

## 4.7 Recreation

### 4.7.1 Introduction

This section evaluates potential impacts on recreational resources that could result from implementation of the Russian River Estuary Management Project (Estuary Management Project or proposed project) and identifies mitigation measures to reduce or avoid impacts, as appropriate. The primary information sources include a site visit on Sunday July 25, 2010, the *Sonoma County General Plan* (2008), and information published by California State Parks and Recreation. The analysis addresses publicly accessible recreational resources in the project area, including local roadways used for bicycling, beaches, and designated recreational trails, and describes regulations applicable to the proposed project. This section also draws upon the analyses in **Sections 4.9, Noise; 4.10, Air Quality; and 4.11, Transportation and Traffic**, in which those direct impacts are analyzed for their effects on recreation.

### 4.7.2 Setting

The lower Russian River hosts a wide variety of outdoor and scenic recreational opportunities for locals and visitors where recreation is a major industry. These activities in the area include boating, fishing, surfing, hiking, bicycling, equestrian uses, camping and picnicking opportunities. The Russian River itself is used for “on-stream” water activities such as fishing, canoeing, and swimming.

Communities in the lower Russian River watershed include: Monte Rio, Guerneville, Rio Nido, Duncans Mills, Mirabel Park and Jenner at the mouth of the river. Many resorts and vacation homes are located in these communities along the Russian River especially between Duncans Mills and Mirabel Park. Also, the coastal area along State Route 1 (SR 1) near the Russian River has many popular State Beaches, hiking trails, bicycling and surfing locations in the lower Russian River watershed.

Beach access, and hiking trails are available along the coast at designated recreational areas and State Parks. A variety of recreational opportunities are available within and near the Russian River Estuary (Estuary). Areas adjacent to the Estuary are used at certain locations to access a variety of water-related recreational activities, such as kayaking and boating as well as passive activities including sunbathing and nature watching. Sightseers traveling on SR 1 also enjoy views of the Estuary while traveling along the perimeter.

## Recreational Facilities

### *Russian River Estuary*

The Estuary is a state marine recreational management area as defined by the Marine Life Protection Act (MLPA), managed by the California Department of Fish and Game (CDFG). Within the Estuary, the take of living marine resources is prohibited except recreational hunting of waterfowl. Fishing is prohibited in the Estuary. Public access to the Estuary is available at the

Russian River Visitor Center in Jenner and State Parks lands, located in the lower Estuary. Access to the upper Estuary is mainly from private campgrounds and other private lands in the Duncans Mills area.

### ***Sonoma Coast State Park***

Sonoma Coast State Park is owned and operated by California State Parks and extends 17 miles along the coast from Bodega Head north to Vista Trail, located north of the of Jenner (California State Parks, 2009). Along the southern shore of the Russian River it extends inland approximately 4 miles to include the new Willow Creek area. At the mouth of the Russian River Estuary is Goat Rock State Beach with beaches accessible from SR 1. The coastal ocean provides habitat to a variety of sport fish including rockfish, perch, salmon, steelhead, smelt, red abalone, mussels, and cockles (Sonoma Coast State Park website, 2010). Generally fishing is permitted in the State Park with a valid California sport fishing license; however, fishing of wild steelhead, Chinook salmon, and coho salmon is prohibited as these species are protected under the Endangered Species Act. Water recreation is not advised due to access limitations and physical hazards, such as strong rip currents, heavy surf, and sudden swells, although surfing is still a popular sport at many of the beaches.

### ***Goat Rock State Beach***

Goat Rock State Beach (Goat Rock) is a long sandy stretch of beach located south of the Russian River Estuary Mouth and adjacent to the project site. Goat Rock is accessible from Goat Rock Road off SR 1 and contains two parking lots which provide access to picnic tables, restroom facilities, and the beach. The mouth of the Russian River Estuary is open to the ocean tides for much of the year. Beach areas north and south of the river mouth provide habitat for a variety of wildlife species and recreational viewing opportunities for Goat Rock visitors; however use restrictions for beach access are established to protect sensitive species, such as harbor seals which are known to haulout at the Goat Rock beach area. The coastal area west of the Russian River Mouth is a State Marine Conservation Area as defined by the MLPA. In this area the recreational and commercial take of all species of invertebrates and finfish is permitted with the exception of Chinook and coho salmon and wild steelhead, which are protected under the Endangered Species Act.

