

# Lost Coast Headlands Draft Activity Plan



Draft Plan  
October 10, 2012

Chapter 1 – Introduction .....	0
1.0 Introduction.....	0
1.1 Background on Planning Process.....	0
1.2 Purpose and Need for Lost Coast Headlands Activity Plan .....	2
1.3 Planning and Management Area Description .....	2
1.4 Conformance with Arcata RMP and Existing Planning Direction .....	5
1.5 Conformance with Other Applicable Policies and Plans .....	5
1.6 Planning Themes and Issues .....	5
1.7 Planning Process .....	6
1.8 Development of the Lost Coast Headlands Activity Plan and EA .....	6
1.9 Planning Time Horizon and Implementation.....	7
1.10 Organization of this Document.....	7
Chapter 2 – Affected Environment .....	8
2.1 Climate and Climate Change .....	8
2.2 Geology and Soils .....	8
2.3 Cultural Resources .....	12
2.4 Invasive, Non-native Species.....	12
2.5 Lands and Realty Management.....	15
2.6 Social and Economic Considerations.....	16
2.7 Fisheries, Riparian, and Water Quality.....	17
2.8 Wildlife Including Threatened and Endangered Species.....	18
2.9 Vegetation Including Threatened and Endangered Species.....	21
2.10 Livestock Grazing .....	21
2.11 Recreation .....	23
2.12 Interpretation, Education and Partnerships .....	24
2.13 Visual Resources.....	24
2.14 Fire Management .....	24
2.15 Law Enforcement and Public Safety.....	25
2.16 Solid Waste and Hazardous Materials .....	26
2.17 Air Quality .....	26
Chapter 3 – Management Alternatives .....	27
3.0 Introduction.....	27

3.1 Proposed Action and Alternatives .....	28
3.1.1 Proposed Action – Recreation .....	28
3.1.2 Alternative 1 – Recreation .....	34
3.1.3 Alternative 2 No Action – Recreation .....	38
3.1.4 Proposed Action – Vegetation Management .....	39
3.1.5 Alternative 1 – Vegetation Management .....	41
3.1.6 Alternative 2 No Action – Vegetation Management .....	42
3.1.7 Proposed Action – Grazing Management .....	42
3.1.8 Alternative 1 – Grazing Management.....	44
3.1.9 Proposed Action – Interpretation, Education and Partnerships .....	44
3.1.10 Alternative 1 – Interpretation, Education and Partnerships .....	46
3.1.11 Alternative 2 No Action – Interpretation, Education and Partnerships .....	47
Chapter 4 – Environmental Effects .....	48
4.1 Climate and Climate Change .....	48
4.2 Geology and Soils .....	48
4.2.1 Recreation – Proposed Action .....	48
4.2.2 Recreation – Alternative 1 .....	49
4.2.3 Recreation – No Action Alternative .....	49
4.2.4 Vegetation Management – Proposed Action .....	49
4.2.5 Vegetation Management – Alternative 1 .....	49
4.2.6 Vegetation Management – No Action Alternative .....	50
4.2.7 Grazing – Proposed Action.....	50
4.2.8 Grazing – Alternative 1.....	50
4.2.9 Grazing – No Action Alternative.....	50
4.2.10 Interpretation and Education – Proposed Action .....	50
4.2.11 Interpretation and Education – Alternative 1 .....	50
4.2.12 Interpretation and Education – No Action Alternative .....	50
4.2.13 Cumulative Effects – Proposed Action.....	50
4.3 Cultural Resources .....	51
4.4 Invasive, Non-native Species.....	51
4.4.1 Recreation – Proposed Action .....	51
4.4.2 Recreation – Alternative 1 .....	51
4.4.3 Recreation – No Action Alternative .....	51
4.4.4 Vegetation Management – Proposed Action .....	51

4.4.5 Vegetation Management – Alternative 1 .....	52
4.4.6 Vegetation Management – No Action Alternative .....	52
4.4.7 Grazing – Proposed Action .....	52
4.4.8 Grazing – Alternative 1 .....	52
4.4.9 Grazing – No Action Alternative .....	52
4.4.10 Interpretation and Education – Proposed Action .....	52
4.4.11 Interpretation and Education – Alternative 1 .....	53
4.4.12 Interpretation and Education – No Action Alternative .....	53
4.4.13 Cumulative Effects.....	53
4.5 Lands and Realty Management.....	53
4.5.1 Recreation – Alternative 1 .....	53
4.6 Social and Economic Considerations.....	54
4.6.1 Recreation – Proposed Action .....	54
4.6.2 Recreation – Alternative 1 .....	54
4.6.3 Recreation – No Action .....	54
4.6.4 Vegetation Management – Proposed Action .....	54
4.6.5 Vegetation Management – Alternative 1 .....	54
4.6.6 Vegetation Management – No Action .....	54
4.6.7 Grazing – Proposed Action .....	54
4.6.8 Grazing – Alternative 1 .....	54
4.6.9 Grazing – No Action .....	54
4.6.10 Interpretation and Education- Proposed Action.....	54
4.6.11 Interpretation and Education- Alternative 1 .....	55
4.6.12 Interpretation and Education- No Action.....	55
4.6.13 Cumulative Effects.....	55
4.7 Fisheries, Riparian, and Water Quality .....	55
4.7.1 Recreation – Proposed Action, Alternative 1, and No Action .....	55
4.7.2 Vegetation Management – Proposed Action, Alternative 1, and No Action.....	55
4.7.3 Grazing -- Proposed Action .....	55
4.7.4 Grazing – Alternative 1 .....	56
4.7.5 Grazing – No Action .....	56
4.7.6 Interpretation and Education – Proposed Action, Alternative 1, and No Action .....	56
4.7.7 Cumulative Effects.....	56
4.8 Wildlife .....	56

4.8.1 Recreation – Proposed Action .....	56
4.8.2 Recreation -- Alternative 1.....	56
4.8.3 Recreation – No Action .....	57
4.8.4 Vegetation Management – Proposed Action .....	57
4.8.5 Vegetation Management– Alternative 1 .....	57
4.8.6 Vegetation Management – No Action .....	57
4.8.7 Grazing – Proposed Action.....	57
4.8.8 Grazing – Alternative 1.....	57
4.8.9 Grazing – No Action.....	57
4.8.10 Cumulative Effects.....	57
4.9 Vegetation Including Threatened and Endangered Species.....	58
4.9.1 Recreation – Proposed Action .....	58
4.9.2 Recreation – Alternative 1 .....	58
4.9.3 Recreation – No Action Alternative .....	58
4.9.4 Vegetation Management – Proposed Action .....	58
4.9.5 Vegetation Management – Alternative 1 .....	59
4.9.6 Vegetation Management – No Action Alternative .....	59
4.9.7 Grazing – Proposed Action.....	59
4.9.8 Grazing – Alternative 1.....	60
4.9.10 Grazing – No Action Alternative.....	60
4.9.11 Interpretation and Education- Proposed Action.....	60
4.9.12 Interpretation and Education – Alternative 1 .....	60
4.9.13 Interpretation and Education – No Action Alternative .....	60
4.9.14 Cumulative Effects.....	60
4.10 Livestock Grazing.....	61
4.10.1 Recreation – Proposed Action .....	61
4.10.2 Recreation – Alternative 1 .....	61
4.10.3 Recreation – No Action Alternative .....	61
4.10.4 Vegetation Management – Proposed Action .....	61
4.10.5 Vegetation Management – Alternative 1 .....	61
4.10.6 Vegetation Management – No Action Alternative .....	61
4.10.7 Grazing – Proposed Action.....	62
4.10.8 Grazing – Alternative 1.....	62
4.10.9 Grazing – No Action Alternative.....	62

4.10.10 Interpretation and Education- Proposed Action.....	62
4.10.11 Interpretation and Education – Alternative 1 .....	62
4.10.12 Interpretation and Education – No Action Alternative .....	62
4.10.13 Cumulative Effects.....	63
4.11 Recreation .....	63
4.11.1 Recreation – Proposed Action .....	63
4.11.2 Recreation – Alternative 1 .....	64
4.11.4 Recreation – No Action Alternative .....	65
4.11.5 Vegetation Management – Proposed Action .....	65
4.11.6 Vegetation Management – Alternative 1 .....	65
4.11.7 Vegetation Management – No Action Alternative .....	65
4.11.8 Grazing – Proposed Action.....	65
4.11.9 Grazing –Alternative 1 .....	66
4.11.10 Grazing – No Action Alternative.....	66
4.11.11 Interpretation and Education – Proposed Action.....	66
4.11.12 Interpretation and Education – No Action Alternative .....	66
4.11.13 Cumulative Effects.....	66
4.12 Visual Resources.....	67
4.12.1 Recreation – Proposed Action .....	67
4.12.2 Recreation – Alternative 1 .....	67
4.12.3 Recreation – No Action Alternative .....	67
4.12.4 Vegetation Management – Proposed Action .....	68
4.12.5 Vegetation Management – Alternative 1 .....	68
4.12.6 Vegetation Management – No Action Alternative .....	68
4.12.7 Grazing – Proposed Action.....	68
4.12.8 Grazing – Alternative 1.....	68
4.12.9 Grazing – No Action Alternative.....	68
4.12.10 Interpretation and Education – Proposed Action.....	68
4.12.11 Interpretation and Education – Alternative 1 .....	68
4.12.12 Interpretation and Education – No Action Alternative .....	68
4.12.13 Cumulative Effects.....	69
Alternative 1.....	69
4.13 Fire Management .....	69
4.13.1 Recreation – Proposed Action .....	69

4.13.2 Recreation – Alternative 1 .....	69
4.13.3 Recreation – No Action Alternative .....	69
4.13.4 Vegetation Management – Proposed Action .....	69
4.13.5 Vegetation Management – Alternative 1 .....	70
4.13.6 Vegetation Management – No Action Alternative .....	70
4.13.7 Grazing – Proposed Action .....	70
4.13.8 Grazing – Alternative 1 .....	70
4.13.9 Grazing – No Action Alternative .....	70
4.13.10 Interpretation and Education – Proposed Action .....	70
4.13.11 Interpretation and Education – Alternative 1 .....	70
4.13.12 Interpretation and Education – No Action Alternative .....	70
4.13.13 Cumulative Effects .....	70
4.14 Law Enforcement and Public Safety .....	71
4.14.1 Recreation – Proposed Action .....	71
4.14.2 Recreation – Alternative 1 .....	71
4.14.3 Recreation – No Action .....	71
4.14.4 Vegetation Management – Proposed Action, Alternative 1, and No Action .....	71
4.14.5 Grazing -- Proposed Action, Alternative 1, and No Action .....	71
4.14.6 Interpretation and Education – Proposed Action .....	71
4.14.7 Cumulative Effects .....	71
4.15 Solid Waste and Hazardous Materials .....	72
4.15.1 Recreation – Proposed Action and Alternative 1 .....	72
4.15.2 Recreation – No Action .....	72
4.15.3 Vegetation Management – Proposed Action, Alternative 1, and No Action .....	72
4.15.4 Grazing – Proposed Action, Alternative 1, and No Action .....	72
4.15.5 Interpretation and Education – Proposed Action, Alternative 1, and No Action .....	72
4.15.6 Cumulative Effects .....	72
4.16 Air Quality .....	72
Chapter 5 – Consultation and Coordination .....	73
5.1 Tribes, Individuals, Organizations and Agencies Consulted .....	73
5.1.1 Summary of Scoping Comments .....	73
5.1.2 List of Preparers .....	75
Chapter 6 – References .....	76



## Chapter 1 – Introduction

### 1.0 Introduction

This chapter provides background on the planning process, purpose of the effort, management policies and public concerns that have been incorporated into the Lost Coast Headlands Activity Plan (Plan), and other background information. The Lost Coast Headlands Management Area is located in Humboldt County, California, approximately 25 miles south of Eureka and nearly 4 miles south of the mouth of the Eel River (Figure 1). The area is described in more detail below (Planning and Management Area Description). Detailed information on resources within the management area can be found in Chapter 2 (Affected Environment).

### 1.1 Background on Planning Process

The Bureau of Land Management (BLM) uses a three-tier planning and environmental analysis process to guide implementation of management actions on public lands. The first and broadest level is the resource management planning process, which allocates land uses, identifies special administrative designations, and permissible public uses and constraints. The Arcata Resource Management Plan (RMP) was completed in 1992, amended in 1996, and provides general management direction for approximately 200,000 acres of public lands in Northwest California, including the Lost Coast Headlands.

Activity plans are the second tier of the BLM's planning/environmental analysis. They are generally completed for special management areas, or for specific management programs (e.g. recreation or fire) and define site-specific objectives, actions and other more detailed direction to provide for coordinated implementation of RMP goals. Site specific project planning is the third tier of BLM planning/environmental analysis, and is completed for individual projects such as construction of a recreation site. Resource management planning is required for all BLM lands. Completion of activity or project planning is discretionary and depends on the nature of the area or program.

During the acquisition process of the parcels that comprise the Lost Coast Headlands Management Area, a considerable amount of public scoping occurred. During the scoping, adjoining residents and ranchers, and other members of the public expressed concerns related to public uses of the area and possible conflicts with residents. The BLM assured the public that their concerns would be addressed in a comprehensive plan for the area which would include full public involvement.

