection had been sited and designed to mitigate adverse impacts to natural landforms scenic resources, environmentally sensitive habitat areas and public access and recreation.

Implementation of Provisions to Consider Alternatives

Coastal Act Section 30253 requires, in part, that new development shall assure stability and structural integrity and not require the construction of protective devices that would substantially alter natural landforms along bluffs ands cliffs. Coastal Act Section 30235 permits alteration of the shoreline when required to serve certain uses. This concept is embodied in *County Code* Section 20.147.060.E.2, which says seawalls shall not be permitted, unless proven necessary by a qualified civil engineer, versed in shoreline protection. Implicit in this policy directive is the consideration of

[28] Coastal Commission amendments 3-83-197-A1, -A2, -A3, and –A4.

[29] Coastal Commission permit 3-96-091-DM.

[30] Coastal Commission permit 3-87-254.

[31] County coastal permits PLN000595 (3-MCO-01-543) for two structures at Fanshell Beach and PLN 010086 (3-MCO-01-572) for one structure on a private residence northwest of the Golf Links at Pebble Beach.

alternatives, which is also a CEQA requirement for EIRs and is required by *County Code* Section 20.147.060.A.9.j.9.

All permits reviewed have been subject to the CEQA process, but none required EIRs; all were issued negative declarations. Not all geotechnical reports were reviewed; therefore, the extent that alternatives were considered in the geotechnical reports was not evaluated in detail. But all the cases resulted in approved protective devices rather than any alternative siting or design modifications for road or golf course realignments to ameliorate the hazard. The one case of course modification that the County approved (to move a hole closer to the ocean) could actually increase the potential for needing future protection. For development of new structures on vacant land, the Coastal Commission has emphasized siting and design to assure no protective devices are needed as required by Coastal Act Section 30253. For example, in the Monterey Peninsula area, the Commission required such design considerations in review of the Spanish Bay development.[32] And in addressing existing development, the Commission has emphasized consideration of alternatives, including redesign and resiting, that might avoid the need for shoreline protection or be the least environmentally damaging alternative. In conclusion, the portion of Coastal Act Section 30235 addressing required protective devices has not been consistently carried out by the County and it appears that LCP language is not as explicit as it could be to help ensure that this Coastal Act provision is carried out.

Implementation of Provisions Protecting Existing Development

Coastal Act Section 30235 provides that shoreline protective devices that alter natural shoreline processes are only permitted when required to serve coastal dependent uses or to protect existing structures or public beaches in danger from erosion and when designed to eliminate or mitigate adverse impacts on local shoreline sand supply. The certified LCP expanded this policy to allow shoreline protection to "protect existing development or recreational facilities and beaches accessible to the public." In attempting to clarify the application of these terms the LCP has mixed the Section 30235 concepts of "existing structures" and "public beaches" by qualifying the "existing" concept to apply to publicly available only (not private) facilities like golf courses (*LUP* Policy 47 and *County Code* Section 20.147.060.E2). This would mean that a shoreline protective device would be allowed to protect the public Pebble Beach Golf Links but not the private, membership only Cypress Point Golf Course. However, permit review reveals that the County has not followed this policy distinction, as it has allowed shoreline protective devices for the private Cypress Point Golf Course recreational facility as well as the public Pebble Beach Golf Links course.[33] As a result, the implementation of the LCP policy has expanded the uses for which

[32] Coastal Commission permit CDP 3-84-226 for Spanish Bay included a special condition requiring the Pebble Beach Company to submit to the Executive Director written acknowledgement that:

"...neither the Commission nor local government is obligated to approve construction of a shoreline protective device to protect the subject property in any event that the golf course, at some future point in time, is subject to damage from erosion or waves. In such event, the landowner (deed holder) may be required to modify the golf course as needed or take some other measure to protect the golf course than the construction of a shoreline protection device."

[33] County coastal permits PC 94022, PLN 970480, PLN 990546 (3-MCO-94-074, 3-MCO-98-071, and 3-MCO-01-137, respectively).

armoring is allowed and thus has not resulted in avoiding or minimizing further shoreline armoring as required by Coastal Act policies.

The LCP implementation has also resulted in additional shoreline armoring as a result of the interpretation of what constitutes an existing structure for which protection is allowed. The County's LCP appropriately defines "existing" structures to mean substantial ones. However, the County has broadly interpreted "structures" to encompass golf courses as a whole, as opposed to considering whether the individual components needing protection (e.g., tee boxes, fairways, greens) were substantial structures. In some cases, where a golf course has historic significance to the game, golf course advocates point out that treating the course as a whole structure is the correct reasoning because erosion and/or relocating or redesigning parts of the course may affect the historic design of the course. However, golf courses, including historic ones, change and do get redesigned from time to time. Thus, consideration of resiting or redesign of parts of the course to avoid shoreline protection should be part of the alternatives analysis required in order to carry out Coastal Act policies.[34] There appears to be no evidence that the County has adequately considered siting and design alternatives of golf course features in order to avoid shoreline armoring. Thus, the LCP has not been fully implemented in conformity with provisions of the Coastal Act. Recommendations CH-8.2 and CH-8.3 suggest revisions that will help to clarify when shoreline armoring is permissible consistent with Coastal Act policies.

Implementation of Provisions for Mitigation Measures

Coastal Act Section 30251 requires that visual qualities of coastal areas be considered and protected as a resource of public importance. Permit review revealed that the County has incorporated scenic resource protection into the review of coastal permits for shoreline armoring. The structures approved by the County appear to better blend in with the natural environment, especially when compared to other existing structures, including ones approved by the Coastal Commission. Newer technology now exists that better integrates armoring with natural surroundings to blend in with the natural landforms. The Cypress Point Golf Club, for example, has utilized such technology to construct shoreline armoring in areas to the point where it is difficult to discern, by casual observation, exactly where areas of shoreline armoring exists. In most other cases, however, the structures are certainly recognizable as man-made. And in the cases of repairs to existing devices, visual compatibility with the surrounding environment has not been achieved.

In conclusion, this review suggests that while the County is implementing its LCP in a manner somewhat consistent with the Coastal Act, there is still room for improvement in requiring all new and existing projects to blend in better with the natural surroundings, and provide more attention to landscaping to help restore erosional areas as well as provide non-structural means of erosion control. Furthermore, the LCP should be updated to include criteria requiring applicants to use the best available technology for integrating shoreline protective devices into the natural landscape and to include more specific guidelines applicable to the design of shoreline structures.

[34] One of the subject permits did involve relocating the 5th hole, but also included bluff stabilization. Monterey County permit PLN 965322 (3-MCO-97-103).

Recommendation CH-8.4 suggests that by developing a comprehensive shoreline management plan, specific design criteria can be developed to ensure that the LCP will be carried out in a manner that protects the scenic resources of the shoreline in conformity with Coastal Act Section 30251.

Coastal Act Section 30240 requirements to protect environmentally sensitive habitat areas (ESHA) are embodied in various LCP policies (see Issue SH-4: Resource-dependent Uses in ESHA). Placement of shoreline protection can sometimes impacts sensitive habitats or species. However, information on the long-term cumulative impacts of shoreline protection devices on wildlife using nearshore aquatic and terrestrial habitats is not available. Permit file review indicates that habitats were given consideration in the County's review of projects for shoreline protection. However, it appears that the County did not always seek first to avoid impacts through alternative siting and design of structures as required by the LCP, but instead required only compensatory mitigation for disturbing environmentally sensitive habitat areas.

Alternative siting and design requirements for shoreline structures can also be used to avoid or minimize impacts to sandy beach and recreational resources. Coastal Act Sections 30220, 30221 and 30210 through 30214 require the protection and provision of public access. Generally, public enjoyment of the shoreline between Cypress Point and Pescadero Point has been limited to public viewing areas at designated points along 17 Mile Drive due to lack of available public access along this portion of shoreline. This stretch of shoreline is characterized mainly by rocky outcrops with relatively few pocket beaches and fewer opportunities to access them. Even given these circumstances, current public access may still be possible (e.g., from the sea), and additional access may also be possible in the future (via potential public access easement dedications). However, permit review has shown that the County has not consistently made findings related to the potential impacts of shoreline protection projects on public access, or, when findings were made, has not always carried out LCP requirements to consider alternatives that would avoid impacts to public coastal access. From review of the permit findings, it is difficult to determine whether or not there have been impacts to shoreline access from the placement of protective structures, although some sandy beach areas appear to have been impacted from encroachment of riprap armoring.