During times of the year when the Russian River Estuary is open, Goat Rock is a popular surfing location due to outflow from the Estuary depositing sediment into the ocean which creates a unique wave break. Although multiple factors affect wave profiles including speed, fetch, and direction of ocean swells and wind, sandbar topography is particularly important with the formation of a wave in this location. Surfing waves are formed when river sediment is deposited outside of the river mouth, creating a gradual shore drop-off into the ocean, which in turn forms a gradually breaking wave. Otherwise, when a barrier beach forms naturally between the ocean and the Russian River Estuary, sediment from the Russian River is not introduced near the shoreline, therefore the shore drop off is sharper and the subsequent waves break more quickly and sharply, typically not conducive for surfing.

### ***Willow Creek***

Willow Creek is on the south side of the Estuary. The new 3,373 acre addition to Sonoma Coast State Park covers much of the Willow Creek and Freezeout Creek watersheds, which are the westernmost drainages into the Estuary from the south. Hikers, bikers and equestrians have access to a 15 mile network of old logging and ranch roads, which are accessible through a free permit-for-use program administered by LandPaths.<sup>1</sup> Roads and trails connect with adjacent State Park lands, allowing users to hike or ride more than seven miles from Duncans Mills to Shell Beach on State Park lands.

### **Willow Creek Environmental Camp**

Willow Creek Environmental Camp is the only State Park campground on the lower Russian River and includes 11 primitive campsites with fire rings, picnic tables, and pit toilets. Camp sites are shaded by large willow trees and are close to a large beach used for swimming and fishing. To protect the wildlife, no dogs are allowed. The campground periodically closes in the winter because the access road is subject to wash-out during winter storms.

### **Pomo Canyon Environmental Camp**

Pomo Canyon Environmental camp is owned and operated by the State of California and includes 20 campsites with fire rings, picnic tables, pit toilets and running water nearby. Camps are set in a redwood grove. A three-mile trail to Shell Beach crosses streams and rises up into the grassland with marvelous views of the river and finally the ocean. To protect the wildlife, no dogs are allowed.

### ***Private Campgrounds***

Three private campgrounds, Rien's Sandy Beach (22900 Sylvan Way Monte Rio) and Casini Ranch (22855 Moscow Road, Duncans Mills), and Duncans Mills Camp Club (25387 Steelhead Boulevard, Duncans Mills) flank the River downstream of Monte Rio and provide river beach access. Casini Ranch has been operated year round since 1965. Casini Ranch guests have access to a one-mile-long beach.

## **Recreational Access and Beaches**

The lower Russian River has limited public access. Within the Estuary Study Area, maximum backwater area, the Jenner Boathouse/Visitor's Center is the only beach with formal public access. In the maximum backwater area, there is formal public access at Monte Rio Community Beach and Vacation Beach. Monte Rio Community Beach is located on a large bend in the river and offers picnic amenities and boat rental facilities. This location is frequently used for community gatherings. Vacation Beach is located at Vacation Beach Road in Guerneville and has a seasonal dam during the summer recreation season that is removed over four days in late

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<sup>1</sup> LandPaths, a non-profit environmental education group in Sonoma County. See <http://www.landpaths.org>

September.<sup>2</sup> Additionally, since the Russian River is a designated “navigable river”, the mudflat/gravel bar (“beach”) areas along the maximum backwater area are public property up to the high-water mark or treeline<sup>3</sup>, and frequently used as stopovers by kayakers and boaters.

### ***Russian River Waterway***

The Russian River is a navigable waterway. This waterway extends from Goat Rock State Beach on the coast to the Cloverdale area (SCPRMD, 2009b). Public access to the waterway is protected by Article XV, Section 2 of the California Constitution.

