



# BIG SUR

## Coast Highway Management Plan

### STEERING COMMITTEE

Association of Monterey Bay Area Governments

Big Sur Chamber of Commerce

Big Sur Land Use Advisory Committee

Big Sur Multi-Agency Advisory Council

CA Coastal Commission

CA Department of Parks & Recreation

CA State Assembly, 27th District (Laird)

CA State Senate, 15th District (McPherson)

CA Department of Transportation

Coast Property Owners Association

Coast Watch

Federal Highway Administration

Monterey Bay National Marine Sanctuary

Monterey County Planning and Building

Monterey County, District 5 (Potter)

Monterey County Travel & Tourism Alliance

South Coast Advisory Committee

US Congress, 17th District (Farr)

US Forest Service

### WORKING GROUPS

Storm Damage Response and Repair

Maintenance Practices

Scenic and Habitat Conservation

Public Access and Recreation

Plan Implementation

### Draft Documents Available for Review and Comment

In the aftermath of the 1998 El Nino storms the California Department of Transportation (Caltrans) District 5, together with agencies, organizations, elected officials and community representatives, initiated an effort to create a framework for effective management of Highway 1 along the Big Sur Coast. Following a comprehensive inventory of the corridor's intrinsic qualities, focused technical studies and numerous meetings and workshops, the Draft Big Sur Coast Highway Management Plan (CHMP) is now available for review.

Highway 1 along the Big Sur Coast is a lifeline for communities and businesses and a destination for millions of visitors every year. For the spectacular experience offered to Highway 1 travelers and the strong regulatory protections inspired by the California Coastal Act, the corridor achieved All American Road status under the National Scenic Byways Program in 1996. The scenery owes everything to the natural geologic processes at work. Sustaining a transportation link across this landscape is a challenge in light of relentless and variable landslides. The CHMP aims to provide a basis for improved coordination on corridor management decisions and

activities among the various responsible stakeholders. In keeping with the plan's vision, the CHMP will facilitate reliable, safe and efficient operation of Highway 1 while ensuring the long-term preservation of the region's unique natural resources and scenic qualities.

Creating a plan that successfully reflects multiple perspectives and priorities required a collaborative approach. A Steering Committee of 19 stakeholder representatives guided the process. A multidisciplinary team including geologists, biologists, engineers, landscape architects and planners collected data and conducted technical evaluations. Stakeholders participated in focused working groups to understand and deliberate issues and to develop strategies and actions for solutions. The result is a comprehensive, action-oriented document that offers stakeholders a sense of shared ownership and responsibility for achieving the corridor vision.

The management strategies outlined in the plan are organized into four areas: landslides, highway features and function, traveler experience and environmental stewardship. Each strategy con

**DRAFT PLAN** *continued on page 4*

*This view is from the Old Coast Road which took an inland route before construction of the Bixby Creek bridge in the 1930's.*



## Environmental Streamlining

To achieve greater efficiency with review and coordination of highway activities, Caltrans and the Federal Highway Administration will be preparing program-level environmental documents in accordance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA). The documents will facilitate the environmental streamlining objectives outlined in the CHMP.

Environmental streamlining reflects a movement to improve the process and delivery of environmentally responsible transportation projects. Streamlining provides for improved interagency communication and cooperation, coordinated oversight and adherence to realistic timelines. The program-level documents will consider effects and alternatives for a set of related actions; specifically, it will provide important structure for making decisions related to recurring activi-

ties, such as landslides and culvert replacements.

The documents will allow for greater consideration of cumulative effects and evaluation of alternatives than can be done case-by-case. The expectation is to alleviate duplicative review of basic policy issues. It will allow consideration of broader alternatives and mitigation measures at a time when there is more flexibility to deal with problems or cumulative effects. With a comprehensive, detailed analysis of the program, subsequent activities would undergo a simplified environmental review process, because consideration of effects and mitigation measures outlined in the program-level document would be incorporated into the individual actions.

The first step during environmental review is called scoping. This provides an opportunity to identify all the issues to be examined. While scoping has

**Streamlining provides for improved interagency communication and cooperation, coordinated oversight and adherence to realistic timelines**

been ongoing throughout the development of the CHMP, this formal step is important for re-engaging full public input. Public meetings to present and discuss the Draft CHMP may also provide an opportunity for scoping. ■

## PROJECT AREA MAP



*The CHMP outlines coordinated and sustainable management strategies for 75 miles of Highway 1 between the Carmel River in Monterey County and San Carpoforo Creek in San Luis Obispo County.*

## Inventory Provides Detailed Picture of Corridor

Effective corridor management relies on accurate information about the resources. The completion of the intrinsic qualities inventory has produced a series of technical reports and a comprehensive Geographical Information System (GIS) database.