The Lost Coast Headlands planning effort is comprehensive in nature, and will evaluate existing management planning guidance and resolve or address issues within the area through agency, interagency, and public scoping efforts. This Plan also identifies specific actions for implementing the area's long-range management goals and objectives. The Plan analyzes the current management situation and resource condition and identifies goals, objectives, and management actions necessary to achieve specific objectives. It addresses and integrates existing programs, including: recreation, vegetation, grazing, and interpretive programs.



**Figure 1.** The vicinity of the Lost Coast Headlands Planning Area south of the Eel River in Humboldt County, CA.

## **1.2 Purpose and Need for Lost Coast Headlands Activity Plan**

Due to recent acquisitions, the BLM has a need to manage the Lost Coast Headlands Management Area in a comprehensive manner to allow for coastal recreational opportunities, traditional uses such as grazing, as well as to protect and restore natural resources. The purpose of the Lost Coast Headlands Activity Plan is to provide trails and open space for public recreation, increase public information and awareness of the management area, provide livestock grazing in appropriate areas, and restore coastal grasslands.

## **1.3 Planning and Management Area Description**

The Lost Coast Headland Management Area is located along the coastal bluffs south of the mouth of the Eel River approximately 260 miles north of San Francisco, 25 miles south of Eureka, and 6 miles west of Ferndale. The area consists of six parcels acquired by the BLM over a period of 10 years that total 463 acres and include portions of the Fleener Creek and Guthrie Creek watersheds (Figure 2). An additional 220 acres of private land have been proposed for acquisition (if landowners are willing). The area included in this Plan (planning area) encompasses all lands managed by the BLM along this coastal area. Additional lands and interests that may be purchased by the BLM in the vicinity would also be managed under the guidance of this Plan upon acquisition, but the Plan does not apply to privately owned lands (Figure 3). The total planning area is 683 acres. For planning purposes, specific areas within the planning area were given names that are referred to throughout this document (Figure 2). The planning area and Lost Coast Headlands Management Area are one in the same for the purposes of this Plan. Therefore, “management area” will be used to refer to the area covered by the Plan in the remainder of this document.

The coastal bluffs that comprise the management area consist mostly of grasslands with scattered patches of forest. The beach along the base of the bluffs is narrow and typically not passable except during very low tides. The exposed cliffs facing the ocean are rich in fossils and provide an exceptional opportunity for geologic research. Several locations along the bluffs are actively eroding into the ocean.

Prior to acquisition, the lands were managed for livestock grazing except for the northern 32-acre parcel which was formerly the Centerville Beach Naval Facility (Figure 3). The U.S. Navy and BLM signed a Memorandum of Understanding (MOU) to facilitate the cleanup and transfer of the facility to BLM. Centerville Beach Naval Facility transferred ownership from the U.S. Navy to the BLM in October of 2010. The Navy contracted and administered the removal of buildings and site restoration. Lead-based paint and asbestos were hydro-blasted from the buildings. The buildings were crushed and made into aggregate. Most of the aggregate was used to fill in holes left by the removal of the building foundations and then the site was contoured and reseeded.

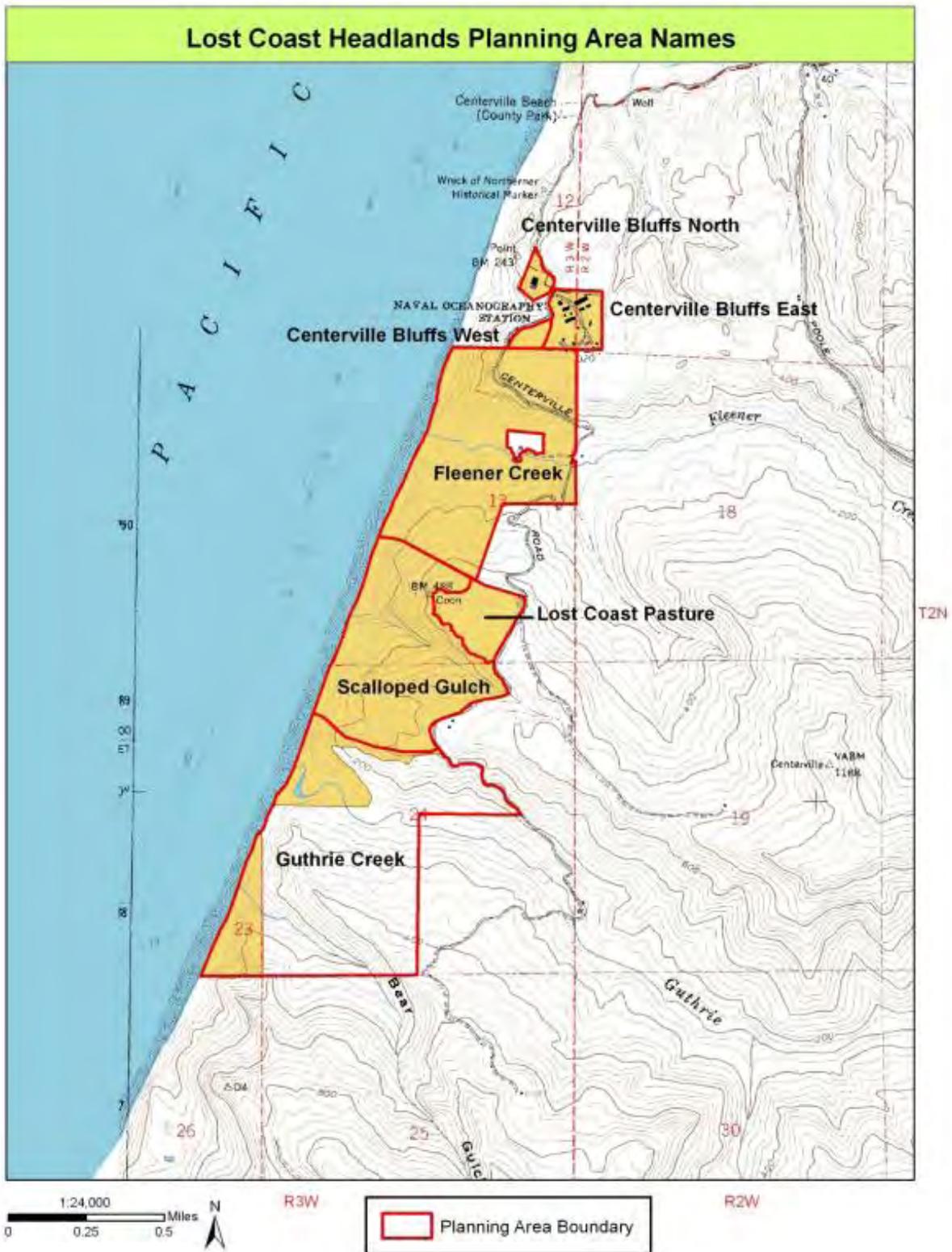


Figure 2. Planning area names within the Lost Coast Headlands Management Area.

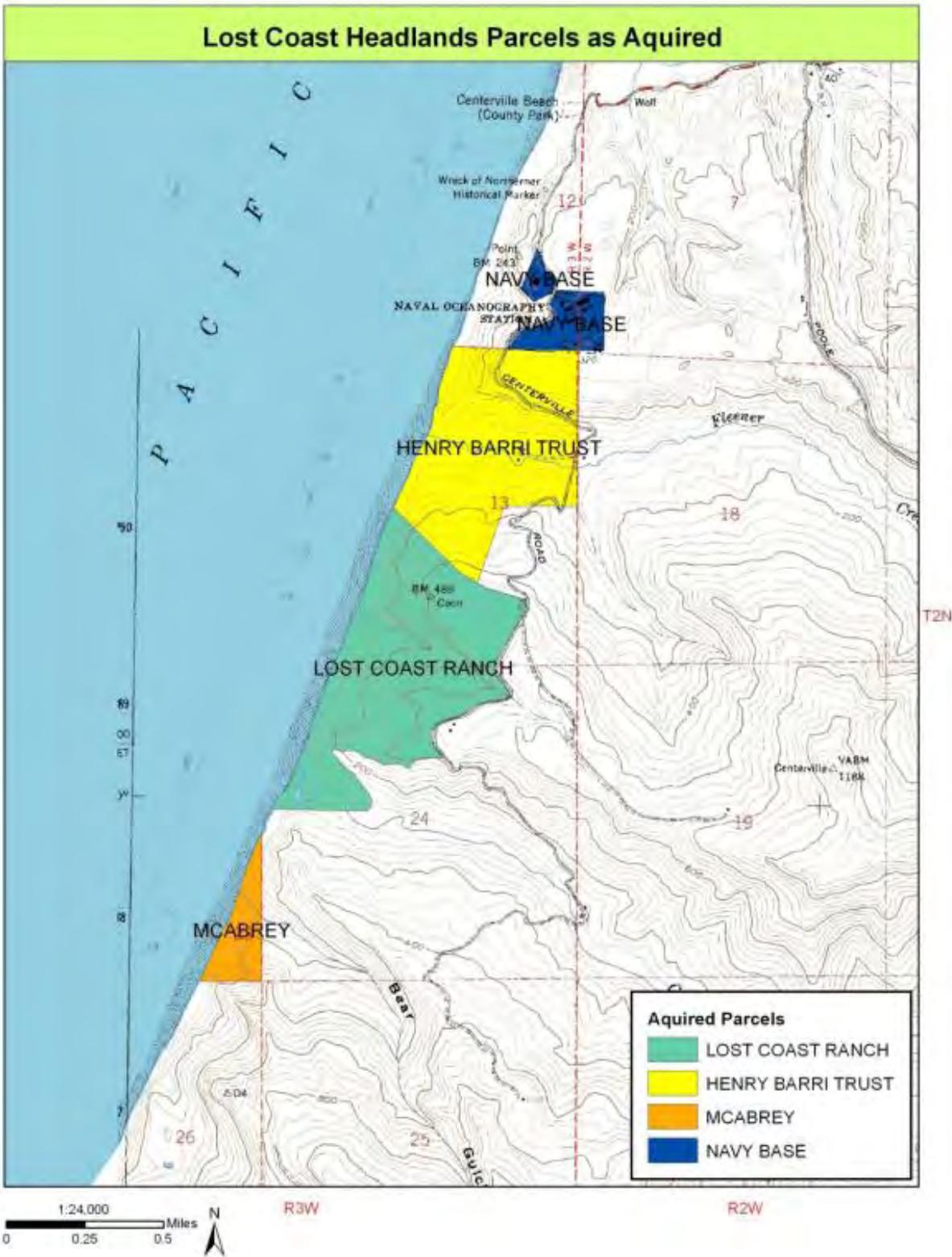


Figure 3. Acquired parcels that comprise the Lost Coast Headlands Management Area.

The planning effort recognized that nearby lands, communities, resource values, and uses are all affected by management of the Lost Coast Headlands, and their use in turn affects management of the area. The Plan includes recommendations for the BLM to work with entities that manage areas or programs that are not under the BLM's jurisdiction but directly affect management of the Lost Coast Headlands. However, final decisions regarding these recommendations will rest with the appropriate agency or organization, and formal decisions in this Plan only apply to BLM lands.

#### **1.4 Conformance with Arcata RMP and Existing Planning Direction**

The Lost Coast Headlands Activity Plan conforms to the Arcata Management Area Resource Management Plan (Arcata RMP) (USDI BLM 1992 and 1996). Specifically, Objective I-2 of the Scattered Tracts management description in the Arcata RMP (1992): "Enhance natural values and provide opportunities for environmental education."

#### **1.5 Conformance with Other Applicable Policies and Plans**

The Lost Coast Headlands Activity Plan is in conformance with the Federal Land Policy and Management Act of 1976 and the National Environmental Policy Act (NEPA) of 1969.

#### **1.6 Planning Themes and Issues**

A planning theme or issue is defined as a matter of concern or interest regarding resource management activities, the environment, or land uses, that together serve to provide a framework for the topics addressed in the Plan. The themes listed below were identified during scoping at the beginning of this planning process. Based on the scoping comments and public outreach process, the following themes were identified to be addressed in the planning process:

**Recreation Use:** Use of the area by visitors and development of facilities and trails was the focus of many comments. Minimizing conflicts between recreation use and livestock was viewed as an important component of management.

**Private Land/Neighboring Land:** Area residents want to ensure that visitor use is managed to minimize impacts and trespass onto neighboring private lands.

**Ecosystem Restoration:** Removal of non-native trees and plants was supported.

**Fostering Stewardship/Community Involvement:** Broad support was given to the concept of interpretative programs aimed at fostering stewardship and increasing community awareness and involvement with the area's natural resources.

### Management Actions Considered but Dropped from Further Analysis

Action 1: Allow equestrian use on Fleener Creek Trail and the proposed trail from the former naval base to the Fleener Creek Trailhead parking area.

Rationale: The Fleener Creek Trail was initially proposed as a horse and pedestrian trail. However, due to nearby landslides, cliffs, and unstable slopes, trail layout and design standards were limited requiring the construction of narrow switchbacks and steps. These features are not suitable for equestrian use. The proposed trail segment from the former Centerville Beach Naval Facility to the Fleener Creek Trailhead parking area would be accessible to wheelchair use, which requires the ground surface to be hard and level. Horse use would degrade the trail tread to a condition inaccessible to wheelchairs.

Action 2: Construct a hiking trail to the ponds.