### ***Sonoma Coast Trail***

Sonoma Coast Trail is owned and operated by the State of California Coastal Conservancy and is a portion of the California Coastal Trail. This portion of the Coastal Trail, known as the Kortum Trail which begins in the bluffs above Blind Beach with a trailhead just off of Goat Rock Road. Another trailhead is at Goat Rock State Beach southern parking lot that starts out with a climb up the bluff. The Coastal Trail does not currently cross the Russian River. (California State Parks, 2010).

## **Bicycle Routes**

The temperate climate and scenic roads surrounding the Estuary make it a popular bicyclist destination. Throughout Sonoma County a number of designed bicycle routes have been established and are categorized as Class I, II or III, as follows:

1. Class I: completely separated right-of-way designated for the exclusive use of bicycles;
2. Class II: restricted right-of-way designated for semi exclusive use of bicycles; and
3. Class III: a shared right-of-way designated by signing or stenciling on pavement.

Although there are no existing designated bikeways within the Estuary Management Project area, SR 116 (River Road) is a highlighted bicycle route on Sonoma County’s regional bicycle network (SCPRMD, 2008). Additionally, the bicycle system of Sonoma County is not complete and several upgrades are proposed within the project area:

1. Class I Bike Path (Proposed) adjacent to SR 116 (River Road) from Duncans Mills west to Jenner, called Willowcreek Trail;
2. Class II Bike Lane (Proposed) SR 116 (River Road);
3. Class II Bike Lane (Proposed) SR 1, south of Goat Rock State Beach; and
4. Class III Bike Route (Proposed) SR 1, north of Goat Rock State Beach.

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<sup>2</sup> Seasonal dams are temporary structures placed across the Russian River mainstem and its tributaries to impound water. The main purpose of these dams is to form pools for recreational use. The Russian River Parks and Recreation District operates the dam for recreation. It has a permanent 8-foot-tall concrete base with collapsible steel support beams. Wooden flashboards are installed during the summer to impound water. The dam includes a portable fish ladder to permit fish passage when the flashboards are in place (CDFG, 2002 in Entrix, 2004). Dam removal dates are set by the California Department of Fish and Game.

<sup>3</sup> Many of the riverfront properties are privately owned, and display “no trespassing” signage; however the beach is public property.

### 4.7.3 Regulatory Framework

Please refer to the regulatory framework provided in **Section 4.6.3, Land Use and Agriculture**, for a detailed discussion of State and local policies and regulations regarding recreational resources within the project area. The California Coastal Act, administered by the California Coastal Commission (CCC) and MLPA, administered by CDFG, apply to recreational resources within the Estuary Management Project area, and are previously defined in **Section 4.6**. Applicable local plans, including the *Sonoma County General Plan 2020*, Sonoma County Zoning Regulations, Local Coastal Program establish policies and regulatory constraints that apply to the Estuary Management Project. Additional relevant information contained in the Local Coastal Program, as well as a description of policies implemented by the Sonoma County Transportation Agency, is provided below. The goals, policies, and programs were considered in this analysis to define sensitive recreational resources, determine project consistency with policies, and evaluate significant impacts in the following section.

#### **Sonoma Coast State Park Final General Plan & Environmental Impact Report**

The Sonoma Coast State Park Final General Plan and the corresponding Environmental Impact Report were approved and certified in May 2007. Every State Park in California must develop a general plan prior to approval of major developments. The general plan defines the purpose, vision, and long-term goals and guidelines for the management of Sonoma Coast State Park. It provides guidelines for future land use management and designation, including land acquisition and the facilities required to accommodate expected increases in visitation. The general plan provides a comprehensive framework that guides the Park's development, ongoing management, and public use for the next 20 years. The protection and restoration of natural and cultural resources are key components of the Plan. The Plan includes goals and guidelines aimed at biological resources and water quality protection, the preservation of scenic and cultural resources, recreation and interpretive opportunities, and facility improvements and potential construction of new developments in response to heavy and growing visitation, environmental constraints, and recent and expected near-term property acquisitions. Sonoma Coast State Park provides opportunities for a wide variety of recreational activities, including camping, hiking, mountain biking, horseback riding, picnicking, beachcombing, wildlife viewing, surfing, and many other activities associated with the beach, riparian and upland habitats.