Conclusion

In conclusion, the analysis shows that the County has favored mitigation over avoidance when approving shoreline protective devices. In part this may be due to policies not being as directive as they could be, especially with regard to considering alternatives. Recommendation CH-8.1 would strengthen LCP requirements for evaluating alternatives to armoring in conformity with Sections 30253 and 30235 of the Coastal Act. This analysis also provides supporting evidence for related policy revisions recommended under Issues CH-1: Technical Reports, CH-2: Bluff-top Setbacks, CH-3: Seawalls, CH-4: Structural Changes in Hazardous Areas and CH-5: Shoreline Structure Design on pages 148 –160 of Appendix A. Also relevant are recommendations for Issue SR-4: Views from Offshore.

However, even with more directive policies, the full achievement of all Coastal Act objectives may not result. This is because of the characteristics of Del Monte Forest shoreline, where shoreline

structures have been installed incrementally on portions of world-renowned golf courses and along 17 Mile Drive. Application of general policies may lead to continuing questions, such as: given that the golf courses exist, would any improvements have to be set back a sufficient distance to not require a protective structure; given that there are already protective structures, can they be improved or expanded; and given that golf courses have both structural and non-structural components, is an entire course, or some of the individual components of a course, eligible for protective devices? Also, consideration of alternatives may require looking beyond just the individual tee box or green being considered for protection (or individual segment of 17 Mile Drive considered for protection). This becomes even more problematic given that Coastal Commission and County permit jurisdictions divide permit authority for such areas at the mean high tide line. The LCP should be revised to, as much as possible, reduce or eliminate such confusion. An opportunity exists to comprehensively plan for each of the Del Monte Forest shoreline holdings to determine how the general LCP shoreline policies would be applied, and to also address long-term management and design options. Such a plan can also more broadly address habitat and drainage issues (see Issue WQ-9: Carmel Bay Area of Special Biological Significance and Ecological Reserve). The County should implement such a planning process as provided for in Recommendation CH-8.2 and the three major private landowners should coordinate their responses, as called for in Recommendation CH-8.4.[35] Such a shoreline management plan follows the Marine Sanctuary Action Plan's call for subregional shoreline guidelines. The County should to participate in the Sanctuary's process so the two entities efforts are coordinated and consistent (see Recommendation CH-8.4).

b. Issue CH-9: Rural Fire Standards

(1) Overview

This subchapter addresses the following concern identified through issue scoping: **Ensure that implementation of fire standards for road surfaces and vegetation clearance does not conflict with habitat and viewshed protection policies, if at all possible**.

Large portions of Monterey County's coastal zone are rural and highly susceptible to wildfires. Some coastal areas are also remote from fire stations and accessible only by narrow or unimproved roads. Many of these lands are scenic, contain sensitive habitats, and are prone to erosion. These resource values are threatened by vegetation clearing and road improvements that are required by fire authorities. Permit review of coastal development permits since certification has revealed cases where fire requirements were balanced with habitat and viewshed preservation and others instances where they were not. The LCP has thus not been implemented in a manner totally consistent with Coastal Act policies to minimize risks from fire hazard while protecting environmentally sensitive

[35] Most of the shoreline fronting the golf courses and 17 Mile Drive is zoned either Open Space Recreation OR-CZ Recreation or Resource Conservation RC-CZ. The former district, as do other zoning districts but not the RC-CZ district, already has a provision requiring general development plans for large or multi-use parcels. However, the general development plan in the OR-CZ district is triggered by recreational development, not shoreline protection. Nevertheless, the general development plan provisions can serve as model procedures for the recommended shoreline management plans and could even be revised to encompass the shoreline management plan concept.

habitat areas and scenic and visual resources. This is in part due to the County not fully implementing LCP provisions that allow exceptions from some fire requirements. This may also in part be due to somewhat ambiguous LCP provisions. Thus, recommendations are made to clarify provisions related to roads and vegetation clearance and to improve coordination among planners and fire officials.

This chapter also provides evidence for concerns regarding loss of central maritime chaparral habitat throughout the County, supplementing the Issue SH-28 discussion that uses North Monterey County as a case study. This chapter also provides support for the analysis contained in Issue LU-12: Carmel Uplands.

(2) Resource Background

Rural Area Characterization and Threats to Rural Resources

Most of Monterey County's coastal zone consists of rural areas. Some are remote from fire stations and accessible only by narrow or unimproved roads. Many of these lands are visually sensitive, contain sensitive habitats, or are prone to erosion. For example, within the North County planning area, the upper Elkhorn Slough watershed contains numerous small canyons and oak and chaparral-covered hills. Manzanita, the dominant vegetation in maritime chaparral, is highly flammable. Areas of rugged terrain and difficult access including steep unstable slopes, grasslands and maritime chaparral, characterize the Carmel Area uplands (see Issue LU-12: Carmel Area Uplands). And areas inland of the Big Sur coast consists of rugged, mountainous terrain with many steep canyons and difficult access. While the Big Sur coast receives an abundance of precipitation during the winter months, the summers are long and dry and thus conducive to wildfires.[36] Recent major wildfires have occurred in October 1996 and July 2000.

Responses to Rural Fire Threats

Various agencies are responsible for setting standards and guidelines to attempt to prevent fires as well as to respond to fires that do occur (see Table CH-9a in Appendix E). The California Department of Forestry and Fire Protection (CDF) has established three fire hazard severity zones for the State: very high, high, and moderate. Each classification is based on amount of fuel available (called fuel loading), topographic slope, weather, and other relevant criteria. The majority of rural lands within the Monterey County coastal zone are designated as "high" fire hazard areas with the exception of some portions of the North County area that are designated "very high" fire hazard areas (see Map CH-9a).

Responsibility for providing fire protection and fire suppression in the County's rural areas is spread among different entities. California Public Resources Code Section 4125 designates unincorporated portions of the state as State Responsibility Areas, where the Department of Forestry and Fire Protection is financially responsible for fire protection and suppression. State Responsibility Areas include the non-urban areas within a county and apply to state- and privately-owned lands

[36] *Big Sur Coast LUP,* Ch. 3.7 Hazard Areas, p.34.

considered wildlands, rangelands and grasslands. In the remaining unincorporated County areas, the local government, local fire protection district, or federal agencies are responsible for performing these functions (see Map CH-9b showing State Responsibility Areas within Monterey County's coastal zone). Additionally, the Public Resources Code provides that local governments, such as Monterey County, may adopt ordinances, rules or regulations that are necessary to meet local conditions of weather, vegetation, or other fire hazards applicable to State Responsibility Areas, in lieu of State regulations (Section 4117). Monterey County has adopted such regulations in *County Code* Chapter 18.56 (Ordinance 3600), which has been incorporated into the County's local coastal program.

Rural areas not classified as State Responsibility Areas by the CDF are under the authority of local fire protection districts. There are eight fire districts (plus Los Padres National Forest) covering coastal Monterey County (see Map CH-9b for coverage of fire districts). For the most part their requirements are similar to, and in some cases defer to, the County's Ordinance 3600 standards; but some variations also exist among the different districts (see Appendix E). In general each fire district's standards includes the following:

- Driveways require a minimum of 12 feet in width;
- All driveways exceeding 150 feet but less than 800 feet must provide a turnout at midpoint; and
- Driveways greater than 800' in length must provide turnouts at a minimum of every 400 feet. The North County Fire Protection District's turnout requirements vary slightly from these.

Additionally, all fire protection districts require that:

- All roads, private lanes and driveways are not to exceed a 15% grade; and
- All flammable vegetation or combustible growth is to be cleared within a 30-foot distance on each side of structures/buildings.

An exception or alternative to vegetation clearing standards is permitted based upon specific criteria for environmentally sensitive habitat areas, to be determined by the fire chief for North County and Carmel Highlands Fire Protection Districts (FPDs) and the Director of the Planning and Building Inspection Department. The North County FPD allows selectively removing flammable vegetation within the 30-foot setback.[37] Certain sensitive lands under Big Sur and CDF fire districts are

[37] According to the North County FDP, "flammable vegetation" is more appropriately identified as "ignitable vegetation." The goal is to prevent a continuous path of highly ignitable vegetation. This ensures different vegetation with differing temperatures for ignitions while allowing for the maintenance of native species. This includes the basis for what fire districts describe as avoiding "ladder fuels" within the 30' clearing setback. Ladder fuels occur when short grasses are permitted to turn into taller grasses and transmit fire to short bushes to tall bushes to lower tree limbs, which then provide fire transport to nearby structures.

permitted exemptions from vegetation management regulations, provided that structural exteriors are composed of non-flammable materials.[38]

Diverse sources of information are available to homeowners exhorting them to maintain fire safe environments, but providing little information regarding alternative approaches for protection of sensitive habitat areas, or appropriate landscaping that can be retained. For example, the Department of Forestry and Fire Protection web site recommends creating a "defensible space" by removing all flammable vegetation at least 30 feet from all structures.[39] However, one only finds information regarding clearance alternatives if one then links to another part of the web site, where it reads:

> *Defensible space is the base around your home that will give firefighters a fighting chance against fire. It means clearing all dry grass, brush and dead leaves at least 30 feet from your home, and at least 150 feet if you're on a hill…Defensible space and a fire safe landscape [doesn't] mean a ring of bare dirt around your home. When establishing your landscape, keep trees furthest from your house, shrubs can be closer, and bedding plants and lawns are nearest the house…. Consider consulting your local nursery or a landscape contractor to help plan your landscape…. Space trees at least 10 feet apart, and keep branches trimmed at least 10 feet from your roof. For trees taller than 18 feet, prune lower branches within six feet of the ground. Install fire resistant, drought-tolerant plants that have high moisture content. Use plants that do not accumulate dead leaves or twigs.*

Thus, unless one actually consults another source, such as a nursery, it is unclear what can be planted within 30 feet of a structure, and the impression is left that no vegetation planting is better. A similar "Fire Safe –Inside and Out" brochure by the Department states in apparent regard to defensible space, "Replace native plants with ornamental landscaping plants that are fire resistive."