Rationale: The three trails proposed in the Plan (two existing and one new) are adequate to meet future demand. There is no feasible area near the ponds that could be developed into a trailhead parking area. The terrain surrounding the ponds is highly erodible and susceptible to frequent landslides and slumps. Maintaining a trail in this location would be cost prohibitive.

## **1.7 Planning Process**

The Lost Coast Headlands Activity Plan was analyzed under the direction of the National Environmental Policy Act (NEPA) of 1969. NEPA requires federal agencies to consider and disclose environmental consequences of actions, and to consider alternatives, so as to protect and enhance the environment through well-informed decisions. Specific directions for the environmental assessment (EA) process are provided in BLM NEPA Handbook, H-1790-1.

## **1.8 Development of the Lost Coast Headlands Activity Plan and EA**

**Scoping:** The scoping process is intended to identify issues and concerns from the public, other agencies and organizations to frame the “scope” of the Plan and environmental analysis. A formal scoping period for the Lost Coast Headlands Activity Plan was held from May 1, 2010 through July 1, 2010. The results of this process are contained in the scoping summary in Chapter 5.

**Draft Plan and EA Development:** This document is the product of an interdisciplinary team effort to develop and analyze a Proposed Action and an array of potential alternatives for management of BLM public lands within the management area that address the issues identified in scoping, the direction in the Arcata RMP, and other laws and policies. The EA also includes an analysis and comparison of impacts associated with implementing each of the various management alternatives.

**Public Comment on the Draft Plan and EA:** The comment period will give the public an opportunity to review the draft Plan and EA and provide input on the Proposed Action, alternatives, and associated analyses.

**Final Plan and Decision Record:** The BLM will review public, agency, and organization comments on the draft Plan and EA and incorporate changes into the final Plan and Decision Record. Changes to the draft Plan will be documented in the Decision Record.

## **1.9 Planning Time Horizon and Implementation**

This Plan is intended to provide management guidance for 10 to 15 years. BLM recognizes the need to adapt to changing circumstances such as new research findings, new laws, changing environmental factors, and changing public desires and expectations. For this reason, some of the proposed management actions have adaptive management components built into them. The adaptive management process is discussed in more detail in Chapter 3.

Many of the actions in this Plan will be directly implemented. However, additional documentation may be required to comply with NEPA, such as additional environmental EAs, for site-specific actions occurring later in the Plan implementation period. All such documents will be prepared with the appropriate level of public input as outlined in NEPA. Plan decision implementation is monitored to ensure successful results and to incorporate adaptive management components. Revisions to the Plan will be completed as needed to accommodate changes in resource or user needs, policies, and regulations, or to analyze an adaptive management action that is beyond the scope of the existing analysis.

## **1.10 Organization of this Document**

This Plan is composed of the following sections:

Chapter 1: Introduction

Chapter 2: Describes the management area and resource values.

Chapter 3: Describes the management alternatives considered for the Plan.

Chapter 4: Describes the environmental effects of implementing the management alternatives.

Chapter 5: Includes a list of preparers and a bibliography.

Appendices include additional information that supports analyses and conclusions of the planning process.

## Chapter 2 – Affected Environment

### 2.1 Climate and Climate Change

The climate of the management area can be described as a coastal influenced Mediterranean climate with dry, mild summers and wet winters. Precipitation occurs as rainfall with the bulk occurring between October and April. The area receives an average of 119 days of measureable precipitation annually with the least number of days of rain in July and the maximum in December. Average annual precipitation totals 38.1 inches. Maximum temperatures occur in August with an average maximum of nearly 64° F. Minimum temperatures occur in December with an average minimum of nearly 38° F (National Weather Service 2011).

The Intergovernmental Panel on Climate Change defines climate change as "any change in climate over time, whether due to natural variability or as a result of human activity." An ever-increasing body of scientific research attributes these climatological changes to greenhouse gases, particularly those generated from the human production and use of fossil fuels. As atmospheric concentrations of greenhouse gases rise, so do temperatures, because less heat is able to escape the atmosphere (California Climate Change Portal 2011).

The average global surface temperature has increased by 1.1 ° F since the 19th century. The 10 warmest years of the last century all occurred within the last 15 years - 1998 was the warmest year on record. Sea level has risen 4 to 10 inches since 1900. A continued increase in greenhouse gas emissions, and the associated temperature rise, is likely to accelerate the rate of climate change, producing further impacts (California Climate Change Portal 2011).

Although uncertainty is inherent in climate modeling and effects on specific areas are difficult to predict, climate change is expected to result in warmer temperatures year-round, accompanied by substantially wetter winters. Therefore, rising sea level would affect coastal areas. Coastal rivers, estuaries, and relatively flat shoreline habitats would be more subject to damage by flooding and erosion. More severe storm surges from the ocean, due to higher sea levels, combined with higher river runoff could significantly increase flood levels by more than the rise in sea level alone. Erosion of beaches would decrease habitat for beach-dependent species, such as seals and shorebirds (California Climate Change Portal 2011).

### 2.2 Geology and Soils

The Lost Coast Headlands is underlain by relatively young marine sedimentary rocks of the Wildcat group (Ogle 1953, McLaughlin et al. 2000). Several formations make up the Wildcat group, a 1.6 mile thick succession of strata that were deposited offshore in what is known as the Eel River Basin. The oldest rocks of the Pullen Formation were deposited during the late Miocene or approximately 3.5 million years ago. The youngest rocks of the Hookton Formation were deposited during the Pleistocene approximately 450,000 years ago (Clifton and Leithold 1991). As a result of their recent deposition, lack of burial and recent uplift, most of the Wildcat Group rocks are poorly lithified. These soft sedimentary rocks are prone to extensive erosion and landsliding.

Views from offshore or along the beach provide a dramatic view of the Wildcat group along the Lost Coast Headlands. Here, the various layers of the Wildcat are tilted to the northwest, dipping down into a broad trough known as the Eel River syncline that defines the lower Eel River valley to the north. This dip orientation creates an unstable situation where large “dip-slope” landslides are common (Figure 4). These landslides occur as massive slabs of material slide along the bedding planes, much like a deck of cards held at an incline. Most recently, during the winter of 2010/2011, a large landslide along the bedding plane encompassed over 6 acres and resulted in the loss of several hundred yards of relatively gently sloping uplands (Figures 5 and 6).



**Figure 4.** Coastal landsliding and associated bluff retreat at the Fleener Creek Trailhead. Photos from 1972 (top) 2009 (bottom). Dashed line on 1972 photo represents approximate location of bluff top in 2009 photo. Photos from the California Coastal Records Project (<http://www.californiacoastline.org/>).



**Figure 5.** This dip-slope landslide occurred south of Fleener Creek during a period of prolonged rainfall during the winter of 2010/2011. High storm surf likely contributed to the failure.

The occurrence of landslides along the Lost Coast Headlands is influenced by ongoing sea level rise (Phillip Williams and Assoc. 2009), seismic activity (e.g., Ashford and Sitar 2002), rainfall, and wave interactions (Collins and Sitar 2008). Large landslides were noted following the 1906 San Francisco earthquake and the 1992 Petrolia earthquakes (Ashford and Sitar 2002). As mentioned above, ongoing landsliding is resulting in the loss of the gently sloping uplands, increasing the amount of steeper, less accessible terrain along the Lost Coast Headlands.

The rate of land loss can be considered from two perspectives: shoreline encroachment and bluff retreat. Estimates of shoreline encroachment vary widely along the coastline from the Centerville Bluffs area south to Guthrie Creek. Based on aerial photo evidence, the shoreline position has not markedly changed from 1942 to 2005 along the coastal bluffs. However, shoreline encroachment is observed at the mouths of Fleener and Guthrie Creeks. For the period spanning 1942 (the earliest available aerial photograph) to 2005, the coastline retreated by 90 and 100 meters at Fleener and Guthrie Creeks, respectively. There is some error in these estimates due to photo distortion, differing tides, wave heights and inter-annual variations in beach elevations. Regardless, the mouths of both creeks show encroachment of the beach into the former estuaries of these two watercourses.

The retreat of the coastal bluffs appears to be dominated by retreat of the bluff edge which has occurred because of numerous landslides. The retreat of the coastal bluffs has resulted in the

loss of the flatter upland terrain. The most significant change is the retreat of the bluff crest which has resulted in retreat of approximately 120 yards over the 63-year photo analysis period (1.9 yards per year). The rate of coastal retreat varies widely across the area with individual landslides consuming several hundred yards of the uplands and changing to steeper, less accessible slopes.

Modeling the effects of rising sea levels on coastal cliff erosion, Phillip Williams and Associates (2009) found that cliffs could retreat on the order of 60 to 260 meters by the year 2100 (0.7 to 3.2 yards per year). However, the report emphasizes that these are coarse estimates based on large scale mapping products. Regardless of the extent of coastal retreat, ongoing landsliding and coastal erosion presents a significant threat to the existing uplands and further land losses are likely.

### Oil and Gas Potential

Portions of the Wildcat group are known to yield natural gas. From 1937 to 1991 about 100 billion cubic feet of gas was taken from the nearby Tompkins Hill Field (Stanley 1995). Tompkins Hill, which produces from a depth of 2,000 to 5,000 feet, and Table Bluff are gas bearing anticline structures (PALCO-EIS 1999). To the south, near Oil Creek, oil seeps are observed in the exposed cliffs. The potential exists for further exploration and development of gas resources in the area (Stanley 1995).

### Paleontology

Throughout the region, fossils are found in the Wildcat group sediments. The occurrence of megafossils, most commonly large scallop (*Pecten* sp.) shells, has made fossil collecting a popular pastime. Elsewhere, whale fossils have been found. Fossils of the Wildcat group provide a unique record of north Pacific marine fauna during the Pleistocene. At the Lost Coast Headlands, fossils occur along the exposed slopes, particularly where recent landsliding has exposed fresh material (Figure 6).



**Figure 6.** Fossil accumulations in Wildcat sedimentary rocks.

## Soils

The main parent material for the soils underlying the area is largely derived from the youngest member of the Wildcat group, the Hookton formation. Known soil series present are the Hookton, Loleta and Rohnerville series.

The Hookton series consists of very deep, loamy and somewhat poorly drained soils on slopes of 0 to 8 percent. The Hookton soils are on sloping, dissected marine terraces. The Loleta series comprise moderately well to imperfectly drained, medium textured soils developed from sedimentary alluvium. They occur on nearly level to moderately sloping alluvial fans and low terraces. Surface soils are loam, dark grayish brown to very dark brown, medium acid; and subsoils are silt loam in texture and mottled. The Rohnerville series has higher clay content than either the Hookton or Loleta series and is moderately well drained. It occurs on relatively flat, high marine terraces. Collectively, these soils possess good to excellent agricultural productivity. Erosion hazards vary depending on slope, with the flat uplands being at a lower risk of erosion than the sloping areas (NRCS 2011).

### **2.3 Cultural Resources**

The area has no known cultural resources included in or eligible for inclusion in the National Register of Historic Places. In preparation of past federal actions, (BLM-AR-04-12 and FEMA-1203-DR-CA, DSR #85281, Perry and Plank 1994), the area of potential effects for the proposed management actions was completely surveyed for the presence of cultural resources, with no significant cultural materials observed. The Perry and Plank (1994) report does note the reporting (Loud 1918) of a prehistoric site, CA-HUM-114. This report states “The archaeological site record for CA-HUM-114 does not contain a site map or a plotted location on an accompanying USGS map” (Perry and Plank 1994). However, Perry and Plank (1994) also state that “site CA-HUM-114 was not relocated as part of this effort” but then proceed to provide a map of its boundaries, which plots it most incongruently on the coastal terrace although it is described as a smelt-processing site. Other than the ethnographic account of this site (Loud 1918), no other evidence of its existence is available.

The BLM has consulted with the Wiyot Tribe and the Bear River Band of Rohnerville Rancheria regarding the Plan, and no further information has been provided from these federally recognized tribes.

### **2.4 Invasive, Non-native Species**

Invasive, non-native species that occur in the area include trees, shrubs, succulents and herbs that threaten open space and productive grassland habitats. These species include but are not limited to Monterey pine (*Pinus radiata*), Monterey cypress (*Hesperocyparis macrocarpa*), Blue gum eucalyptus (*Eucalyptus globulus*), French broom (*Genista monspessulana*), iceplant (*Carpobrotus edulis*), three-cornered leek (*Allium triquetrum*), blessed milk thistle (*Silybum marianum*), bull thistle (*Cirsium vulgare*), and pampas grass (*Cortaderia jubata/selloana*).

Monterey cypress is native to two small populations in Monterey and Carmel, California and is not native to Humboldt County, California. The evolution of Monterey cypress is based with parentage from Mexican cypress (*Cupressus lusitanica*) that gave way to 16 western North American cypress species. Over time, Monterey cypress became the probable parent of six

additional cypress species and subspecies including Sergeant Cypress (Point Lobos State Natural Reserve 2010), native to Monterey County but whose northern extent comes as far as Mendocino County. Monterey cypress has been globally cultivated for ornamental uses, timber, and as shelter belts (wind protection). While the observed invasiveness in the management area appears relatively mild, it is freely reproducing and spreading. Its presence is a cultural artifact of the Centerville Beach Naval Facility.