The following goal identified in the Sonoma Coast State Parks General Plan is intended to provide a variety of quality recreation activities.

**Goal REC-1:** Provide a variety of day-use and overnight recreational opportunities at Sonoma Coast SP to meet the existing and evolving needs of park visitors.

1. *Guideline REC-1A:* Plan for recreational opportunities within a regional context and in coordination with other plans, (e.g., the Sonoma County Outdoor Recreation Plan, the Californian Coastal Trail), as required or as determined appropriate by the Department.

2. *Guideline REC-1D*: Continue to maintain and enhance safe access to the beaches and other areas within Sonoma Coast SP through appropriate studies and evaluations.

**GOAL INLAND-1:** Provide for diverse and appropriate access provisions to accommodate recreational opportunities and visitor enjoyment of the distinctive resources of the inland watershed area.

1. *Guideline INLAND-1A*: Establish appropriate access points that best satisfies the site selection criteria for development, trail connectivity, visitor safety, and consistency with resource management objectives.

### **Sonoma County Local Coastal Program**

The Recreation Chapter of the Sonoma County Local Coastal Program includes the California Coastal Act's policies regarding coastal access rights and permitting uses. Pedestrian movement along the shoreline or from the nearest public roadway to the shoreline to the mean high-tide line along a specified route is guaranteed under the Coastal Act. Passive recreational uses permitted include activities normally associated with beach use (walking, swimming, jogging, sunbathing, fishing, surfing, and nature study) but does not include organized sports activities, campfires or vehicular access. Active recreational uses include the full range of beach-oriented activities including those uses not allowed in passive use area. View access refers to opportunities for the public to view the shoreline and should be made available as frequently as possible. All public access ways opened to the public should be clearly signed to indicate location of trail heads, parking, parking capacity, emergency aid information and any other recreational information such as information about natural resources, the need for user cooperation, and possible fires. Specifically related to the project area, the Plan states that the beach at the mouth of the Russian River is accessible from Goat Rock parking area at the Sonoma Coast State Beach.

### **Sonoma County Transit Authority**

Under the *Sonoma County General Plan 2020* and as described by the SCTA Bicycle and Pedestrian Master Plan there are approximately 78 miles of existing Class I bikeways, 122 miles of existing Class II bikeways, and 44 miles of existing Class III bikeways (SCTA, 2008). Despite the existing bicycle facilities, the bicycle network within the County is incomplete and many gaps still exist that break the continuity of bicycle travel. The SCTA Bicycle and Pedestrian Master Plan describes proposed Class I, II, and III facilities that would further connect the bicycling network. Bikeways in the project area are discussed in **Section 4.7.2** above.

## **4.7.4 Environmental Impacts and Mitigation Measures**

### **Significance Criteria**

In accordance with Appendix G of the CEQA Guidelines, a recreation impact is considered significant if it would:

1. Increase the use of existing parks or recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or

2. Include recreational facilities or require construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

Due to the nature of the proposed project, there would be no impacts related to the following CEQA criterion; therefore, no impact discussion is provided in relation to this criterion for the reasons described below:

*Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.* The project does not propose the construction or expansion of recreation facilities and would not result in the need for new or expanded recreational facilities. Thus, impacts related to the construction or expansion of recreational facilities is not applicable to the project.

Recreation, however, is of particular importance in the Russian River Estuary and the surrounding area and it should be acknowledged that removal or diminished use of a recreational resource would be an impact, particularly to a user of that resource. Therefore additional criteria may be considered significant in this evaluation, if the project were to:

1. Restrict access to or the beneficial use of existing recreational sites or facilities.
2. Eliminate or modify an existing recreational resource so that it no longer satisfies the recreational use for a significant number of the users.