(3) Local Coastal Program Provisions

The LCP includes several provisions for addressing fire hazards, but they are scattered throughout the various component documents of the local coastal program, including the four coastal planning area land use plans, the specific zoning associated with the land use plans, the general fire prevention and subdivision ordinances, and other referenced sources. Included are implicit and explicit policies for resolving some of the potential conflicts that might arise in applying fire protection policies. Other relevant provisions include those that address roads and grading, habitat protection, and scenic resource protection. For purposes of this report, policies relating to *rural* fire standards are cited for the North County, Carmel Area and Big Sur Coast planning areas.[40]

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[38] The Big Sur VFDP and CDF exemptions to clearing requirements are permitted for: 1) habitat for endangered/threatened species, or any species that is a candidate for listing as an endangered or threatened species by state/federal government; 2) lands kept in a predominantly natural state as habitat for wildlife, plant or animal communities; 3) open space lands that are environmentally sensitive parklands; and 4) other lands having scenic values as declared by the local agency, or by state or federal law.

[39] The CDF website address is: www.fire.ca.gov.

[40] The Del Monte Forest planning area has not been included in this discussion due to the urban/suburban type of development throughout this planning area; however, general recommendations herein would also apply to the Del Monte Forest planning area.

Fire Prevention Policies

The three land use plans contain some specific fire prevention policies, and all call for new development to avoid being located in extreme wildlife hazard areas.[41] For moderate, high or very high hazard areas, there are various requirements that an applicant must follow - those applying to high or very high hazardous areas being more stringent.[42] Certain road standards will apply depending on the location of a proposed project and whether the access road is public or private. For private roads, the standards in the County's Subdivision Ordinance shall serve as guidelines (*County Code* Section 19.10.065, see below). For projects located within high or very high hazard areas, an applicant is required to comply with local fire protection district recommendations, which include specific road and driveway standards as discussed above (see also Table CH-9a in Appendix E). The land use plans further require that roads serving new residential development be accessible by emergency vehicles.

All coastal land use plans require that development approved within or adjacent to high or very high fire hazard areas use fire-resistant materials in the construction of exterior walls and fire-retardant roofing materials. *Big Sur Coast Land Use Plan* Policies 3.7.3.C.3 and C.4 also require written assessment of access adequacy by the applicant and submittal of development applications to the local fire district for its review and recommendations.

The *North County* and *Big Sur Coast Land use plans* also require that fire hazard policies within the Safety Element of the current *Monterey County General Plan* be reviewed regularly and consistently applied.[43] These General Plan policies include a variety of measures to minimize risks from fire hazards including the following requirements:

- Require road maintenance agreements for all new private subdivision roads;
- Require all new development to have adequate water available for fire suppression;
- Require all residential and commercial development in high and very high hazard areas to incorporate recommendations by the local fire district;
- Require the County to provide a list of fire-resistant plants suited to the various micro-climates within the County; and
- Require the County to adopt and implement an overall fuels management plan in high and very high fire hazard areas.

[41] *North County LUP* Policy 2.8.3.C.2, *Carmel Area LUP* Policy 2.7.4.2 Fire Hazards, *Big Sur Coast LUP* Policy 3.7.3.C.2.

[42] *County Code* Section 20.144.100.C.1 for North County; *County Code* Section 20.146.080.D.3 for Carmel Area; *County Code* Section 20.145.080.C for Big Sur Coast. In addition, where not superceded by specific fire policies of the LUPs or *County Code*, development is required to conform to the fire hazard policies of the *General Plan*: 17.3.1 through 17.3.15, Table 2, 17.4.1 through 17.4.12, and 17.5.1 through 17.5.2.

[43] *North County LUP* Policy 2.8.3.C.1, *Carmel Area LUP* Policy 2.7.4.1 Fire Hazards, *Big Sur Coast LUP* Policy 3.7.3.C.1. The fire hazard policies in the *Monterey County General Plan* were adopted in September 1982 and are Policies 17.1.1-17.6.4.

The zoning regulations specific to all three coastal areas require that any projects located in high or very high fire hazard areas, as designated by CDF, incorporate local fire district recommendations as conditions of project approval. Also required is a deed restriction indicating the parcel exists within a high fire hazard area and that certain development restrictions may apply. For lands in Big Sur outside the critical viewshed, roads are to be constructed consistent with fire safety and emergency use and private roads are to accommodate emergency vehicles and fire equipment.

As noted, the local coastal program also incorporates *County Code* Chapter 18.56 (Ordinance 3600), which governs State Responsibility Areas (see Table CH-9a in Appendix E). This chapter contains minimum standards that require future design and construction of structures, subdivisions and developments shall provide for emergency access and perimeter wildlife measures.[44]

Private road standards are also found in *County Code* Title 19 (subdivision ordinance), which is also part of the local coastal program. County *Code* Section 19.10.065 provides, in part, that 1) improvements shall meet *County Road Standards*; 2) road grades shall not exceed 15% unless approved by the local fire district; 3) driveways and roads serving less than five lots shall meet County grade and alignment standards; and 4) higher standards may be imposed after consultation with fire officials.

Additionally, standards for private roads over 50 feet in length are found in the Grading Ordinance, *County Code* Section 16.08.350. These include 1) minimum 10-foot wide roadbed; 2) maximum road gradient of 25%; and 3) turnouts at least every 500 feet for roads under 16 feet wide.

Road and Grading Minimization Policies

In order to protect scenic resources and prevent excessive grading and resultant erosion, which can have both adverse visual and water quality impacts, the LCP has several policies that have the effect of minimizing road width, as indicated by the following examples. The *North County* and *Carmel Area LUPs* state that new subdivision of land should be done in a manner that will require access roads be sited to minimize removal of native trees and vegetation and avoid visually intrusive grading.[45] The *Big Sur Coast Land Use Plan* Policy 3.2.3.A.4 and corresponding *County Code* Section 20.145.030.A.2.e preclude new roads and excavations from damaging or intruding upon the critical viewshed (see Issue: SR-10 Big Sur Critical Viewshed). *Little Sur River Protected Waterway Management Plan* policy 21 provides for reduced road widths on steep slopes. Both the *North County* and *Carmel Area LUPs* require that both the building site and access road be sited to minimize tree removal.[46] The *North County LUP* policies 2.2.3.4, 2.2.3.6 and corresponding *County Code* Section 20.144.030.B.4 further states that access roads should not be allowed to intrude upon public view of open frontal slopes or ridgelines visible from scenic routes or viewpoints and existing native trees and other significant vegetation shall be retained as an essential element of the scenic beauty. The *Carmel Area LUP* Policy 2.2.3.1 and corresponding *County Code* Sections

[44] *Monterey County Code*, Section 18.56.10.A – Purpose (Ordinance 3600).

[45] *North County LUP* Policy 2.2.2.3, *County Code* Section 20.144.030.B.1; *Carmel Area LUP* Policy 2.2.3.5.

[46] *North County LUP* Policies 2.2.2.5 & 2.2.3.6, *County Code* Section 20.144.030.B; *Carmel Area LUP* Policy 2.2.3.7.

20.146.030.C.5 & C.6 requires that access roads for new development not detract from the natural beauty of the scenic shoreline and undeveloped ridgelines and slopes in the public viewshed.