The reports detail the area's intrinsic qualities: archaeological, cultural, natural, recreational, historic, and scenic.

Spatial and tabular information and photographs from the inventory have been compiled into the database. The inventory provides a central source for a wide variety of information about conditions and resources that need to be considered for ongoing activities and future project planning. The database will be especially valuable for identifying resource constraints during emergency conditions.

The corridor inventory supplies information important for managing and operating this corridor. If you are interested in reviewing information contained in these inventories please visit the Big Sur CHMP Web site at [www.dot.ca.gov/dist05/projects/bigsur](http://www.dot.ca.gov/dist05/projects/bigsur), or contact Aileen Loe at [hwy1\\_BigSur@dot.ca.gov](mailto:hwy1_BigSur@dot.ca.gov) to request a CD ROM or complete hardcopy. ■

## Stakeholder's Expertise at Work

In examining the operation of Highway 1 in relation to landslide activity, CHMP-related technical studies and proposals have been produced with contributions from Caltrans, stakeholder agencies and other organizations and institutions. These efforts evaluate historical and present-day landslide and relate them to the geology of the corridor.

One of these studies is the *Long Term Volumetric Sediment Contribution from Landslides* study initiated by USGS Pacific Center, US Santa Cruz in partnership with Caltrans. Work by Dr. Cheryl Hapke, USGS, estimates the historical landslide sediment movement along the Highway 1 corridor. Little is currently known about the amount of sediment the nearshore environment can sustain without adverse impacts. Landslide material naturally provides protection from waves at the base of the slope and sediment entering the water provides nutrients and material for the various nearshore habitats. This study is valuable because the deposit of landslide material from highway repair may upset the equilibrium of the sys-

tem through organism burial or alteration of bottom types if more sediment is entering than would naturally occur. However, restricting inputs of material could also starve the system of necessary nutrients and sediments. The primary research goals of the study are to quantify the volume of sediment that enters the sanctuary through coastal landslides and to relate the volume losses to the complex geology of the region.

Historical photos from 1942 and recent photos from 1994 were used to create 3D topographical models. These 3D models were then placed in Geographical Information Systems (GIS) so that volume changes could be calculated. To test the results of the GIS findings, rock strength, wave power and steepness of slope along the coast were studied. Results showed that quantified volume loss rates varied dramatically, depending on the site's geologic characteristics.

When combined with biological studies of habitat sensitivity, the data resulting from

this study will help identify areas along the coast where depositing sediment would avoid or have minimal impact on nearshore habitats and aquatic species. An understanding of the rate, timing and distribution of material that has historically entered the nearshore allows for the development of management practices that can be consistent with natural patterns. This research will help inform decisions in response to landslides affecting Highway 1, especially for highway repair and disposition of excess soil and organic materials.

Dr. Cheryl Hapke presented her research at the 53rd Annual Highway Geology Symposium hosted by Caltrans, District 5, in San Luis Obispo, CA, August 2002. The symposium provided an opportunity of participants to share state-of-the-art technology and practices. National and international experts had the opportunity to view the active landslides mentioned in Dr. Hapke's research and to see first hand the challenges of road maintenance along the Big Sur Coast during a field trip of Highway 1. ■

## Applied Sciences at Pitkins Curve



*Pitkins Curve Landslide, a chronic landslide site where information from new research helps evaluate alternative solutions.*

Pitkins Curve located about 1.3 miles south of the community of Lucia is a historically active landslide for which a good deal of information and data is available. The recent construction activity at the site was triggered by a landslide in February 2000, when a 100-meter section of roadway was completely undermined and lost.

A long-term solution is being investigated for the site which includes consideration of a bridge among the alternatives. However, with completion of this project 6-8 years

away, interim measures are necessary to sustain a reliable highway. In the interim, a method of retaining the locally-generated slide material on-site rather than hauling it all away by truck to landfills is being tested. By placing a rock-armored berm above the toe of the landslide and mid-slope above the beach, material would be placed up to the roadway elevation. The rock armor would retain the material on the slope and prevent it from depositing directly on the beach. The material would be expected to

erode over time from continued wave action at the toe of the landslide. In addition to the geotechnical research at the site, environmental conditions both on and offshore are also being monitored and evaluated. This proposal is being piloted in an effort to develop solutions that are compatible with background conditions. Using the best information available, responsible progress toward new solutions can help shape the best policy decisions for the future. ■



Examples of reducing clutter along the corridor: a painted marker (right photo) replaces a culvert paddle marker (left photo); smaller "No Parking" signs using a universal symbol take the place of larger "No Parking" signs.