## Approach to Analysis

As noted in **Chapter 2.0, Project Description**, the Water Agency would continue its current practice of artificial breaching outside of the lagoon management period of May 15 through October 15. Timing, implementation, access, sensitivity to pinniped haulout, personnel, equipment and general procedures would be equivalent to current practices, as described in **Section 2.2.2**. No change to existing artificial breaching outside of the lagoon management period would occur under the Estuary Management Project.

To determine the potential effects of the lagoon outlet channel activities associated with the proposed Estuary Management Project, areas potentially affected by project actions were compared with the locations of identified recreational resources in the project area that may be directly or indirectly affected by the proposed project, including the beaches, surfbreak, and Willow Creek Environmental Camp.

## Impacts Analysis

The following impact analysis focuses on potential impacts of the proposed Estuary Management Project related to recreational resources. The evaluation considered project plans, current conditions at the project site, and applicable regulations and guidelines. Impacts are summarized and categorized as either “no impact,” “less than significant,” “less than significant with mitigation,” or “significant and unavoidable.”

**Impact 4.7.1: Disruption of Use of Recreational Facilities. The proposed project would temporarily restrict access and beneficial use of recreational sites or facilities. (Significant and Unavoidable)**

**Localized Impacts at Goat Rock State Beach**

During the lagoon management period, the proposed outlet channel would be excavated across the barrier beach at Goat Rock State Beach, part of Sonoma Coast State Park. At the start of the management period, when configuring the outlet channel for the first time that year, the machinery would operate for up to two consecutive working days. The Water Agency assumes weekly maintenance, up to 18 maintenance events during the lagoon management period. Based on historic record, the maximum number of artificial breaches during the lagoon management period was eight, so expected implementation and maintenance trips under the Estuary Management Project represent an incremental increase in Water Agency presence and operation on the beach.

Although the Estuary Management Project could result in an incremental increase in the frequency of beach closure and disruption, the number of consecutive days, and frequency of maintenance activities are limited by conditions specified in permits (mentioned above), and would be temporary. Therefore, implementation and maintenance of the lagoon outlet channel under the Estuary Management Project would not result in substantial disruption to recreational facilities.

**On-Stream Recreation**

The Estuary Management Project would have no impact to “on-stream” recreational uses, such as kayaking, as the Estuary Management Project would not directly affect flows.

**Impacts to Riverfront Beaches**

Maintenance of the outlet channel to form a freshwater lagoon during the proposed lagoon management period would sustain elevated water levels in the Estuary between 4.5 and nine feet, with a target elevation of 7 feet, for a longer duration, which could potentially inundate shoreline properties and beach areas. The range of water surface elevations that occur within the Estuary would not change as a result of implementing the project. The 7 foot (average) and nine foot (maximum) water surface elevations targeted by the Estuary Management Project are within the existing range of water surface elevations associated with the current closure and breaching processes within the Estuary. Historically, properties along the Estuary experienced inundation during natural Estuary closures with increases in water elevation equal to that proposed for the project (SCWA, 2010). The lowest recorded water surface elevation upon breaching was 4.3 feet (September 8, 1996) and the highest water surface elevation was 11.1 feet during a natural breach (November 13, 2001). In over half of the artificial breaching events the water surface elevation exceeded 7 feet (and was sometimes as high as eight, nine, and, in a very few cases, greater than 10 feet). The average recorded water surface elevation at the time of breaching was 7.1 feet. During closure events, water surface elevations of 7 feet affect the shoreline frontage parcels along the Russian River. The rising water surface elevations affect primarily shoreline and beach areas.