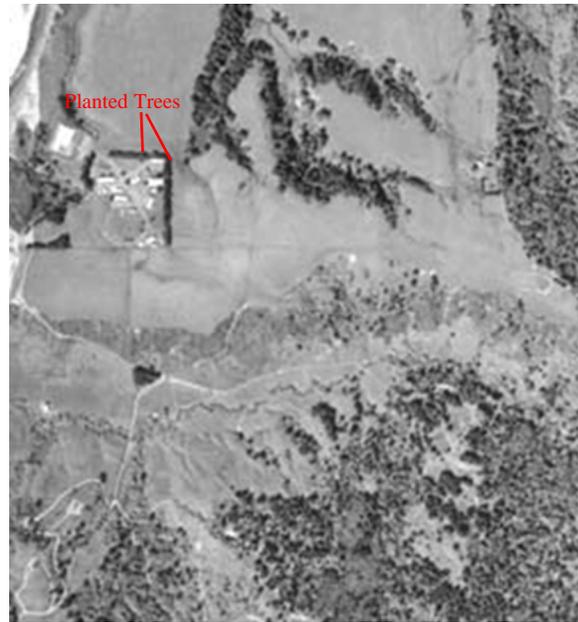
Monterey pine is native to limited distributions in Santa Cruz and Monterey Counties in California. However, Monterey pine cultivars, in particular, are very invasive and displace native habitats where they would not normally have been found. Young trees can grow up to 6 feet per year, generally reaching from 36 to 48 feet within 25 years (NRCS 2011). This rapid growth is evident around the former naval facility. Without suppression management, the pines will continue to rapidly encroach and displace open space, coastal vistas, native and naturalized grasslands, and coastal scrub communities.

Blue gum eucalyptus is native to Australia and is one of the most extensively planted species of eucalyptus. Especially well-suited to Mediterranean-type climates, its rapid growth and adaptability to a range of conditions is responsible for its popularity, and consequently, its invasiveness (Bossard et al. 2000). The qualities that make these trees desirable for timber and pulp production, rapid maturity (within 40 years for Monterey pine) and reproduction, make them formidable invasive species in natural environments. An aerial photo from 1942 shows the Centerville Bluffs area was composed of open grasslands with Douglas-fir and Sitka spruce in the draws. In 1958, the U.S. Navy began construction of the Centerville Beach Naval Facility and planted Monterey cypress, Monterey pine, and eucalyptus trees along the north boundary, east boundary, the County Road, and two stands near the baseball field (Centerville Bluffs West area). The trees were presumably planted to provide a visual screen and wind break for the facility. An aerial photograph from 1965, Figure 7-A, shows the young plantings.

The Centerville Beach Naval Facility grounds were maintained through approximately 2002 (Figure 7-B). Since then, 2010 aerial photos show a rapid response to the lack of seedling suppression management (Figure 7-C). Coastal vistas from the County road are now not visible (Figures 7-D and 7-D). The buildings were decommissioned in 2009 for the purposes of restoring open space; however, with the invasive, non-native tree spread, open space has declined and accompanying coastal views are reduced. Further, the invasive tree spread poses a threat to adjacent private grasslands should their grazing regimes change.



**Figure 7-A.** 1965 Aerial photo. Centerville Bluffs area. Note recent development of baseball field on the western edge.



**Figure 7-B.** 2000 Aerial Photo. Centerville Bluffs area shows well developed cultivar trees. Surrounding grazed pasture shows no encroachment.



**Figure 7-C.** 2010 Aerial Photo. Note Centerville Bluff West area (baseball field area) covered by Monterey pines.



**Figure 7-D.** 2011. Centerville Bluffs North tree encroachments into grasslands.



**Figure 7-E.** 2011. Centerville Bluffs West unsuppressed Monterey Pine seedling growth since 2002.

## **2.5 Lands and Realty Management**

### Land Acquisition History

A report was funded in 2000 by the California Coastal Conservancy to consider the feasibility of acquiring lands along this portion of the coastline. The vision was to acquire four parcels which totaled approximately 650 acres. The four parcels initially of interest were the Lost Coast Ranch, the Henry Barri Trust, the Centerville Beach Naval Facility, and the Zagory/Anderson parcel. To date, three of the initial four properties have been acquired (Figure 2).

### Lost Coast Ranch and Henry Barri Trust

The first stage of acquisition, the Lost Coast Ranch property, was completed in July of 2001 for 225 acres. The second stage of acquisition was the Henry Barri Trust and it was completed in January of 2003 for 176 acres. The funding for these acquisitions came from the Wildlife Conservation Board and the California Coastal Conservancy. The Conservation Fund was the third party facilitator and ultimately secured the funding for this acquisition then donated the properties to the BLM.

Both of these parcels were donated with conservation easements. The conservation easements state “the BLM shall hold, manage and operate the property for public access and open space preservation, resource enhancement and agricultural preservation.” The BLM shall also maintain signs that acknowledge that the acquisitions were funded by grants from the California Coastal Conservancy and the Wildlife Conservation Board, with participation by The Conservation Fund.

### Centerville Beach Naval Facility

The U.S. Navy established the Centerville Beach Naval Facility in 1958 as part of the Sound Surveillance System (SOSUS) that monitored Soviet submarines during the Cold War. At its peak of operation, it housed nearly 300 personnel and contained operational and support facilities including barracks, a gym, and other structures.

The U.S. Navy stopped using the facility in 1993; however it took 17 years to secure funding to decommission the site and transfer the property to the BLM. In 2002, Congressman Mike Thompson sponsored legislation that authorized the transfer of the facility to the BLM. In 2008 and 2009 Congressman Thompson secured funding to cleanup and decommission the site in order to transfer ownership to the BLM. The site cleanup was completed in early 2010 and the U.S. Navy transferred ownership in October 2010.

### McAbery Acquisition

The McAbery property was not initially part of the properties targeted for acquisition, but when the landowner expressed an interest in selling this parcel, the BLM secured funds to acquire it. The property was 20.8 acres at the time BLM acquired the property in May of 2006. This property was acquired with Land and Water Conservation Funds.

### Right-of-Way

The BLM has issued one right-of-way to Humboldt County for road realignment adjacent to the Fleener Creek Trailhead parking area. The right-of-way was issued in 2003 and is approximately 850 feet in length.

### Easements

The BLM acquired one easement for public access as part of the Lost Coast Headlands acquisitions. The easement is for public access to the beach along a portion of the Guthrie Creek Trail. The easement is primarily maintained by the neighboring landowners.

## **2.6 Social and Economic Considerations**

Humboldt County is relatively rural, isolated, and until recently, has relied on timber harvesting for economic stability. The region is also known for its dramatic landscapes and outdoor recreation amenities which are considered to be important tourism resources as well as quality of life attributes for local residents. In 1999, the Humboldt County Board of Supervisors adopted a Comprehensive Economic Development Strategy (CEDS) to guide local economic development. The strategy is called *Prosperity! The North Coast Strategy* (Humboldt County, 1999), and prioritizes the needs of nine “base” industry clusters—those that export products and services to customers outside the region. These industries are responsible for a much larger share of growth in wages, productivity, and jobs. Base industries are thus a natural target for strategic investment of limited economic development resources. Humboldt County’s base industries were identified as:

- Forest products
- Education and research
- Tourism
- Niche manufacturing
- Dairy and dairy processing
- Specialty agriculture
- Fisheries, fish processing, and aquaculture
- Information technology
- Arts and culture

Of these base industries, management of the Lost Coast Headlands has potential links to two (tourism and dairy). The economic development strategy also recognizes that “quality of life is one of Humboldt County’s most important assets for economic development. Rivers, beaches, forests, mountains, and a community ‘sense of place’ are highly attractive to talented, innovative, creative young people who are deciding where to live and start a business” (Humboldt County 1999).

The current population in Humboldt County is approximately 134,623 people (U. S. Census, 2010). Historically, population shifts in the North Coast have been closely tied to changes in the timber industry, but since 1970 or so this relationship has become more complex due to the diversifying economy of the region. From 1970 to 2002, population growth in Humboldt County (28 percent) lagged behind the State (75.4 percent). Future population growth in Humboldt County is expected to remain moderate, with just over 20,000 new residents expected through 2040 relative to year 2000 conditions; this represents a population increase of 16 percent over forty years. In contrast, growth projections for the state are much higher (33 percent increase to 55 million by 2040) (California Department of Finance Research 2008). Since most visitors to Humboldt County come from other areas of California, this may cause increased demand for access to public lands.

### ***Low Income and Minority Populations***

Minority populations make up 19 percent of the population of Humboldt County, compared to over 50 percent for the state as a whole. Humboldt County has a higher poverty rate (19 percent for Humboldt County compared to 14.2 percent for California) and lower per capita income (\$23,496 for county compared to \$29,020 for California) (U. S. Census, 2010).

## **2.7 Fisheries, Riparian, and Water Quality**

The management area includes two perennial streams, several small intermittent drainages, and three small slump ponds. The two perennial streams are Fleener Creek and Guthrie Creek, the other bodies of water are unnamed. The entire area has been affected by livestock grazing since the late 1800s.

The Fleener Creek watershed consists of forests and grasslands. The main stem of Fleener Creek is approximately 3 miles in length (Mad River Biologists 2000). Pacific salmon species including steelhead (*Oncorhynchus mykiss*) have not been observed in Fleener Creek. This is likely due to a sizable and persistent driftwood log jam located at the mouth of the drainage that appears to block upstream fish passage. Threespine stickleback (*Gasterosteus aculeatus*) have been seen in the stream but do not appear to be abundant. The riparian area of Fleener Creek is dominated by red alder (*Alnus rubra*) and willow (*Salix sp.*) that are dense and provide abundant shading. Summer water temperature data have been collected and show that peak temperatures within the BLM parcel remain below 65° F.

The Guthrie Creek watershed also consists of forests and grasslands. The main stem of Guthrie Creek is approximately 5.5 miles in length (Mad River Biologists 2000). The stream contains a population of steelhead that is part of the Northern California Steelhead Distinct Population Segment listed as threatened under the federal Endangered Species Act. Guthrie Creek is believed to have contained coho salmon (*Oncorhynchus kisutch*) (NMFS 2011) but this species has not been detected during recent surveys (California Department of Fish and Game 2004). Threespine stickleback, sculpin (*Cotus sp.*), and Pacific lamprey (*Entosphenus tridentatus*) have been detected in the stream (California Department of Fish and Game 2004). The mouth of Guthrie Creek closes to the ocean during the summer months to form a lagoon. It is suspected that marine fish and invertebrates may occupy the lagoon, at least on occasion, but this has not been confirmed (B. Jong, pers. comm. October 4, 2002). The portion of Guthrie Creek on public lands is a relatively wide and braided stream channel with relatively young riparian trees dominated by red alder. This portion of the stream is not well shaded. Summer water temperatures have reached maxima of 70° F but normally do not exceed 65° F (BLM unpublished data).

Three ponds are located between Fleener and Guthrie Creeks, the county road, and the coast in the area named Scalloped Gulch (Figure 2). The upper pond is the smallest and is dominated by emergent vegetation during summer months. The middle pond has an area of approximately 0.07 acre (Mad River Biologists 2000) with some emergent vegetation and a well-developed riparian forest surrounding most of the pond. The pond does not contain fish (Fuller, pers. observation) but does provide habitat for northern red-legged frogs (*Rana draytonii*) and waterfowl. The lower pond is the largest at approximately 1 acre perched adjacent to eroding coastal bluffs. The lower pond is adjacent to forests and apparently provides frog and waterfowl habitat (Mad River Biologists 2000).

## **2.8 Wildlife Including Threatened and Endangered Species**

The management area was inventoried by Mad River Biologists in 2000 and surveys were conducted by BLM staff during the spring and summer of 2010 and 2011 (Tables 1 and 2). The information provided below was gathered from the 2000 Mad River Biologists surveys (Mad River Biologists 2000) and during the 2010 and 2011 BLM surveys unless otherwise noted.