Public Review  
of  
Draft CHMP  
Released

Summer 2003  
Public  
Meetings

Final CHMP  
December 2003

**DRAFT PLAN** continued from page 1

sists of one or more actions, a timeframe goal and responsible party. Requirements for implementing the actions and indicators of success are also included.

Three sets of guideline documents further outline how Caltrans expects to conduct its ongoing and critical activities consistent with its stewardship responsibilities for the diverse and sensitive resources along the corridor. The guidelines provide direction for many aspects of corridor management to ensure that stakeholder values are upheld. Guidelines have been developed for:

- Corridor Aesthetics
- Landslide Management Storm and Damage Response
- Vegetation Management

The CHMP is comprised of the Corridor Management Plan together with these three sets of guidelines. Together, these components will facilitate improved understanding of corridor management responsibilities and outline best practices for fundamental activities and recurring events. For example, for storm damage response tools have been developed to streamline coordination between agencies with regard to emergency highway repair.

With regard to corridor aesthetics, what you don't see along the highway is almost as important as what you do see. Caltrans is demonstrating a few simple techniques in an effort to reduce highway clutter. Along a two-mile stretch near Pt. Lobos State Reserve a series of traditional "No Parking" signs have been replaced with new lower profile signs less than half the size of the older signs. Caltrans Maintenance is exploring alternatives to paddle markers that identify culvert locations, such as painted pavement markers. With over 700 culverts along the route marked on both sides of the highway, alternatives could make an important contribution to reducing clutter. These subtle changes demonstrate how attention to detail can make a difference.

The Vegetation Management Guidelines describe the objectives and practices for roadside management and site restoration that help promote sustainable native habitats throughout the corridor.

The planning team welcomes your input on these documents. ■

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# BIG SUR Coast Highway Management Plan

## COMMENT CARD

We need your ideas! Please write us if you have any comments in general about the Big Sur Coast Highway Management Plan (CHMP). Please note comments to the right.

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## CONTACT INFORMATION

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## Stay Involved with the CHMP Process

Public input has been critical to developing a management plan that reflects the many perspectives on the Highway 1 corridor. Release of the Draft CHMP offers an opportunity for the public to comment on the document's contents. Please take an opportunity to review and comment on the plan. All comments will be considered as part of the development of the Final CHMP and the program environmental document.

### Draft CHMP Available at

#### Libraries

- Harrison Memorial Library  
Ocean Avenue and Lincoln Street  
Carmel-by-the-Sea
- Pacific Grove Public Library  
550 Central Avenue  
Pacific Grove
- Big Sur Public Library  
Highway 1  
Big Sur
- Henry Miller Memorial Library  
Highway 1  
Big Sur
- Monterey City Library  
625 Pacific Street  
Monterey
- San Luis Obispo County Library  
995 Palm Street  
San Luis Obispo

#### County Planning Offices

- Monterey County  
2620 First Avenue  
Marina
- San Luis Obispo  
County Government Building  
1050 Monterey Street, Room 310  
San Luis Obispo

#### Caltrans Web Site

[www.dot.ca.gov/dist05/projects/bigsur](http://www.dot.ca.gov/dist05/projects/bigsur)

#### Questions?

Caltrans questions from Monterey and Santa Cruz Counties call (831) 423-0396.

Big Sur CHMP questions, call Aileen Loe, Project Manager, at (805) 549-3103 or email [Hwy1\\_BigSur@dot.ca.gov](mailto:Hwy1_BigSur@dot.ca.gov).

#### For general questions to Caltrans call:

Monterey Peninsula (831) 372-0862  
Salinas (831) 753-0187  
San Luis Obispo (805) 549-3111  
Santa Cruz (831) 423-0396

## Partnerships in Action

**CALIFORNIA STATE PARKS**  
[WWW.CAL-PARKS.CA.GOV](http://WWW.CAL-PARKS.CA.GOV)

**MONTEREY COUNTY**  
[WWW.CO.MONTEREY.CA.US](http://WWW.CO.MONTEREY.CA.US)

**US FOREST SERVICE**  
[WWW.FS.FED.US](http://WWW.FS.FED.US)

**MONTEREY BAY NATIONAL  
MARINE SANCTUARY**  
[WWW.MBNMS.NOS.NOAA.GOV](http://WWW.MBNMS.NOS.NOAA.GOV)

**BUREAU OF LAND MANAGEMENT**  
[WWW.BLM.GOV](http://WWW.BLM.GOV)

**CA DEPARTMENT OF TRANSPORTATION**  
[WWW.DOT.CA.GOV/DIST05/](http://WWW.DOT.CA.GOV/DIST05/)



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