Habitat Protection Policies

All three land use plans contain similar policies protecting environmentally sensitive habitat areas that prohibit the excavation, filling, grading and construction of roads in areas designated as environmentally sensitive habitat.[47] In addition, these land use plans contain policies relating to land uses adjacent to environmentally sensitive habitat areas, which require land uses to be compatible with the long-term maintenance of the resource.[48] The LCP also contains policies that require that development, vegetation removal, excavation, grading, filling and the construction of roads and structures shall be avoided in environmentally sensitive habitat areas.[49] Only resource-dependent uses that will not cause significant disruption of habitat values are permitted. Other policies applicable to each coastal planning area include the requirement that new land uses shall be found compatible only where they incorporate all site planning and design features needed to prevent habitat impacts and only when they could, on a cumulative basis, degrade the resource.[50] Policies also require that where public or private development is proposed in areas with documented or expected locations of environmentally sensitive habitats, field surveys by qualified individuals or agency shall be required in order to determine the precise locations of the habitat and *to recommend mitigating measures to ensure its protection* [emphasis added].[51] Where development is permitted in or adjacent to environmentally sensitive habitat areas, the County is required to restrict the removal of indigenous vegetation and land disturbance (grading, excavation, paving etc.) to that needed for the structural improvements themselves.[52]

Scenic Protection Policies

The LCP scenic protection policies include requirements that new development minimize the alteration of natural landforms and be visually compatible with the character of the surrounding areas. These policies have the potential to conflict with fire protection standards, especially regarding the construction of road access. Three coastal land use plans (for North County, Del Monte Forest and Carmel) contain similar policies that require new development within a viewshed to clearly be subordinate to the natural scenic character. Construction of public and private roads must conform to the basic policy of minimum visibility and policies that requires that visual impacts be minimized through screening and siting.[53] Structures and their access roads are required to be

[47] *North County LUP* Policy 2.3.2.1, *County Code* Section 20.144.040.B1; *Carmel Area LUP* 2.3.3.1, *County Code* Section 20.146.040.B.2; *Big Sur Coast LUP* Policy 3.3.2.1, *County Code* Section 20.145.040.B.1.

[48] *North County LUP* Policy 2.3.2.2, *Carmel Area LUP* Policy 2.3.3.2, *Big Sur Coast LUP* Policy 3.3.2.1.

[49] *North County LUP* Policy 2.3.2.1; *Carmel Area LUP* Policy 2.3.3.1; *Big Sur Coast LUP* Policy 3.3.2.1.

[50] *North County LUP* Policy 2.3.2.2; *Carmel Area LUP* Policy 2.3.3.2; *Big Sur Coast LUP* Policy 3.3.1.7.

[51] *North County LUP* Policy 2.3.2.5; *Carmel Area LUP* Policy 2.3.3.5; *Big Sur Coast LUP* Policy 3.3.2.2.

[52] *North County LUP* Policy 2.3.2.8; *Carmel Area LUP* Policy 2.3.3.7; *Big Sur Coast LUP* Policy 3.3.2.4.

[53] *North County LUP* Policy 2.2.1; *Carmel Area LUP* Policy 2.2.2; *Big Sur Coast LUP* Policy 3.2.1.

located and designed to minimize tree removal and grading.[54] Lastly, sites for new structures are required to be selected to avoid the construction of visible access roads, new roads are to avoid steep slopes, minimize the extent of environmental and engineering problems resulting from road construction, and minimize grading, erosion, and scarring of hillsides.[55]

Resolving Conflicts Among Policies

Although the *North County, Carmel* and *Big Sur Coast LUPs* all contain standard fire protection provisions, they also call for some adjustments and flexibility where necessary. The *Carmel Area LUP* policy 2.7.4.3 specifically states that fire protection standards be adjusted to allow maximum avoidance of hillside scarring and cut and fill operations while maintaining adequate access for emergency vehicles. For lands in Big Sur outside the critical viewshed, roads are to be aligned to minimize removal of native trees. Although there is a 12' width requirement for roads serving new development, narrower roads are allowed where turnouts can be provided according to CDF and the U.S. Forest Service satisfaction, according to the *Big Sur Coast LUP* Policies 3.2.4.A.7, 5.4.3.K.2, and 5.4.3.K.3.

(4) Local Coastal Program Implementation

Applying Fire Protection Measures

Since certification the County has issued over 1,000 permits involving development in rural areas. As part of the permit process, County planning staff performs an initial review of permit applications to determine the applicable fire hazard classification for the subject parcel. County staff forwards the project proposal to all appropriate departments, agencies, and other entities including the applicable local fire protection districts, for review and comment. Permits will not be issued for development projects proposed in high or very high fire hazard areas without the applicant incorporating local fire district recommendations.

Almost all coastal permits reviewed for fire hazards contained a set of fire conditions as recommended by the fire districts.[56] Many of the recommendations from local fire protection districts are similar. Standard recommendations include the following: driveway widths are to be a minimum of 12 feet wide with a maximum grade of 15%; residential sprinkler systems are to be installed; remove vegetation within 30' of structures and within 10 feet of chimneys and limb trees 6 feet up from the ground; provide turnarounds for all driveways and dead-end roads exceeding 150 feet, and maintain a minimum of 15 feet of unobstructed vertical clearance for all access roads.

Balancing Fire Protection and Resource Protection

A sample of 65 County coastal permits issued in rural fire hazard areas were reviewed to evaluate how the County applied fire hazard policies and in conjunction with resource protection policies. Of

[54] *North County LUP* Policy 2.2.1.5; *Carmel Area LUP* Policy 2.2.3.7; *Big Sur Coast LUP* Policy 3.2.4.2.

[55] *North County LUP* Policy 2.2.3.4; *Carmel Area LUP* Policy 2.2.4.2; *Big Sur Coast LUP* Policies 3.2.4.A5 & 3.2.4.A.7.

[56] The County issues permits only for new development. It is possible there have been instances of owners of existing homes clearing sensitive vegetation in response to fire safety promotions.

the 65 permits, 25 contained cases where environmental and/or visual resources were impacted by the development proposed. These were reviewed to discern how the County handled applying fire standards in light of habitat or viewshed protection requirements, which was not actually apparent in all cases. What was apparent, however, was that in more recent times (1996-2001) the County focused more attention on preserving and avoiding impacts to environmentally sensitive habitat areas (ESHA) from applying fire prevention measures, such as vegetation clearing, than it had previously, although there was no consistent approach taken.

Of 15 permits sampled from this later time frame, eleven contain conditions that specifically protect ESHA or viewshed on the project site. However, some of these permits still explicitly or implicitly allowed vegetation clearing for fire prevention purposes. For example, a few permits contain conditions that required recordation of scenic easements and building envelopes to provide setbacks from significant stands of Pajaro manzanita and maritime chaparral but failed to utilize the local fire district's vegetation clearing alternatives that allow for minimizing disturbance to native sensitive vegetation. Only 6 of the 11 permits included both conditions to protect the viewshed or ESHA (when one or both existed) and related vegetation clearing requirements that protected these resources. Three permits included conditions that required a biologist (and in one case a forester as well) to aid in the removal of vegetation to minimize fire danger and maintain or improve habitat values; the earliest of these permits was from 1999.

Commission staff analyzed five permits that provided case studies of how the County applied fire protection policies and viewshed and habitat protection policies. In the first case, a permit was issued in the Carmel Highlands area where the development was located in the public viewshed as seen from Point Lobos State Park.[57] The County required the driveway to be a minimum of 12 feet wide, and the local fire department recommended that vegetation clearing around the home be increased to 100-200 feet from the normal 30-foot requirement, due to "extra hazardous conditions," which were not further identified. There was no finding as to compliance with the *Carmel Area Land Use Plan* policy 2.7.4.2, which allows for roadway standards to be adjusted.[58]

Another project located in the public viewshed in the Carmel Highlands area was a second case where the County did not utilize the flexibility allowed by Fire Protection District (FPD) guidelines.[59] The FPD had stated that, since extra hazardous conditions existed, the vegetation-clearing requirement was increased from 30 feet to 100 feet. However, supporting evidence documenting this "extra hazardous" condition was not specified in the findings. The FPD regulations allow alternative vegetation-clearing methods if sprinkler systems are installed. In this particular case a sprinkler system was included but alternative vegetation-clearing requirements were not employed.

[57] County coastal permit PLN 965317 (3-MCO-97-004).

[58] The policy states, "roadway standards shall be adjusted to allow maximum avoidance of hillside scarring and cut and fill operations while maintaining adequate access for emergency vehicles" and the local fire district standards allow for minimizing driveway/access road widths and vegetation clearing alternatives; however, they were not employed.

[59] County coastal permit PLN 965083 (3-MCO-97-058).