**Table 1.** List of bird species detected in the Lost Coast Headlands vicinity.

<u>Common Name</u>	<u>Scientific name</u>	<u>Common Name</u>	<u>Scientific name</u>
green-winged teal	<i>Anas crecca</i>	golden-crowned kinglet	<i>Regulus satrapa</i>
western gull	<i>Larus occidentalis</i>	American robin	<i>Turdus migratorius</i>
spotted sandpiper	<i>Actitis macularia</i>	winter wren	<i>Troglodytes troglodytes</i>
long-billed curlew	<i>Numenius americanus</i>	house wren	<i>Troglodytes aedon</i>
Brandt's cormorant*	<i>Phalacrocorax penicillatus</i>	wrentit	<i>Chamaea fasciata</i>
double-crested cormorant*	<i>Phalacrocorax auritus</i>	bushtit	<i>Psaltriparus minimus</i>
Heermann's gull*	<i>Larus heermanni</i>	Hutton's vireo	<i>Vireo huttoni</i>
caspian tern*	<i>Sterna caspia</i>	Pacific-slope flycatcher	<i>Empidonax difficilis</i>
common murre*	<i>Uria aalge</i>	orange-crowned warbler	<i>Vermivora celata</i>
western grebe*	<i>Aechmophorus occidentalis</i>	yellow warbler	<i>Dendroica petechia</i>
killdeer	<i>Charadrius vociferus</i>	yellow-breasted chat	<i>Icteria virens</i>
common snipe	<i>Gallinago delicata</i>	Wilson's warbler	<i>Wilsonia pusilla</i>
turkey vulture	<i>Cathartes aura</i>	song sparrow	<i>Melospiza melodia</i>
northern harrier	<i>Circus cyaneus</i>	white-crowned sparrow	<i>Zonotrichia leucophrys</i>
American kestrel	<i>Falco sparverius</i>	chipping sparrow	<i>Spizella passerina</i>
peregrine falcon	<i>Falco peregrinus</i>	American goldfinch	<i>Carduelis tristis</i>
red-tailed hawk	<i>Buteo jamaicensis</i>	Eurasian collared dove	<i>Streptopelia decaocto</i>
Cooper's hawk	<i>Accipiter cooperii</i>	mourning dove	<i>Zenaidura macroura</i>
common night hawk	<i>Chordeiles minor</i>	band-tailed pigeon	<i>Columba fasciata</i>
great-horned owl	<i>Bubo virginianus</i>	northern flicker	<i>Colaptes auratus</i>
California quail	<i>Callipepla californica</i>	hairy woodpecker	<i>Picoides villosus</i>
tree swallow	<i>Tachycineta bicolor</i>	brown pelican	<i>Pelecanus occidentalis</i>
barn swallow	<i>Hirundo rustica</i>	belted kingfisher	<i>Ceryle torquata</i>
cliff swallow	<i>Petrochelidon pyrrhonota</i>	purple finch	<i>Carpodacus purpureus</i>
black phoebe	<i>Sayornis nigricans</i>	western wood pewee	<i>Contopus sordidulus</i>
scrub jay	<i>Aphelocoma californica</i>	savannah sparrow	<i>Passerculus sandwichensis</i>
Stellar's jay	<i>Cyanocitta stelleri</i>	Anna's hummingbird	<i>Calypte anna</i>
gray jay	<i>Perisoreus canadensis</i>	Allen's hummingbird	<i>Selasphorus sasin</i>
common raven	<i>Corvus corax</i>	green heron	<i>Butorides virescens</i>
chestnut-backed chickadee	<i>Poecile rufescens</i>	great blue heron	<i>Ardea herodias</i>

\* observed during at-sea surveys

**Table 2.** Mammals observed at Lost Coast Headlands.

### Mammals

Common Name	Scientific Name
black-tailed deer	<i>Odocoileus hemionus</i>
grey fox**	<i>Urocyon cinereoargenteus</i>
coyote**	<i>Canis latrans</i>
bobcat	<i>Lynx rufus</i>
mountain lion**	<i>Felix concolor</i>
brush rabbit	<i>Syvilagus bachmani</i>
Douglas squirrel	<i>Tamiasciurus douglasii</i>
deer mouse	<i>Peromyscus maniculatus</i>
harbor seal	<i>Phoca vitulina</i>
Steller's sea lion	<i>Eumetopias jubata</i>

\*\*scat observed

The management area contains a variety of habitats in a relatively small area. Multiple habitat types provide shelter and foraging opportunities for species with specific habitat preferences and habitat generalists. Some species, such as black-tailed deer, are often found along habitat edges and transition areas using different habitats at different times of the day or during different seasons (Mad River Biologists 2000).

In addition to grasslands, coastal scrub, and forested pockets, several fresh water creeks, ponds and seeps are located on BLM land. The western boundary is composed of steep bluffs, slides, and beaches. Most of the beach areas are inundated during high tides and there are no rocky intertidal areas (Mad River Biologists 2000).

Beach areas provide foraging habitat for shorebirds and gulls. Harbor seals infrequently haul out on exposed beaches during low tides. A Steller sea lion was reported during one survey but could not be verified in subsequent visits (Mad River Biologists 2000).

Green-winged teal were observed on the freshwater ponds and members of the public report multiple duck species using the ponds. The coastal scrub that surrounds the ponds and covers some of the hillsides provide habitat for warblers, sparrows, hummingbirds, and other bird species. Common snipe are found along the edges of seeps and ponds (Mad River Biologists 2000).

Grasslands provide foraging habitat for black-tailed deer, small rodents, raptors, and grassland songbird species such as savannah sparrows. Grassland birds normally found in the area include European starlings and western meadowlarks. Brown-headed cowbirds have not yet been reported during surveys but are expected to occupy the area (Mad River Biologists 2000).

Hairy woodpeckers and great-horned owls were observed in the forested areas. The forested areas along the bluffs are potentially roost sites for great egrets (*Ardea alba*), great blue herons

and Brandt's cormorants although these species have not been observed in any on-land surveys of the area (Mad River Biologists 2000).

No federally listed species regularly occur in the management area. Western snowy plovers (*Charadrius alexandrinus*), a federally threatened species, nest and winter on Centerville beaches adjacent to BLM lands. The southern boundary of Western snowy plover critical habitat unit, CA 4C, is approximately 0.5 miles north of the management area. Oceanfront areas do not contain suitable beach habitat for nesting Western snowy plovers but may contain foraging areas at low tides. The portions of the intertidal zones where Western snowy plovers may forage are below the mean high tideline and are not under BLM jurisdiction.

## **2.9 Vegetation Including Threatened and Endangered Species**

The landscape of the management area is composed of coastal annual and perennial grasslands with transitional zones composed of coastal scrub. Douglas-fir (*Pseudotsuga menziesii*), Sitka spruce (*Picea sitchensis*), and grand-fir (*Abies grandis*) forests dominate the draws. Willows and red alder dominate the riparian zones.

Coastal grasslands are highly altered from their native state. Much of the grazing and agriculturally tillable areas have been repeatedly seeded by farmers and dairy ranchers and are considered semi-natural stands. Small pockets of native Pacific reed grass meadows (*Calamagrostis nutkaensis* Herbaceous Alliance) can be found in non-grazed areas.

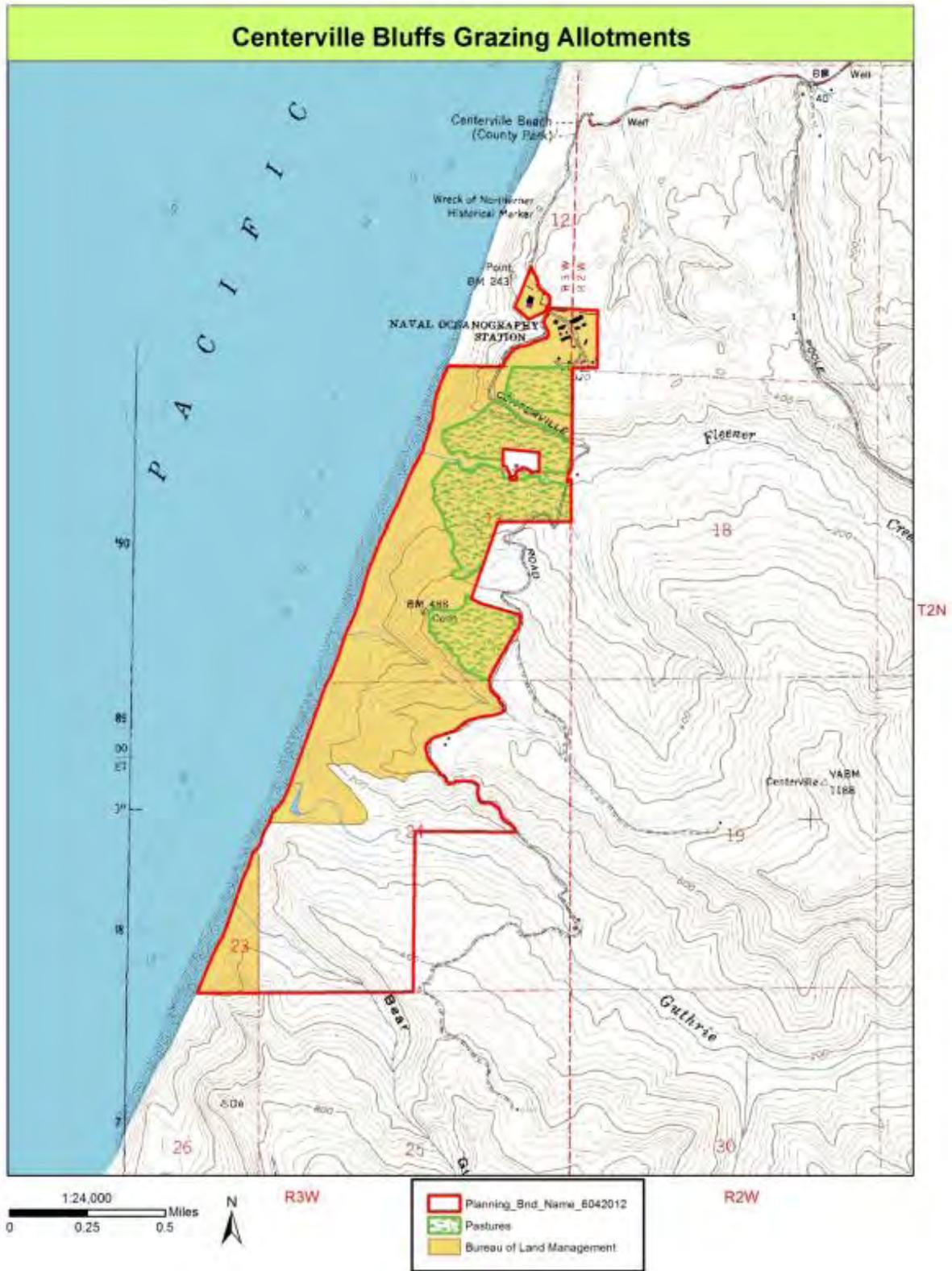
Coastal scrub zones typically include coyote brush (*Baccharis pilularis*) and California blackberry (*Rubus ursinus*).

There are no known BLM special status, rare, threatened, or endangered plant species within the management area. In 2002, several individuals of maple-leaved sidalcea (*Sidalcea malachroides*) were observed adjacent to the Guthrie Creek Trail; however, this plant is a California Native Plant Society (CNPS) List 4 - Plants of Limited Distribution - A Watch List, (not a BLM Special Status category). Maple-leaved sidalcea is a dioecious plant (meaning separate male and female plants). Professional botanist opinion is that as many as 20 individuals of each sex are required for a population to be considered sustainable (CNPS 2006). With only a few plants noted in 2002, it is probable that this population is no longer present.

## **2.10 Livestock Grazing**

Historically, the management area had been grazed for over 100 years by several of the families who settled in the area. Dairy ranching, feeder operations, and agricultural haying were the primary uses of the grasslands. Prior to the development of the Centerville Beach Naval Facility (Centerville Bluffs North, West, and East, Figure 2); the lands were utilized for grazing. The same ranching families still graze adjacent private lands today.

Currently, BLM authorizes one grazing allotment within the management area, the Centerville Bluffs Grazing Allotment, established in 2003 (Figure 8). The allotment consists of 112 acres and is grazed at a level of 288 animal unit months. An animal unit month is the amount of feed consumed by one cow and her calf, or by one horse, for one month. The allotment is comprised



**Figure 8.** Livestock grazing allotment pastures within the Lost Coast Headlands Management Area.

of four main livestock pastures with three smaller areas utilized for horses. The annual grazing season begins with a target start date of October 15 and a target end date of June 15. The grazing operation is cow/calf.

Over the past 8 years the available grazing land within the allotment has been reduced. Reductions include approximately 5.5 acres to separate cattle from hikers using the Fleener Creek Trail, 1.5 acres removed for the county road realignment, and 5 acres in landslides, for a total of about 12 acres. Another 2 acres, while still technically available to grazing, was separated from the main pasture during county road realignment effectively cutting it off from the water source, and thereby making it difficult to utilize without portage of water.

## **2.11 Recreation**

The area is currently open for day use activities such as hiking, picnicking, biking, horseback riding, driving for pleasure (sightseeing), nature study, wildlife viewing, bicycling, and horseback riding.

The Fleener Creek and Guthrie Creek Trails provide public access to the beach. No other developed trails currently exist in the area. Other facilities include the Fleener Creek Overlook and Guthrie Creek Trailhead, each containing a portable restroom, information kiosk, trash receptacle, vehicle barriers, and various signs.

The Centerville Road (a county road) provides public access to trailheads and BLM lands adjacent to the road. The road is paved along the northern stretch and graveled south of Fleener Creek. The road is narrow for the most part, and receives periodic maintenance by the county (grading, rocking and sometimes more substantial repair due to landslides).

Based on observations from BLM staff since 2005, overall visitor use numbers are relatively low compared to other BLM coastal recreation areas such as the Mike Thompson Wildlife Area, South Spit Humboldt Bay and Samoa Dunes Recreation Area. Most visitor use (approximately 80 percent) occurs at the Fleener Creek Overlook and the adjacent trail leading to the beach. No more than eight vehicles have ever been observed by BLM personnel at any one time at this site. About 10 percent of the total visitor use involves hiking the Guthrie Creek Trail and another 10 percent either drive Centerville Road enjoying the scenery or watching wildlife. Biking and horseback riding use accounts for less than 1 percent. Recreation use numbers are directly related to weather conditions. During heavy rain events or during high winds, visitor use is almost non-existent. Most of the use occurs during late spring, summer, and early fall. Annual use is estimated at 2,000 visits. From 2005 to 2011, overall use has grown relatively slowly, about 5 percent each year.