As described in **Section 3.0, Project Background and Environmental Setting**, the average duration of closure under current conditions is between five to 14 days; under the proposed Estuary Management Project, the average duration of closure may increase to between one and five months, depending upon outlet channel performance. The increased frequency and duration of the closure could result in longer inundation of shoreline properties and riverfront beaches, both relatively large, contiguous areas, as well as smaller, more discrete areas immediately adjacent to the active channel margin (see also **Chapter 3.0, Figures 3-4A through 3-4E**). Recreation facilities adjacent to the Estuary include Willow Creek Open Space, Willow Creek Environmental Camp, and private boat docks, and beaches (i.e. at Rien’s Sandy Beach campsite, Casini Ranch, Monte Rio Community Beach, Vacation Beach). Riverfront beaches within the project area are used as stopovers/rest areas, picnicking spaces, and sunbathing areas by recreational users, particularly kayakers and boaters on the River. Reduced beach area could be an inconvenience to recreational users.

The reduction of riverfront beach area within the Estuary Study Area that could occur as a result of the proposed project is estimated based on review of aerial photography and analysis of vegetation and contour data (**Figures 4.4-1 through 4.4-5 in Section 4.4, Biological Resources**). For the purposes of this analysis, the *gravel/mudflat* “vegetation” type (identified in the Map Legend) consists of shoreline area that is equivalent to “beach” area. “Beach” area is mapped up to the 14-foot contour. Analysis of vegetation and contour data indicates that there are approximately 27.2 acres of “beach” areas existing within the 14-foot contour. **Table 4.7-1** summarizes the reduction of available beach area within the Estuary Study Area resulting from increased inundation during the lagoon management period.<sup>4</sup>

**TABLE 4.7-1  
 EXTENT OF BEACH (MUDFLAT/GRAVEL) WITHIN EXISTING TOPOGRAPHICAL RANGES ADJACENT TO RUSSIAN RIVER ESTUARY – WITHIN 14 FOOT ELEVATION**

Elevation Range	4.5-7		7-9		9-14		Total Mapped (acres)
	acres	% of total mapped	acres	% of total mapped	acres	% of total mapped	
Beach (Mudflat/Gravel)	17.9	66%	6.3	23%	3.0	11%	27.2

Many of the beach areas occurring within the Estuary Study Area and maximum backwater area do not have formal public access. Inundation associated with higher water levels would reduce the amount of beach acreage available within the Estuary, and these conditions would occur for a longer duration, depending upon performance of the outlet channel. At nine feet, beach area would remain present at most gravel bar locations, and riverside access to these gravel bars would still be available. Higher water surface elevations within the Estuary may be perceived as a benefit to recreational boaters, and higher water levels may enhance recreational experiences at key

<sup>4</sup> Inundation of mudflat/gravel bar areas upstream of Austin Creek in the Maximum Backwater Area, including Monte Rio Community Beach and Vacation Beach are not quantified due to absence of reliable contour and vegetation mapping data; however the order of magnitude of inundation is expected to be commensurate with that in the Estuary Study Area.

recreational beaches occurring within the maximum inundation area, including Casini Beach, Monte Rio, and Vacation Beach. However, no mitigation measures are available to reduce or avoid the inundation of gravel bar and shoreline beaches to an elevation of up to nine feet along the Estuary shoreline for longer durations during the lagoon management period. Therefore, these impacts are considered significant and unavoidable.

### ***Mitigation Measures***

No feasible measures are identified.

**Impact Significance:** Significant and Unavoidable.

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#### **Impact 4.7.2: Eliminate or Modify an Existing Recreational Resource. The proposed project would likely reduce the occurrence of open channel tidal conditions conducive to surfing activities. (Significant and Unavoidable Impact)**

During times of the year when the Russian River Estuary is open, Goat Rock is a popular surfing location due to outflow from the Estuary depositing sediment into the ocean which creates a unique wave break. Although multiple factors affect wave profiles including speed, fetch, and direction of ocean swells and wind, sandbar topography is particularly important with the formation of a wave in this location. When the Estuary channel is in a breach condition the strong tidal outflows causes the deposition of large quantities of sediment within the wave zone creating sandbar conditions well suited for surfing waves. Current barrier beach management practices create conditions which promote a tidal Estuary channel making this the dominant condition at the site. In contrast, in order to minimize saline water inflow, the proposed outlet channel is designed minimize scour and sediment flow in the channel and therefore minimize sediment deposition within the wave zone. The reduction or loss of this surf break occurrence during summer months is of particular concern to local surfers (ESA, 2010). Although the project would not directly eliminate this temporarily-occurring recreational resource for the duration of the year, the project would likely reduce the occurrence of the surf break at Goat Rock for current users during the lagoon management period.