A third case involved a new home near Bixby Creek in Big Sur.[60] The County permitted a building envelope to encroach on a riparian buffer area 65 feet closer to the creek than the 150-foot setback required by *Big Sur Coast LUP* Policy 3.3.3.A.4.[61] Bixby Creek is considered a possible spawning ground for the Southern steelhead, a federally listed threatened species. The County applied the CDF's recommendations for a 30-foot setback/vegetation clearance from the road, thus, forcing the home closer to the creek than it would have been if it were sited closer to the road. In spite of the site topography and proximity to the creek, the County did not require a lesser road setback nor make findings as to that possibility. The structure was required to install automatic sprinkler systems and fire resistant roofing materials. And the biological recommendations for mitigating impacts to riparian and redwood forest habitat (removal of invasive Cape ivy within degraded riparian area, tree replacement at 2:1 for arroyo willows and 1:1 for redwoods, based on forestry report recommendations, native grasses seeded in areas of disturbed soil and in landscaping and erosion control plan) were incorporated into conditions of the permit.

A fourth case involved development of a shoreline parcel that included a driveway sited in the Big Sur critical viewshed along the scenic road corridor of Highway One [62] The County acknowledged the location of the scenic corridor and the location of the project within an area designated as a high fire hazard area, and incorporated the fire district's recommendation that the road be 12 feet wide. The County did not require a narrower road even though it did note that road provisions could be modified when the building is protected by an approved automatic fire sprinkler system. The County did not address siting and width of the road with regard to any sensitive habitat. Although there is some sensitive habitat in the area, a site survey was not performed prior to a decision on the road.

A final case also involved a shared access road serving development located in the hills in Big Sur; portions of the access road were in the critical viewshed.[63] The road was proposed to be 18-feet wide to meet fire district and County Ordinance 3600 width requirements for roads serving three or more residences. However, after comments by the Coastal Commission staff, the County conditioned the permit for the visible portion of the road to remain 12 foot wide and be designated as one-way segment, consistent with *County Code* Chapter 18.56, which provides for short segments of one-way roads, and allows them to be a minimum of 12 feet wide. Therefore the County minimized the visible portion of the road but did not apply policies to avoid impacts.

(5) Analysis of Coastal Act Conformance

[60] County coastal permit PLN 000192 (3-MCO-01-627).

[61] Note that a lesser setback is permissible if demonstrated conclusively in the biological survey that the reduced setback is sufficient to protect existing riparian vegetation for the impacts of development. The biologic report notes that the mitigation measures described would enable a setback reduction, since no action would result in more habitat loss than the development proposal involves. However, the observation that the County did not even consider a lesser vegetation setback from the road is a valid concern if this is routine procedure.

[62] County coastal permit 990044 (3-MCO-99-154) later amended with County coastal permit PLN 990490 (3-MCO-00-262).

[63] County Coastal Permit PLN 990377 (3-MCO-00-491).

Coastal Act Section 30253 requires that new development minimize risks to life and property in areas of high fire hazard. The implementation of LCP policies that result in continued development in rural, fire-prone areas without adequate mitigation conflicts with the Coastal Act objectives of minimizing risks, protecting sensitive habitat, and preserving scenic views. Most of the new development in rural areas has been authorized by County coastal permits but the types of mitigation measures applied may not adequately avoid risks and protect scenic resources and environmentally sensitive habitat areas in conformity with Coastal Act policies.

Implementation of Fire Avoidance Provisions

The first priority in addressing hazards is to avoid them. However, in most cases, if the County is to allow single-family development on vacant rural parcels, the homes will be subject to high fire hazards. On some large parcels, especially in Big Sur, there may be opportunity to site development, that while not out of the fire hazard area, at least closer to Highway One and hence more accessible to fire equipment. It was not possible to discern from permit review to what extent the County considered fire hazard avoidance in siting considerations, or if there were situations where resiting development would have made a difference in avoiding or minimizing risks. Of course, any resiting also requires consideration of resource impacts and, hence, tradeoffs. In the Big Sur planning area, where the policy directive is to hide new development, it might result in siting choices less desirable from a fire prevention standpoint. LCP policies applicable to the North County and Carmel planning areas, which are similarly written, adequately factor in hazard avoidance siting; Big Sur policies for hazard avoidance are less directive. Recommendations CH-9.1 and CH-9.3 suggest that the County update LCP policies to more explicitly emphasize avoidance of impacts to the extent feasible.

Implementation of Fire Prevention Provisions

Permit review has shown that not all techniques available through the LCP intended to balance the fire and resource protection standards have consistently been utilized. Permit review indicates that the County refers proposed projects to the fire districts, receives input from the fire districts, and applies that input as conditions of project approval, as required by the LCP. But the County appears in some cases to read the LCP requirement to make fire recommendations conditions of project approval as a stand-alone provision without regard to other *County Code* provisions. Possible exceptions to FPD standards do not appear to have been considered in all cases.

Permit review reveals that the County does not make findings regarding any adverse impacts of applying the fire district recommendations, even where sensitive resources are involved. For example, a typical fire district recommendation is to remove flammable vegetation within 30 feet of a structure. This has typically become a coastal permit condition, but findings do not relate whether application of this condition will result in increased erosion or the loss of any sensitive habitat. Nor do findings indicate whether an alternative siting and design would lessen impacts that may result from this requirement or whether there are exceptions or clarifications that could be applied. Yet, CDF does allow exemptions from vegetation clearing and management requirements if structures are made entirely of non-flammable materials. In the example of the building envelope encroaching on the environmentally sensitive habitat area, the applicant could have been required to use non-

flammable building materials for the exterior of the building. Also, the development could have been sited closer to the center of the road to provide a greater riparian buffer. Such modifications would seem to help, not hinder, fire protection.

The Carmel Highlands/Cypress Fire Protection District also allows an exception to the 12-foot road width requirement "when a building is protected by an approved automatic fire sprinkler system, subject to approval of the local jurisdiction." In the first Carmel Highlands case, where the road in the viewshed was conditioned to be a minimum of 12 feet in width, such an exception was not discussed in the permit. This contrasts with the other road permit reviewed in Big Sur, which illustrates that exceptions are possible when the parties pursue flexibility in addressing public safety concerns.[64]

Although LCP provisions allow such flexibility, the sheer number of provisions in the LCP addressing fire hazards, and their scattered distribution throughout the various LCP components, may be partly responsible for exceptions not being considered more often. For example, to determine allowable road width in the Big Sur planning area, a variety of standards must be consulted including:

- *Big Sur Coast LUP* policy 3.7.3.C.1 and *County Code* Section 20.145.080.C.1.a.3 that require development to follow the *General Plan* Safety Element policies;
- *General Plan* Policy 17.3.1 that says the roadway shall in no case be less than 12-feet wide and shall comply with the minimum road widths of Appendix E County Standards;
- Details of the County Standards that show various road widths, the narrowest being 16 feet for a cul-de-sac road on over 5 acres (18 feet for parcels less than 5 acres);
- *Big Sur Coast LUP* policy 3.7.3.6 that requires an assessment of adequate access from the fire officials based on the Subdivision Ordinance;
- *Big Sur Coast LUP* Policy 5.4.3.K.3 that, while repeating the 12 foot width requirement, allows for a narrower roads and references using the Subdivision Ordinance for guidance;
- Subdivision Ordinance which, in turn, references the *County Road Standards* discussed above;
- *County Code* Section 20.145.080.C.1 that requires compliance with recommendations of fire officials;

[64] Although this is a good example of employing flexibility, a portion of the roadway is still visible from Highway One - whether it is a widened or a 12-foot wide section is not known. Possibly, further analysis and flexibility could have rendered this section invisible as well. For example, *Big Sur Coast Land Use Plan* policy 5.4.3.K.3 allows even a narrower road with turnouts. Other options might have included different paving material or vegetation screening.

- *County Code* Section 20.145.080.C.1.a.4 that says to follow the *Fire Safe Guide for Residential Development in California* in cases of dispute, which allows exceptions to protect the environment;
- *Fire Safe Guide* standards which specifies minimum 10-foot driveway and one-way road widths and 18-foot two-way road widths; and
- If the area in question is a State Responsibility Area, *County Code* Section 18.56.060 that requires a minimum of 12-foot wide driveways and 18-foot wide roads, while also allowing for alternative roadway modifications.

The fact that these provisions are located in a different County documents, use different standards and terminology, and contain cross-references to other various documents hinders implementation of the LCP in a manner fully consistent with the Coastal Act. Another concern is that while some provisions, such as the *Big Sur Coast LUP* Policy 5.4.3.K.2, only apply to new roads, most of the past permit activity has been associated with some type of improvements, additions, or relocations of existing roads.