Current visitor use regulations include: (1) no overnight camping (the area is open for day use only (1 hour before sunrise to 1 hour after sunset), (2) no campfires, (3) no firearms or archery use, and (4) no motorized vehicle use off of maintained roads and parking areas.

## **2.12 Interpretation, Education and Partnerships**

The interpretive and education programs for the management area are not yet established. As mentioned in the above recreation section, there are existing kiosks at both Fleener and Guthrie Creek Trailheads. Both kiosks include maps, tide charts, descriptions of the area resources, recreation opportunities, natural history information, and regulations for use and safety considerations. Thematic interpretive panels do not currently exist on site.

Along both Fleener and Guthrie Creek Trails opportunities exist for viewing the California Coastal National Monument (CCNM).

Existing partnerships include local landowners and owners of grazing leases. An informal partnership with Ferndale Schools is under development.

## **2.13 Visual Resources**

The visual resources were inventoried and assigned visual resource inventory (VRI) Classes and visual resource management (VRM) Classes. The VRI and VRM processes enable BLM to manage concerns for scenery and public acceptance for visible change to the natural landscape. Through this system, BLM is able to objectively measure proposed landscape altering projects for compliance with management standards and apply the use of sound design principles to obtain management objectives.

The VRI consists of a scenic quality evaluation, public sensitivity analysis, and visibility (distance zones). Based on these three factors, public lands are placed into one of four VRI Classes. These inventory classes represent the relative value of the visual resources – Classes 1 and 2 being the most valued, Class 3 representing a moderate value, and Class 4 being of least value. VRI Class 2 areas include the west-facing slopes and beach because they are highly scenic and appear in a natural condition due primarily to the uniqueness of the cascading cliffs, diversity of geologic formations, and untrammeled beach. The public is generally very sensitive about keeping beaches and coastal bluffs in a natural condition. The remaining public lands contain a variety of natural-appearing landscapes but have been modified by various land-use activities such as grazing and facility developments and therefore meet the criteria for VRI Class 3.

The west-facing slopes and beach are managed under VRM Class 2, which means that visual contrasts resulting from activities can be seen but must not attract attention to the casual observer. The remaining public lands are managed under VRM Class 3, where contrasts should remain subordinate to the existing landscape.

## **2.14 Fire Management**

The environment is composed predominantly of coastal grasslands with planted areas of eucalyptus, Monterey pine, Monterey cypress, and pockets of native Douglas-fir and Sitka spruce forest in the draws.

Fires in coastal grasslands can be characterized by rapid rates of spread driven primarily by topography and wind (BLM 2011). While grass fuel models are often characterized by high

rates of spread with horizontally continuous arrangements, the availability of these fuels is strongly influenced by fuel moistures as well as environmental factors like relative humidity.

Most of the pine and cypress areas are fire types where grass remains the primary carrier of fire. Larger stands of trees may be characterized differently as timber litter replaces grass as the primary driver of fire spread. Similar to grass fuel models, fire behavior in these stands is contingent on both live and dead fuel moistures, and more moderately influenced by fluctuations in weather variables like relative humidity.

## 2.15 Law Enforcement and Public Safety

Since 2005, BLM law enforcement personnel have been the primary investigative agency for a variety of law enforcement actions within the management area (Table 3). Additionally, BLM has assisted in one search and rescue incident in the vicinity.

**Table 3.** Type and number of illegal activities investigated by BLM 2005-2010.

Type of Illegal Activity	Number of Cases
Vandalism	7
Day Use Violation	5
Minor in Possession of Alcohol	4
Possession of Marijuana	4
Dumping/Abandoned Property	3
Open Container of Alcohol in a Vehicle	2
Building Unlawful Structure	1
Unlawful Woodcutting	1
Theft from a Vehicle	1
Illegal Shooting	1
Suicide	1
Indecent Exposure	1

Of the total number of incidents involving BLM law enforcement, 20 occurred at Fleener Creek Overlook, 3 occurred at Guthrie Creek Trailhead, and 1 occurred at the former naval base. The timing of law enforcement actions occurred throughout the year, and violations do not appear to show a seasonal pattern (Table 4).

**Table 4.** Number of infractions by month 2002-2010.

Month	Number of Infractions	Month	Number of Infractions
January	6	July	2
February	3	August	0
March	4	September	6
April	2	October	2
May	1	November	0
June	5	December	2

The frequency of patrol by BLM law enforcement personnel is highly variable. BLM law enforcement does respond to calls from the public and other law enforcement agencies. Many of these cases involved assistance from a number of other agencies including: Humboldt County

Sheriff's Office (HCSO), National Oceanic and Atmospheric Administration (NOAA), California Fish and Game, Ferndale Police Department, and the U.S. Coast Guard.

## **2.16 Solid Waste and Hazardous Materials**

### Centerville Beach Naval Facility

The former Centerville Beach Naval Facility consisted of an operations building that was located west of Centerville Road and military housing, a mess hall, recreation facilities, an automotive shop, a potable water treatment facility, a hazardous materials storage area and a gatehouse, all of which were located east of Centerville Road. Moderate amounts of chemicals were spilled as a result of the operations. Under direction of the California Department of Toxic Substances Control, the U.S. Navy thoroughly investigated the site and remediated all identified chemical spills prior to acquisition. Although it is believed that there is no remaining residual pollution associated with former U.S. Navy operations, there remains a slight possibility that chemicals may still be present in deeper soils at the site.

To account for the possibility that residual pollutants may be inadvertently encountered, certain precautions should be taken when conducting deep excavations (greater than two feet below ground surface) on the site. To assure that residual pollutants are not exposed as a result of ground disturbance, documents in the administrative record for Centerville Beach Naval Facility should be reviewed prior to ground disturbance to determine proximity to sites where spills are known or suspected to have occurred. If excavation is planned for areas where residual pollutants may be encountered, a hazardous materials specialist should be consulted to determine if soil sampling or other special precautions should be taken.

### Barri Ranch Dumpsite

Prior to acquisition by BLM, a dumpsite was identified on the former Barri Ranch. The site was investigated and the majority of the waste was determined to be inert refuse. However, localized amounts of hazardous waste were identified in certain locations. No groundwater pollution was detected. A site cleanup plan was prepared and implemented by SHN Consulting Engineers and Geologists prior to acquisition. This effort involved removal and proper disposal of lead-acid batteries, electronic waste, and pollutant-affected soil followed by capping the remaining refuse with soil. This work was overseen by the Humboldt County Department of Public Health (HCDPH). The site is monitored annually by HCDPH to assure stability of the waste and the soil cap.

## **2.17 Air Quality**

The Lost Coast Headlands are within an area currently classified as an attainment area for all criteria listed under the National Ambient Air Quality Standards. The management area is within the North Coast Unified Air Quality Management District that includes all of Humboldt, Del Norte, and Trinity Counties.

## Chapter 3 – Management Alternatives

### 3.0 Introduction

This chapter describes approaches that could be taken to manage the resources and visitor uses on public lands in the Lost Coast Headlands Management Area. The National Environmental Policy Act (NEPA) requires federal agencies to consider a reasonable range of alternative approaches when proposing and analyzing federal actions, including plans. In the case of Lost Coast Headlands, sets of actions have been identified to meet resource goals. Each goal was developed by BLM staff based on public scoping; field evaluations by BLM staff, and guidance provided by the Arcata Resource Area RMP and BLM policies. Each action alternative must meet the purpose and need for the Plan (see Chapter 1) and address issues identified by the public during scoping. BLM has identified the “Proposed Action” as the alternative that the agency feels would best meet the management needs of the Lost Coast Headlands. Each alternative is designed so that it could serve as a stand-alone Plan. The No Action Alternative is required by NEPA and provides a benchmark description of current management to allow for comparison of the “action” alternatives. For the purposes of this Plan, the No Action Alternative would constitute continued implementation of the Arcata Resource Area RMP and associated custodial management of the area.

During the scoping process, adjoining residents and ranchers, and other members of the public expressed concerns related to public uses of the area and possible conflicts and dangers posed to residents. This comprehensive Plan, which included full public involvement, is intended to detail the actions the BLM would implement for management of this area.

Each alternative addresses management of the resources and resource uses including biological resources (vegetation, wildlife and fisheries), grazing, cultural resources, scenic and visual resources, recreation use, and trail management.

The alternatives include objectives and associated actions for management of each resource or use. The objectives describe outcomes or “desired future conditions” for different components of the resource or resource use. Some objectives are common to alternatives while others will vary by alternative.

The management alternatives are organized into four components:

- Recreation
- Vegetation Management
- Grazing Management
- Interpretation, Education, and Partnerships

Each component contains three management alternatives:

- Proposed Action
- Alternative 1
- Alternative 2 – No Action

Alternative 1 follows the Proposed Action except for several action items. Table 5 shows the portions of Alternative 1 that are different from the Proposed Action.

**Table 5.** Portions of Alternative 1 that are different from the Proposed Action.

<b>Management Alternatives Component</b>	<b>Portions of Alternative 1 That Differ from Proposed Action</b>
Recreation	Objective 1, Action 1
	Objective 2, Actions 1 and 2
	Objective 3, Action 1
Vegetation Management	Action 1
Grazing Management	Actions 1 and 2
Interpretation, Education, and Partnerships	Actions 1,2, and 3

In summary, the alternatives represent a reasonable range of approaches to managing land and uses consistent with law, regulation, and policy. They also provide a framework to evaluate the potential impacts to the management area that could occur as a result of implementing various management scenarios.

A final Plan and Decision Record will be developed based on public input on this draft Plan and EA. This final document will guide future management of the area. The BLM has the discretion to select an alternative in its entirety or to combine elements of the various alternatives. The reader may also select and/or combine elements of the various alternatives when providing comments on the Plan.

### **3.1 Proposed Action and Alternatives**

#### **3.1.1 Proposed Action – Recreation**

**Goal:** Provide visitors with coastal access, open space, and coastal views in a safe manner that prevents impacts to adjacent private property as well as natural and cultural resources.

**Objective 1:** Provide non-vehicular public access from Centerville Road to the Pacific Ocean, and in particular, to the beaches at Fleener Creek and Guthrie Creek.

**Action 1:** Maintain the Fleener Creek Trail for hiking, sightseeing, and wildlife viewing. Provide continued foot access to the beach. Install a bench and viewing platform near the top of the trail for those with limited mobility.

**Action 2:** Maintain the Guthrie Creek Trail for hiking, horseback riding, sightseeing, and wildlife viewing. Coordinate maintenance activities with the neighboring landowners as the Guthrie Creek Trail runs along an easement that BLM has over private land.

**Action 3:** Upgrade the Guthrie Creek Trail by constructing additional drainage features such as rolling dips and outlets, and additional surfacing.

**Action 4:** Develop a new trail (Centerville Bluffs Trail) from the Centerville Bluffs East Area (Picnic Area) to Fleener Creek Trail (Figure 9). The Centerville Bluffs Trail would

provide a link between the two picnic/parking areas and provide continued access to the beach. This trail would be designed for pedestrian use and those with limited mobility (wheelchair use). An encroachment permit from Humboldt County Department of Public Works would be needed where the trail is within the county's right-of-way.

**Rationale (Actions 1-4):** Maintenance and improvement of trail conditions would continue to provide visitors access to the beach. Additional gravel and erosion control features on the Guthrie Creek Trail would provide a firmer trail tread, thus improving safety conditions. Coordination among the landowners and BLM regarding maintenance of this trail would create an atmosphere where "best management practices" are utilized to reduce soil erosion and sediment runoff and to provide improved trail conditions.

**Objective 2:** Insure the public health, safety, protection, and security of visitors by providing well maintained and accessible facilities. Facilities would blend in with the natural environment to the maximum extent practicable and preserve open space to provide natural appearing scenic views of the coastline and prairies.

**Action 1:** Maintain and improve the Guthrie Creek Trailhead and its facilities (kiosk, parking area, trash receptacle, signs) by: (1) installing an additional split-rail fence to prevent vehicle access onto the grassy slope, (2) relocating and replacing the temporary restroom with a permanent vault restroom, (3) installing equestrian hitching posts, (4) installing a picnic table, and (5) shaping and rocking the parking area.