Outside the lagoon management period (October 16 through May 14), it is anticipated that ocean topography off-shore of Goat Rock State Beach would return to previous conditions and the surfing location would provide the same recreational experience for users as existing conditions. However, in light of local incidental recreational benefit enjoyed under current management practices, this reduction in the occurrence of surf break conditions is considered a potentially significant impact and is dependent on a surfer's personal recreational experience.

This potential impact may be inconsistent with the California Coastal Act, which protects water based recreation (Section 30220) and low costs recreational opportunities (Section 30213). The California Coastal Commission has jurisdiction and would be responsible for making a consistency determination of the project with these policies; however it is recognized that alteration of the opportunity for surfing may not be consistent. There are no available/feasible

mitigation measures that would effectively reduce or avoid the impact; therefore it is considered unavoidable.<sup>5</sup>

### **Mitigation Measures**

No feasible measures are identified.

**Impact Significance after Mitigation:** Significant and Unavoidable.

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### **Impact 4.7.3: Deterioration of Recreational Facilities. Implementation and maintenance associated with the Estuary Management Project could increase the use of existing parks or recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. (Less than Significant)**

Creation of the lagoon outlet channel would require limited vehicular and equipment access via State Parks maintained access roads. State Parks Road is a narrow, paved, two-lane road that connects Goat Rock Road to access points for Goat Rock State Beach. The road is not designed for frequent traffic of heavy equipment, and is primarily intended for State Parks personnel and recreational access, and represents a concern for the State Parks Department. This road is described in more detail in **Section 4.11, Transportation and Traffic**.

To implement the lagoon outlet channel, the on-site equipment that would be required for the creation and maintenance of the outlet channel would be up to two pieces of heavy machinery, such as an excavator and/or bulldozer, and approximately four to five staff vehicles (typically small pick up trucks). At the start of the management period, when configuring the outlet channel for the first time that year, the machinery would operate for up to two consecutive working days. The Water Agency assumes weekly maintenance, up to 18 maintenance events during the lagoon management period. This would require vehicular and equipment access via State Parks access roads. Based on historic record, the maximum number of artificial breaches during the lagoon management period was eight, in 1997 and 2008, so expected maintenance trips under the Estuary Management Project represent an incremental increase in short-term truck trips.

Although the Estuary Project could result in an incremental increase in frequency of vehicular use on State Parks roads during the lagoon management period, the trips would be short-term and would not be substantial enough to result in accelerated deterioration of the roadway that could

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<sup>5</sup> As recorded in **Appendix 1.2**, participants in the scoping process recommended construction of an artificial reef to reduce adverse impacts to surfing; however construction of a physical structure is anticipated to incur direct, however short-term, adverse environmental effects to marine life, hydrology, and geomorphology during construction. Some case studies demonstrate that artificial reefs can be multi-purpose, designed to improve sediment retention and protect beach from erosion, and constructed of materials that could enhance marine habitat. An artificial reef would function to dissipate swell energy across the entire length of the reef for the primary purpose of protecting beaches from erosion and sediment loss. Cases of successful artificial reefs are most prevalent outside of North America, in locations that are subject to severe weather (i.e. monsoons). Feasibility studies would need to be undertaken to determine if an artificial reef would be feasible or functional in the Russian River area. Additionally, there is no guarantee that construction of an artificial reef would, in fact, improve surfing conditions. It would be entirely dependent on ocean conditions.

impact recreational access. Please refer to **Section 4.11, Transportation and Traffic**, for additional analysis related to general roadway wear and tear.

**Impact Significance:** Less than Significant; no mitigation required.

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## 4.7.5 References

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