Conclusion

In summary, permit review reveals that the County has not always implemented its LCP with regards to fire protection in a manner consistent with all Coastal Act policies; it has not always given adequate consideration to resource protection when applying fire protection requirements. As has been shown in the analysis above, there is flexibility in the fire protection provisions that should allow for an adequate level of fire safety protection while also ensuring resource protection. Nevertheless, the fact that such provisions are numerous in number and scattered in various sections (with some incorporated only by reference) may result in confusion without providing clear direction as to how to reconcile the differing standards. Recommendations CH-9.1 and CH-9.4 suggest such a consolidated approach to fire safety provisions to ensure the LCP is implemented in conformity with Section 30253 and the resource protection policies of the Coastal Act. The two most significant standards to clarify are allowances for narrower roadway widths and for less vegetation clearance around dwellings. As a follow-up, ensuring that information that is disseminated to the public accurately conveys fire prevention standards, especially in environmentally sensitive habitat areas, is important (see Recommendations CH-9.5 and CH-9.6). Similarly, it is also incumbent upon those who manage lands with environmentally sensitive habitats to implement fire prevention measures in a manner consistent with habitat protection (see Recommendation CH-9.7).

c. Issue CH-10: Carmel River Mouth Breaching

This section addresses the following concern identified through issue scoping: **Ensure that the Carmel River Lagoons is managed in a manner protective of coastal resources.**

Section 30253 of the Coastal Act requires that new development minimize risks from flood hazards. One measure sometimes used in Monterey County to minimize risks from flooding is to breach the lagoons of major coastal rivers. However, the control of flood hazards in that way can adversely affect other coastal resources.

In addition to at least five other fish species, the Carmel River supports a large restored run of many thousands of up-migrating adult steelhead trout each year, a threatened species. Juvenile steelhead smolt in the Carmel River lagoon before leaving for the open ocean. The timing of such migration is not precise. According to a report by the Watershed Institute, "A precise means of determining when they are ready, or the conditions under which they would be most likely to be ready, is not known." And, although none were found in a 1996 survey, California red-legged frog, a threatened species, is known to occur in the vicinity of the lagoon.[65]

However, the Carmel River also poses some potential flood risk to adjacent development. An interim breaching plan summarized the potential risks from flooding of the Carmel River. At the Carmel River a lagoon level of 11.8 feet (NGVD) would flood about 1,000 lineal feet of streets and 13 homes. A lagoon level of 13.1 feet (NGVD) would flood 2,300 feet of roads and 25 homes. The result would be "damage to private property, damage to public infrastructure, and reduced response capabilities for emergency service providers to residents in the area."[66] In the Mission Fields area subject to lagoon flooding, the County has approved two permits, one for an addition to an existing single-family dwelling[67] and another for a new single-family dwelling.[68] Both of these permits indicate that the structures are located within the floodplain of the Carmel River, and required the owner to record a notice that the property is located within or partially within the floodplain, and may be subject to housing and land-use restrictions. The new single-family dwelling permit also requires the lowest floor to be constructed at least 12.5 feet above mean sea level to avoid flood hazards. The Board of Supervisors denied a third permit application because the site was shown to be located within the 100-foot setback for environmentally sensitive wetland habitat.[69] (See also recommendations for Issue CH-4: Structural Changes in Hazardous Areas).

As a result of the risks from flooding, the County Public Works Department has breached the Carmel River lagoon generally once or twice annually, since 1973, so that portions of the Mission

[65] Alley, Donald for Smith & Reynolds, *Baseline Fish Sampling…at Carmel River Lagoon, Monterey County, California, 1996, Prior to Excavation of the South Arm*, July 1997, pg 5 of Watershed Institute Report.

[66] U.S. Army Corps of Engineers, "Public Notice Number 19089S," March 30, 1999.

[67] County coastal permit PC07195 (3-MCO-89-217).

[68] County coastal permit PC06802 (3-MCO-93-100).

[69] County coastal permit PC06814 (3-MCO-89-122).

Fields area will not flood. The *Carmel Area Land Use Plan* implicitly endorses continued breaching of the Carmel River lagoon as a means of reducing flood hazards. Policy 2.3.4.Riparian.2 states:

> *The State Water Quality Control Board and the California Department of Fish and Game, in coordination with the County of Monterey, should establish and reserve instream flows sufficient to protect and maintain riparian vegetation, fishery resources and adequate recharge levels for protection of groundwater supplies. Maintenance of instream flows should not preclude control of water levels in the Carmel River lagoon for flood protection purposes; i.e., opening the sandbar at the river mouth shall not be precluded by this policy*

Carmel Area Land Use Plan policies 2.7.4.Flood.3, Flood 4 and Flood 5 provide generally that non structural means of flood control that do not result in significant impacts to the river or its scenic or natural resource values are emphasized but structural controls are allowed under limited circumstances. Structural controls are only allowed if located outside of the zone of riparian vegetation, if erosion and sedimentation is minimized and controlled, and if habitat and scenic values are maintained and protected. Within the flood management program, excavation and dredging is allowed only if no other protective measure is feasible and only if the best mitigation is incorporated including for the protection of fish habitat. Maintenance activities to allow the free flow of the river are allowed. Standards are provided for development within the 100-year floodplain. And policies also assure that where development or flood control structures are allowed, restoration of the riverbanks and disturbed areas is required.[70]

However, since the LCP also classifies the lagoon as environmentally sensitive habitat area, the general ESHA policies cited elsewhere in this report are also applicable. Additionally, the LCP contains a series of protective policies specifically for the Carmel Area lagoon and its environs as well as for the Carmel River corridor. When the Carmel River lagoon is breached as a flood control measure, "premature or forced exposure or entry into saltwater may drastically decrease survival of steelhead by increasing predation rates and reducing foraging ability."[71] The change to salt water may also adversely affect nesting habitat for shorebirds and waterfowl.[72] Breaching can also result in a release of polluted lagoon waters into the ocean environment. Breaching also impacts environmentally sensitive habitat areas when heavy equipment used in the activity is driven over coastal dune habitat.

In order to assure that flood control measures are undertaken consistent with Coastal Act policies, alternative methods of breaching involving location, timing, depth, and duration of breaches as well as alternatives to breaching should be considered. The Coastal Commission staff has advocated consideration of alternatives to breaching and some consideration of alternatives has occurred in lagoon planning.[73] The 1992 *Carmel River Lagoon Enhancement Plan* primarily addressed

[70] *Carmel Area Land Use Plan* policies: 2.7.4.Flood.3 2.7.4. Flood.4 and 2.7.4.Flood.5.

[71] Correspondence NOAA to U.S. Army Corps and Monterey County, December 1, 1998.

[72] U.S. Army Corps of Engineers, *Public Notice Number 19089S,* March 30, 1999, p.3.

[73] Philip Williams & Associates*, Carmel River Lagoon Enhancement Plan*, June 1992.

restoration of Odello-West to create additional wetland and riparian forest habitat while allowing the area to absorb floodwater from the Carmel River. This plan mentioned briefly that, "controlling the level to which the lagoon drains when it is opened artificially should be feasible in the spring or summer, but much more difficult in the fall or winter." The plan contained no recommendations for breaching. However it mentioned some alternatives that would minimize the need for artificial breaching of the lagoon. These included building either "a levee around the wetland north of the lagoon, to protect existing homes from flooding when the lagoon fills" or a floodwall, which would serve the same purpose "but would be much less obtrusive visually, and would minimize disturbance of existing wetland."

This 1992 Plan was superseded by the 1999 *Enhancement and Management Plan: Conceptual Design Report* that focused on removing levees and restoring large former agricultural lands to wetlands as a means to control flooding.[74] With regard to flooding caused by lagoon ponding, alternatives were identified but no conclusions were reached and no recommendations were made as to a preferred alternative. The report notes, "additional biological, economic, sociological, feasibility, cost, and hydraulic studies are necessary before a breaching plan can be designed." Two alternatives were identified that would both reduce the need for breaching: installing a floodwall around the north side of the lagoon and flood proofing existing structures. Other alternatives identified could potentially reduce the adverse impacts of breaching, including: expanding and deepening the lagoon, various breaches such as a south side breach, a low gradient angled breach, a time breach with moderate to high tide, and restricting the depth of breach using a temporary inflatable bladder dam. Three additional alternatives were not recommended: a high-water bypass system (i.e., culvert to allow some flow bypassing prior to breaching), installation of a pump or overflow device, and a straight breach at the lagoon mouth.[75] However, in the review of this plan, Coastal Commission staff noted that the plan did not adequately address the breaching issue and lacked a complete and adequate alternatives analysis. The staff also expressed concern that such analysis had not begun and that assurances to implement the least environmentally damaging alternative and necessary mitigation measures were lacking.[76] Thus, Recommendation CH-10.2 calls for the County to pursue an alternative to breaching.