**Rationale:** This trailhead provides the only parking area for access to the beach in the southern portion of the management area. To prevent vehicle use outside the parking area, additional split-rail fencing on the north and east side is needed. A permanent

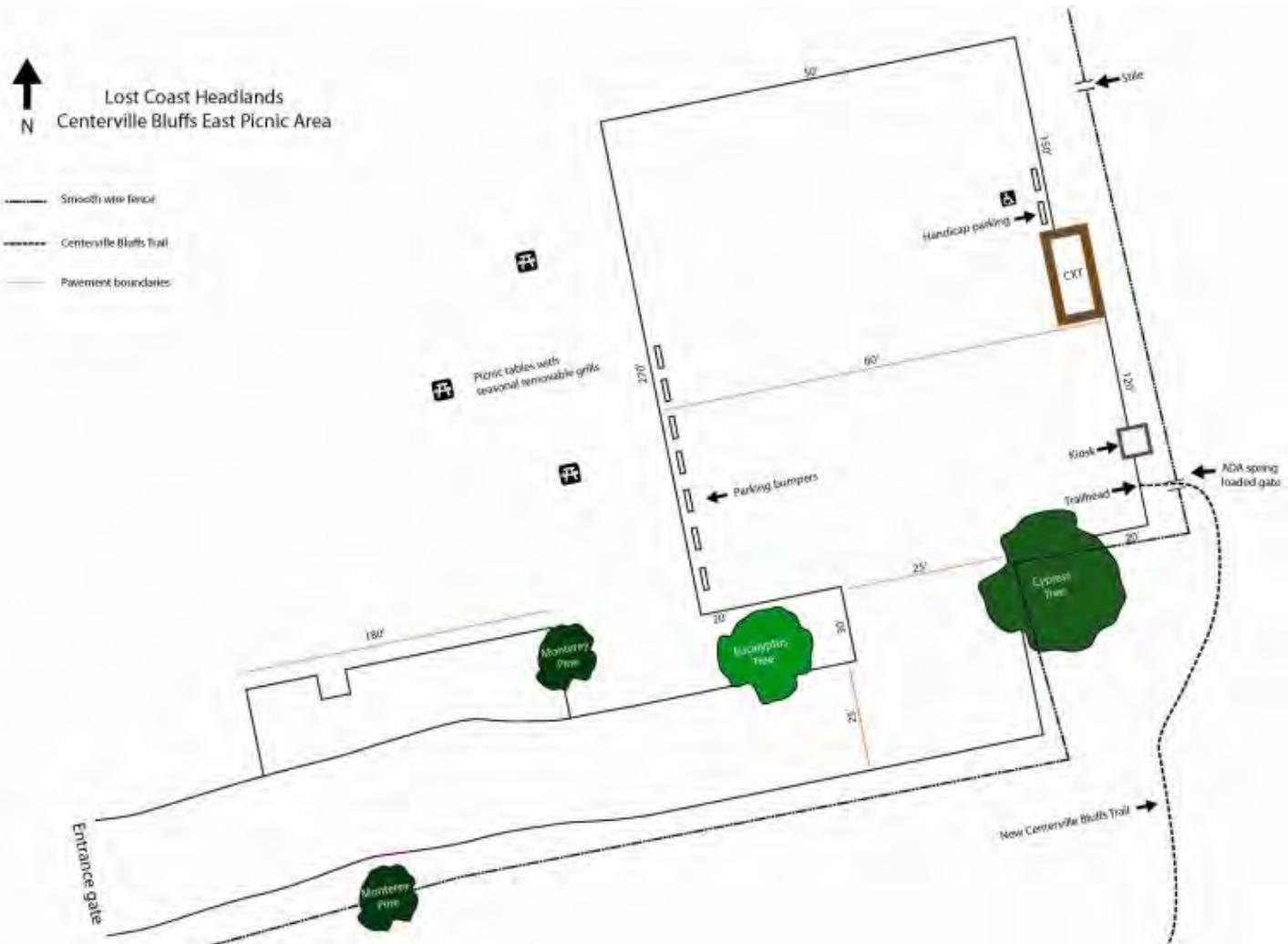


Figure 9. Depiction of proposed Centerville Bluffs East Picnic Area

vault restroom located just north of the kiosk would improve the scenic quality of the site.

**Action 2:** Develop a new trailhead parking and picnic area (Centerville Bluffs Picnic Area, Figure 9) at the Centerville Bluffs East area. The parking area facilities would be accessible to individuals with limited mobility.

- A. Facilities would include a permanent vault restroom, several picnic tables, an information kiosk, wayside interpretive exhibits, signs, and vehicle barriers (Figure 9).
- B. The entrance gate would be replaced.
- C. Vehicle barriers, such as smooth wire, coated cable, wooden posts, curbs, or logs would be installed as necessary to prevent vehicles from travelling off the paved parking area.
- D. The open space surrounding the parking area would be utilized for low impact recreation and/or community activities, such as picnicking, school field trips, and other family/group events.

**Rationale:** This site contains a paved entrance road and parking area. Public comments expressed interest in developing low-impact facilities at this location. Providing a permanent vault restroom, picnic tables, a kiosk, and vehicle barriers would increase recreation opportunities, meet visitor needs for health and safety, and protect the surrounding open space from damage caused by unauthorized vehicle use. The open grassy areas surrounding the parking area are relatively level and would provide undeveloped open space for various activities.

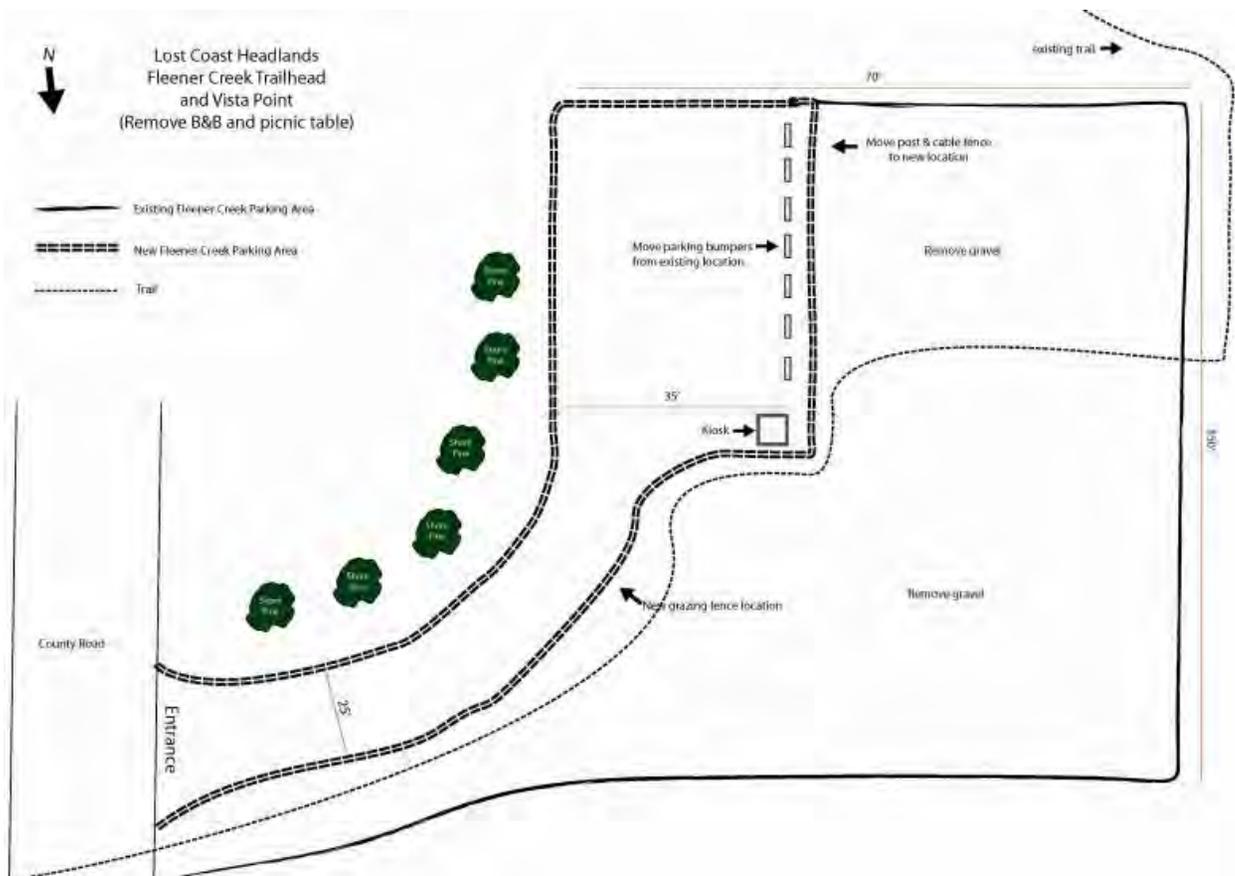
**Action 3:** A gate and pedestrian walk-through would be installed on the Centerville Bluffs North area on the west side of Centerville Road opposite the existing entrance gate to the new Centerville Bluffs Picnic Area. The gate would remain closed except for administrative use.

**Rationale:** The pedestrian walk-through would allow for visitor access to the Centerville Bluffs North area while restricting vehicle access. The gate would allow for vehicle access for power line maintenance and other administrative activities.

**Action 4:** Reduce the Fleener Creek Overlook to approximately 25 percent of its current size and remove the restroom and picnic table. The trash receptacle, signs, and vehicle barrier would remain (Figure 10).

**Rationale:** Reducing the size of this overlook would improve the naturalness of the area, deter inappropriate and reckless vehicle use at the site, and continue to provide the minimum facilities necessary for ocean viewing and trail hiking.

**Action 5:** Collaborate with Humboldt County to facilitate (1) road widening to provide for safe vehicle use, as well as for hiking, biking and horseback riding, (2) installation of additional safety signs (narrow road, sharp turn, etc.), and (3) coordinated road maintenance (placement of rock, grading, etc.).



**Figure 10.** Depiction of proposed Fleener Creek Overlook.

**Rationale:** Coordination meetings with Humboldt County, BLM, and local residents would help fulfill the varying needs of all parties.

**Action 6:** Replace all chain link fences with other types of fence material such as smooth or barbed wire. BLM would work with adjacent landowners to replace any chain link fence adjacent to private property boundaries.

**Rationale:** Replacing chain link fence with other types of fence would improve the scenic qualities of the area.

**Action 7:** Remove dilapidated fences and fences no longer used to manage grazing.

**Rationale:** Dilapidated fences can be hazardous to visitors, livestock, and wildlife. Fences that are not needed should be removed to improve visitor access.

**Objective 3:** Ensure that natural and cultural resource values are protected by establishing use regulations, frequent law enforcement patrol, and monitoring.

**Action 1:** Permanent regulations would be established and documented in the Federal Register as supplementary rules. Items F and G below are considered land use allocations and would become permanent after the completion of an amendment or revision of the Arcata Resource Area RMP.

**A.** The management area would be open to public use from 1 hour before sunrise to 1 hour after sunset. Overnight camping would not be allowed. Under special circumstances camping may be allowed during formal events authorized under a Special Recreation Permit or other land use authorization. Criteria for these events include: (1) size of group, (2) the purpose of the event benefits the local community, (3) event activities directly benefit the goals and objectives of the Plan, (4) the event is compatible with public use of the site, and (5) impacts to natural resource values are kept to a minimum.

**Rationale:** The area is not suitable for general, public camping as it is absent of any potential potable water supply. Development of a potable water supply, if possible, would require substantial infrastructure installation and subsequent maintenance. In addition, the area is relatively small, contains limited flat ground, and is situated among adjacent private residences. Day use of the area has proven to be compatible with the area's morphology and neighboring land uses.

**B.** The Centerville Bluffs Trail would be open to pedestrian use and those with limited mobility (wheelchairs).

**Rationale:** Other types of recreation activities on this trail, such as equestrian and mountain bike use, would result in an uneven trail tread surface caused by hoof and tire prints. This would eventually prevent wheelchair use on the accessible portion of the trail.

**C.** The Fleener Creek Trail would be open to pedestrian use only.

**Rationale:** This trail is very narrow, contains tight switchbacks, and steps exist at two locations. These factors, along with the increased potential for accelerated soil erosion and sediment transport, makes equestrian and mountain bike use unacceptable.

**D.** The Guthrie Creek Trail would be open to pedestrian, equestrian, and mountain bike use.

**Rationale:** This trail is maintained by neighboring private landowners to provide them with vehicle access to the beach. This particular provision (motorized vehicle access) is part of an easement held by the landowners prior to the acquisition by the BLM. The trail's width (6-10 feet), gentle gradient (less than 10% slope), and anticipated visitor use would accommodate equestrian and mountain bike use with minimal conflict between user groups.

**E.** Fires in cooking grills at the Centerville Bluffs Picnic Area would be allowed except during the fire season (generally July through September). Open campfires would not be allowed.

**Rationale:** Open campfires throughout the management area pose a risk for several reasons including: (1) the close proximity of private residences, (2) frequent high winds, (3) expansive areas of grass, and (4) large accumulations of driftwood at the mouths of Fleener and Guthrie Creeks. A provision to allow fires in cooking grills at the Centerville Bluffs Picnic Area outside the fire season would add an important amenity for the visiting public.

**F.** Motorized vehicle use off of maintained roads and parking areas would not be allowed.

**Rationale:** Motorized vehicles need to be kept on maintained roads and parking areas to prevent unwanted soil erosion and to maintain the area's scenic quality.

**G.** Firearms and archery use would not be allowed.

**Rationale:** Firearms and archery use are not necessary for the allowable uses of the area such as hiking, viewing coastal areas, and picnicking.

**H.** Dogs would be required to be on leash or under voice control at all times.

**Rationale:** Uncontrolled dogs can cause problems for other visitors, neighboring landowners, and livestock.

### **3.1.2 Alternative 1 – Recreation**

Alternative 1 would be the same as the Proposed Action except:

**Goal:** Provide visitors with coastal access, open space, and coastal views in a safe manner that prevents impacts to adjacent private property as well as natural and cultural resources.

**Objective 1:** Ensure the public health, safety, protection, and security of visitors by providing well maintained and accessible facilities. Facilities would blend in with the natural environment

to the maximum extent practicable and preserve open space to provide natural appearing scenic views of the coastline and prairies.

**Action 1:** Reduce the Fleener Creek Overlook to approximately one-half its size and maintain its existing facilities (kiosk, restroom, picnic table, trash receptacle, signs, and vehicle barrier)(Figure 11). Develop a hardened rock surface to the existing picnic table for wheelchair access.