Since certification of the LCP, the County has frequently breached the lagoon without a coastal permit. Although the breaching occurs under the Coastal Commission's retained permit jurisdiction, it is performed to protect development in the County's coastal zone. Since 1992, breaching has occurred pursuant to interim breaching criteria. Some breaches were authorized by emergency permits granted by the Commission, although the County issued itself an emergency permit for breaching in 1990. The last emergency permit issued for the Carmel River breaching (on January 24,

[74] Philip Williams & Associates, Jones and Stokes Associates, and California State University at Monterey Bay, *Carmel River Lagoon: Enhancement and Management Plan: Conceptual Design Report*, September 1999.

[75] Philip Williams & Associates, Jones and Stokes Associates, and California State University at Monterey Bay, *Carmel River Enhancement and Management Plan: Conceptual Design Report*, September 1999, page 146.

[76] Correspondence, California Coastal Commission to the Department of Parks and Recreation, May 17, 2000.

2000) required that the County submit a completed regular coastal permit application to address the long-term lagoon management including appropriate protocols for breaching the lagoon.

The County only recently hired a consultant to perform the baseline environmental reconnaissance necessary for breaching the Carmel River lagoon. Delays in development of a comprehensive approach to river breaching may be due to a number of factors. Lack of community support for establishment of a flood control district that would assure a dedicated funding source to pay for the breaching and associated studies means that the funding must come out of the constrained budget of the County's Public Works Department. In other instances where dedicated funding is available, the County Water Resources Agency undertakes breaching along with other flood control activities. Recommendation CH-10.2 suggests funding and a coordinated departmental approach to facilitate the County's preparation of necessary documentation to support appropriate lagoon management.

Continued unpermitted breaching precludes the ability to address necessary mitigation measures and to assure that resources are protected in conformity with Coastal Act policies. It also precludes an ability to identify and require less environmentally damaging alternatives. Thus, Recommendation CH-10-1 reinforces the need to obtain coastal permits for any breaching activity and Recommendation CH-10.2 encourages an alternative flood management measures that would reduce the need for continued breaching. Given the many regulatory agencies involved, Recommendation CH-10.5 outlines further desirable coordination to help facilitate measures that would minimize flooding while protecting resources consistent with the Coastal Act.

While the standard of review for breaching permits is the Coastal Act and not the LCP, the LCP and the upcoming 21st Century Monterey County General Plan update can serve as guidance to various County departments in preparing lagoon management projects.

While it is important to resolve permitting issues associated with breaching, progressing toward the least environmentally damaging strategy needs to take into consideration what else is occurring in the Carmel River watershed. In early 2000 citizens formed the Carmel Watershed Council that has since been spearheading a watershed assessment.[77] Ultimately lagoon management should be part of a comprehensive watershed management strategy whose goal is a healthy river system, as addressed in Recommendation CH-10.6. (See also recommendations under Issues LU-9: Water Supply in the California-American Water Company Service Area, WQ-6: Watershed Planning, and WQ-9: Carmel Bay Area of Special Biological Significance and Ecological Reserve.)

d. Issue CH-11: Salinas River Mouth Breaching

This section addresses the following concern identified through issue scoping: **Ensure that the Salinas River Mouth Lagoon is managed in a manner protective of coastal resources.**

The *North County LUP* does not have any policies about breaching, but with regard to flood hazards, policy 2.8.3.B.6 states that:

[77] The Carmel River Watershed Council's website is: http://www.carmelriverwatershed.org/.

> *Continued agricultural use of the floodplains outside stream channels in the Pajaro and Salinas Valleys (including lands adjacent to the Old Salinas River), should be encouraged as the most appropriate land use compatible with the objectives of floodplain management and hazard mitigation.*

Since about 1967, the County Water Resources Agency has breached the Salinas River lagoon in the fall most years so that agricultural land and some residences would not flood. The breaching usually occurs across portions of the sand bar within lands of the Salinas River State Beach.

The *Salinas River Lagoon Management Enhancement Plan* describes various wildlife assemblages supported by lagoon habitats, noting that the lagoon

> *...sand bar functions as an important roost site for pelicans, terns, gulls, and shorebirds. The [in-channel] islands provide nesting habitat for avocets, stilts, and ducks, and escape cover for a variety of waterbirds. Numerous shorebirds forage along the lagoon shoreline, which also provides nesting habitat for stilts, avocets, and waterfowl. The northern foredunes and central dune scrub provide suitable habitat [for]: ...snowy plover, black legless lizard, globose dune beetle, and Smith's blue butterfly.*[78]

Breaching can have adverse impacts, both directly on the lagoon environment and indirectly through the movement of heavy equipment through the dunes, similar to that described above for the Carmel River Lagoon.

Adherence to the Coastal Act would thus favor alternative methods of breaching involving location, timing, depth, and duration of breaches or alternatives to breaching. These should continue to be pursued (see Recommendation CH-11.3). The *Salinas River Lagoon Management and Enhancement Plan,* started in 1989, was completed in and approved by the Coastal Commission in 1997 as condition compliance for a coastal permit to install a slide-gate at the head of the Old Salinas River channel, adjacent to the Salinas River Lagoon[79]. With regard to flooding, the *Plan* favors continued breaching, although in a manner designed to minimize impacts. Along those lines, the *Plan* does mention alternatives for allowing some farmland to flood or to be raised so it will not flood as readily. Specifically with regard to breaching, the *Plan* recommends the following,[80]:

1. Accommodate higher winter lagoon water elevations, with breaching to occur based on maximum winter lagoon elevations between four and five feet;

2. Replace existing outflow structure to the Old Salinas River with a new culvert/gate system and operate in accordance with the Salinas River Mouth breaching criteria;

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[78] John Gilchrist and Associates, et. al., *Salinas River Lagoon Management and Enhancement Plan,* March 1997, prepared for Salinas River Lagoon Task Force and Monterey County Water Resources Agency, p. 6.

[79] Coastal Commission coastal development permit 3-95-058.

[80] John Gilchrist and Associates, et. al., *Salinas River Lagoon Management and Enhancement Plan,* March 1997, prepared for Salinas River Lagoon Task Force and Monterey County Water Resources Agency, pp. 81-104.

3. Install a water level monitoring gage.

4. Minimize the number of short duration breaches by maximizing flow to Old Salinas River Channel when dredged to a capacity of 250 cfs [cubic feet per second], with a summer target elevation of 2.0 feet NGVD and winter maximum elevation of 4 to 5 feet NGVD; reduce Salinas River flow at Spreckels that triggers breaching to 800 cfs instead of 1,200 cfs; Task Force to re-revaluate recommendation in Spring of 1998.

5. …

27. Task force will review results of monitoring program and modify recommendations as necessary to achieve the goals of the Management Plan.

The County has collected some long-term data on lagoon functioning from the water level monitoring gage installed in the lagoon adjacent to the OSRC slide gate (as required in the *Salinas River Lagoon Management Plan*).[81] However, the County did not convene a task force in the spring of 1988 to re-evaluate recommendation #4 of the Salinas River Lagoon Plan as called for. Thus, Recommendation CH-11.2 calls for the task force to reconvene. It should also be noted that while the Task Force originally preparing the Plan had recommended not breaching until water elevations reached 6 to 7 feet in the winter in order to provide better fish habitat, a compromise was agreed to, allowing breaching with water levels at 4 to 5 feet to prevent flooding of agricultural lands, which exist starting at elevations of about 5.5 feet above mean sea level.

Most recently, the National Marine Fisheries Service has been developing a biological opinion regarding the County's proposed breaching program. However, continued efforts on the biological opinion are currently on hold while the NMFS works with Monterey County in developing a modified project description that includes alternative management strategies and maintaining higher lagoon water surface levels.[82] It is important that adequate information be developed in order to evaluate future breaching proposals, as called for in Recommendation CH-11.1.

Although the breaching occurs under the Coastal Commission's retained permit jurisdiction, it is performed by the County Water Resources Agency to protect farmland in the County's coastal zone.[83] The breaching itself actually occurs on State Parks property at the southern end of Salinas River State Beach, and State Parks staff assists in the process by providing access to the beach and through sensitive snowy plover habitat areas. Any future breaching needs to be authorized by a coastal permit ahead of time (see Recommendation CH-11.1).

While the Coastal Commission is not obligated to follow the LCP in considering the County's permit applications for breaching, the LCP and the upcoming 21st Century Monterey County General

[81] Personal communication, Rich Boyer, Water Resources Agency staff, October 2003. A water level monitoring gage was installed following replacement of the slide gate in January 1996.

[82] Personal communication, John McKeoun, National Marine Fisheries Service, October 2003.

[83] The County erroneously granted themselves a coastal emergency permit for breaching in 1990.

Plan update serve as guidance to various County Departments. Thus, any guidance that they contain for lagoon management needs to be consistent with the Coastal Act.

Finally, although it is important to resolve permitting issues associated with breaching, progressing toward the least environmentally damaging strategy needs to take into consideration what else is occurring in the Salinas River watershed. The County sponsored Salinas River Basin management planning in the 1990's leading to the Salinas Valley Water Project.[84] This effort is mainly concerned with water supply. Ultimately lagoon management should be part of a comprehensive watershed management strategy whose goal is a healthy river system, as addressed in Recommendation CH-11.5. (See also recommendations under Issue WQ-6: Watershed Planning and Recommendations LU-8.11 for coordinated water planning in North County and WQ-8.2 to prepare a comprehensive North County resources management plan.)

e. Issue CH-12: Tembladero Slough

This section addresses the following concern identified through issue scoping: **Ensure that dredging and other flood control activities on the Tembladero Slough respect water quality and aquatic habitat.**

Tembladero Slough and the Reclamation Ditch that flows into it are tributaries to the Old Salinas River Channel (OSRC), which discharges into the Pacific Ocean at the downstream end of the Elkhorn Slough estuary system near Moss Landing in the North County planning area.[85] Damage from flooding and erosion along the Reclamation Ditch occurred as a result of El Nino storm events during the winters of 1995 and 1997.

The *North County Land Use Plan* states that the primary means of minimizing risks from flood hazards is through avoidance (*North County LUP* policy 2.8.3.B.1). Any permitted flood control measures must include restoration of waterway banks and disturbed areas and emphasize use of native plants (policy 2.8.3.B.5). The LCP also states that comprehensive wetland management plans should be completed, but does not specifically mention Tembladero Slough (*North County LUP* action 2.3.1.4). Outside of stating that floodgates or culverts should be renovated or expanded at the Highway 1 crossing over Tembladero Slough (action 2.8.4.6), there is no other site-specific policy direction for flood hazard reduction. However, the LCP text acknowledges past channelization to aid land drainage, high coliform levels, and flood prone areas of the Slough.

Presently, Tembladero Slough and the Reclamation Ditch are extremely impacted areas with significant opportunities for restoration. To respond to potential flood risks, the Monterey County Water Resources Agency (WRA) recently published a report outlining activities needed to

[84] Monterey County Water Resources Agency and U.S. Army Corps of Engineers, *Draft Environmental Impact Report/Environmental Impact Statement for the Salinas Valley Water Project*, June 2001. (incorporated into the Final EIR/EIS, April 2002).

[85] Central Coast Regional Water Quality Control Board, *Water Discharge Requirements Order no. 99-087*.

"improve" the Reclamation Ditch.[86] Many of the actions listed will improve flood control activities but will do little to restore other natural resources and could possibly harm marine and coastal resources and potentially further degrade the sloughs and Moss Landing Harbor. While the report does include numerous references and comments from regional water quality and other resource biologists, many of the actions outlined in this document could be counter to those activities outlined in the *Toxic Hot Spots Cleanup Plan* designed to implement water quality protection activities (see Issue WQ-8).[87] These conflicts have been discussed in length at numerous Reclamation Ditch hearings, but little official progress towards a solution has been adopted. Furthermore, many of the activities called for in the *Reclamation Ditch Plan* are not well integrated with County land use planning. For instance, many of the flood control objectives are based on an increase in water that the system will be required to manage because of increased urban development, but there is little integration with current general planning activities to identify proper development practices to limit the need for additional flood control. Therefore, Recommendation CH-12.1 would revise the LCP to provide more specific protection for the Slough in conformity with the wetlands and water quality protection policies of the Coastal Act. Recommendation CH-12.2 would further planning and restoration of Tembladero Slough consistent with the resource protection and hazard policies of the Coastal Act. Also, relevant to planning future projects along the Slough are recommendations for Issues PA-11: Coastal Trail System, LU-14: Highway One and the Moss Landing Corridor, WQ-6: Watershed Planning, and SH-10: Streambank Protection.

f. Issue CH-13: Pajaro River

This section addresses the following concern identified through issue scoping: **Ensure that dredging and other flood control activities on the Pajaro River respect water quality and aquatic habitat.**

The Pajaro River forms the border between Santa Cruz and Monterey Counties. The Pajaro River watershed drains an area of roughly 1,300 square miles, extending from the inland Santa Cruz Mountain range, through the plains of the Pajaro Valley, and on into the Monterey Bay. The River provides a scenic panorama of the coastal zone from both the Highway One crossing and the River's edge itself. The coastal zone portion of the river lies seaward of Highway One, and is a meandering stretch of approximately three river miles surrounded for the most part by fertile agricultural lands of the Pajaro Valley in unincorporated Santa Cruz County (to the north) and North Monterey County (to the south). The Pajaro River, particularly the coastal zone portion, is a rich riparian resource supporting a variety of habitats and species – some of these quite sensitive and rare (including steelhead trout, Pacific lamprey, tidewater goby, California red-legged frog, southwestern pond turtle, black-legged lizard, and potentially Santa Cruz long toed salamander). The associated riparian canopy and overall habitat provide important nesting, rearing, and feeding habitat for a wide variety of native and migratory birds. The river mouth lagoon provides additional habitat for shorebirds, waterfowl, and fish, including such sensitive species as brown pelican, western snowy plover,

[86] RDIPAC and Monterey County Water Resources Agency, *Reclamation Ditch Improvement Plan Recommendations*, May 2002
[87] State Water Resource Control Board, *Consolidated Toxic Hot Spots Cleanup Plan*. June 1999.

steelhead, and tidewater goby. Flood control activities undertaken in or along the Pajaro River can impact these resources.

As described previously, the LCP for the North County planning area states that the primary means of minimizing risk from flood hazards is through avoidance (*North County LUP* policy 2.8.3.B.1). Any permitted flood control measures must include restoration of waterway banks and disturbed areas and emphasize use of native plants (policy 2.8.3.B.5). The *North County Land Use Plan* action 2.8.4.5 states, "A cooperative flood control management plan for the Pajaro River should be developed and implemented by the Counties of Monterey and Santa Cruz." Policy 2.8.3.B.6 states in part, "Continued agricultural use of the floodplains outside stream channels in the Pajaro… Valley… should be encouraged as the most appropriate land use compatible with the objectives of floodplain management and hazard mitigation." And *North County LUP* policy 2.3.3.B.5 calls for wetlands (specifically including those of the Pajaro River) to be protected and preserved for their plant and wildlife values.

The Pajaro River system has flooded frequently in the past few decades. The most recent dramatic flood episodes were in 1995 and 1998 as a result of El Nino storm events. To date there has been some levee repair work completed in the County's coastal zone (authorized by Coastal Commission federal consistency concurrence). A number of task forces and reports have addressed the Pajaro River. The U.S. Army Corps of Engineers and the two counties have been involved in a multi-year planning process designed to achieve flood control and habitat objectives consistent with the policies of the certified LCPs and the Coastal Act. To date, no agreement has been reached by the various parties as to the type and scale of project that could be implemented to both protect against flooding and respect the resource values of the river. The Monterey County Board of Supervisors has expressed support for 100-year flood protection without a significant loss of agricultural land, voicing concerns to include river restoration and public access as part of the project.[88] However, a recent court case found Monterey County liable for flood damage because it did not keep the river clear and did not aggressively pursue permits to do so. As a result Monterey County has considered, but initially rejected, ceding control of the flood control levee to the State Department of Water Resources,[89] and is now applying for a permit to perform vegetation clearing in the river channel.

Part of the Pajaro River is subject to the Coastal Commission's retained coastal permit jurisdiction, namely, the area located between the top edges of the existing Pajaro River levees, extending from the inland extent of the Highway One right-of-way (i.e., the inland coastal zone boundary for this part of the coast) to the Monterey Bay, and including all of the rivermouth area (seaward of the location where the levees end). The two counties' respective LCPs are the standard of review for portions of projects outside of the levee banks. While the Coastal Act is the standard of review when the Commission reviews any County permit application, the LCP and the forthcoming 21st Century Monterey County General Plan update serve as guidance to various County departments. Thus, any guidance that they contain for river and lagoon management needs to be consistent with the Coastal

[88] Correspondence, Monterey County Board of Supervisors to Coastal Commission, April 22, 2002.
[89] Seville, Michael, "Pajaro River Plan Moves Forward," *Register Pajaronian*, June 3, 2003, p. 1.

Act. Recommendation CH 13.1 would revise the LCP to provide more specific protection for the River in conformity with the wetlands and water quality protection policies of the Coastal Act. Recommendations CH-13.2 through CH-13.5 suggest other measures that would further planning efforts and restoration of the river consistent with the resource protection and hazard policies of the Coastal Act. Also, relevant to planning future projects along the River are recommendations for Issues WQ-6: Watershed Planning and SH-10: Streambank Protection and for trails along the levee (see Recommendation PA-11.1).