**Rationale:** Reducing the size of the parking area would improve scenic quality and prevent vehicles from spinning circles that create a safety hazard when other visitors and vehicles are nearby.

**Objective 2:** Provide limited hunting opportunities while minimizing impacts to non-hunters and adjacent private property.

**Action 1:** Establish an area that would be open to archery use for hunting (Figure 12) during the archery hunting season established by the California Fish and Game Commission. Signs would be posted along the perimeter of the hunting area and patrols increased during the hunting season to prevent trespass onto adjacent public and private land.

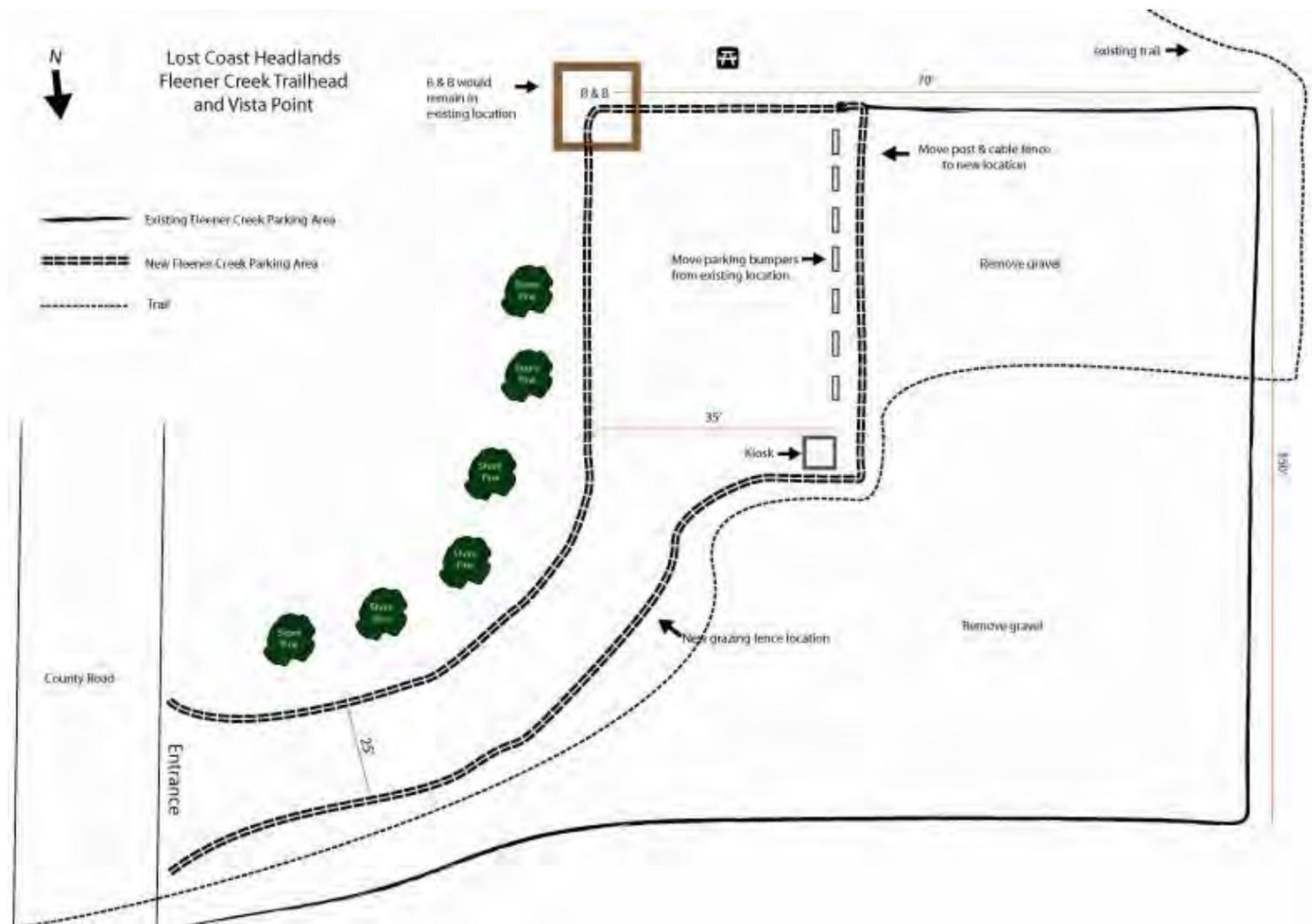
**Action 2:** Work with the California Department of Fish and Game and the California Fish and Game Commission to develop a limited-entry archery hunt compatible with other uses of the area.

**Rationale (Actions 1&2):** Several comments received during public scoping requested that the area be open to archery hunting. Portions of the management area's west slope (Figure 12) would provide opportunities for a limited number of archers to hunt an area not proximal to developed recreation areas or private property. The BLM has discretion as to areas of public land open to hunting as well as the types of hunting equipment (firearms, archery equipment, etc.) allowed within specific areas during specific times. The California Department of Fish and Game regulates the time period of hunts, the species of animals that can be hunted, the methods that can be used, the number of animals that can be taken, the sex of the animals that can be hunted, the size of the animals that can be hunted, and the numbers of hunters allowed to participate in a hunt. A limited-entry deer archery hunt could only be authorized if both agencies worked cooperatively to establish the parameters of the hunt.

**Objective 3:** Ensure that natural and cultural resource values are protected from visitor impacts by establishing use regulations, a frequent law enforcement presence, and monitoring.

**Action 1:** Permanent regulations would be established and documented in the Federal Register as supplemental rules. These would be the same as the Proposed Action except:

- A. Archery use would be allowed for those participating in a limited-entry hunt as established by the California Fish and Game Commission.



**Figure 11.** Depiction of Fleener Creek Overlook as described in Alternative 1 - Recreation.

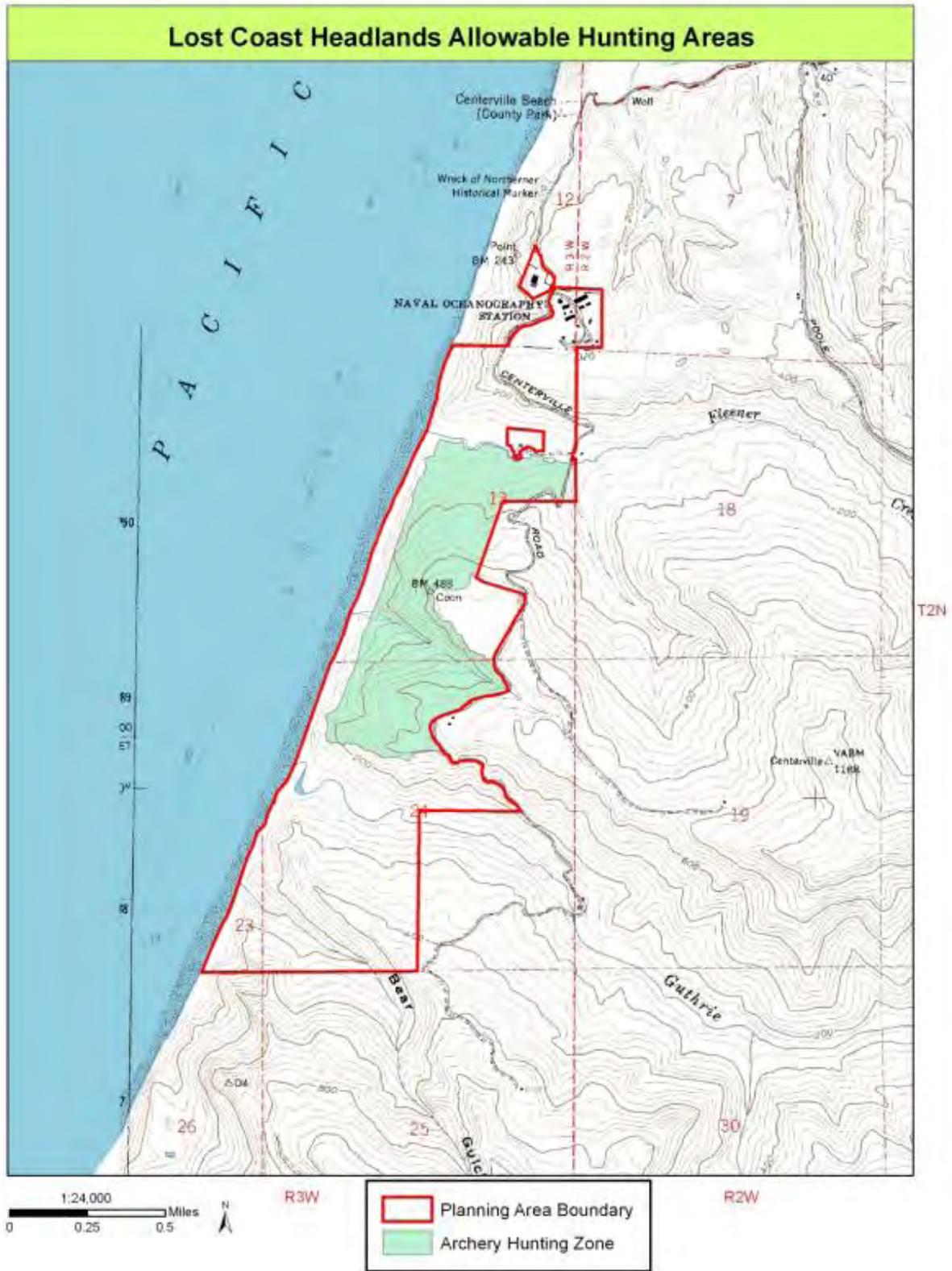


Figure 12. Allowable hunting areas as described in Alternative 1 – Recreation.

**Rationale:** Archery use would be restricted to an area away from developed recreational facilities and private land. Because archery equipment is limited in range, archery use would allow a limited number of people to hunt in a confined area for a limited time. This would provide for a hunting opportunity while minimizing effects to non-hunters and nearby residents.

Archery equipment is often a preferred method to control deer numbers in areas with potential conflicts with other users or nearby residents. Because of the limited effective range of archery equipment it can be used in smaller hunting areas.

### **3.1.3 Alternative 2 No Action – Recreation**

**Goal:** Provide visitors with coastal access, open space, and coastal views in a safe manner that limits impacts to natural and cultural resources.

**Objective 1:** Provide non-vehicular public access from Centerville Road to the Pacific Ocean, and in particular, to the beaches at Fleener Creek and Guthrie Creek.

**Action 1:** Maintain Fleener Creek Trail, as it exists, for hiking, sightseeing, and wildlife viewing.

**Action 2:** Maintain Guthrie Creek Trail, as it exists, for hiking, horseback riding, sightseeing, and wildlife viewing.

**Rationale (Actions 1&2):** These trails provide the only developed access to the beach in the management area.

**Objective 2:** Ensure the public health, safety, protection, and security of visitors by providing well maintained and accessible facilities. Facilities would blend in with the natural environment to the maximum extent practicable and preserve open space to provide natural appearing scenic views of the coastline and prairies.

**Action 1:** Maintain the Guthrie Creek Trailhead and its facilities (kiosk, restroom, trash receptacle, signs, and vehicle barrier).

**Action 2:** Maintain the Fleener Creek Overlook and its existing facilities (kiosk, restroom, trash receptacle, signs, and vehicle barrier).

**Action 3:** The Centerville Bluffs Picnic Area would be accessible to the public but no facilities would be provided.

**Action 4:** Maintain the fence near the Fleener Creek Trail which separates hikers from grazing cattle. No other fences would be removed or replaced.

**Rationale (Actions 1-4):** The trailhead parking areas provide the basic facilities needed for the public to have a safe and enjoyable recreational experience.

**Objective 3:** Ensure that natural and cultural resource values are protected by establishing use regulations, frequent law enforcement patrol, and monitoring.

**Action 1:** Permanent regulations would be established and documented in the Federal Register as supplementary rules. They include:

- A. No overnight camping – the area would be open to public use 1 hour before sunrise to 1 hour after sunset.
- B. No campfires.
- C. No motorized vehicle use off of maintained roads and parking areas.
- D. No firearms or archery use.

**Rationale:** Existing temporary regulations state that they would be made permanent after the completion of the Plan.

### 3.1.4 Proposed Action – Vegetation Management

**Goal:** Eradicate invasive, non-native plants and establish and maintain native plant communities in the management area.

**Objective:** Control invasive, non-native forbs, shrubs and trees where invasiveness would displace open space and potentially obstruct coastal views.

**Action 1:** Remove invasive, non-native plants such as Monterey Pine, iceplant (*Carpobrotus sp.*), French broom, (*Genista monspessulana*), pampas grass (*Cortaderia selloana/jubata*), three cornered leek (*Allium triquetrum*) or other invasive plants.

**Rationale:** Invasive, non-native plants threaten native landscapes and often reduce the productivity of ecological systems they invade, having economic, ecological, health, and aesthetic impacts.

**Action 2:** Suppress emerging invasive tree seedlings following initial treatment to maintain open space. Methods that would be utilized include focused, short-duration livestock grazing, manual hand pulling, mechanical removal, and integrated herbicide use, if needed, via cut stump application to treat any residual eucalyptus root or stump resprouting (see Appendix A – herbicide label).

**Rationale:** Livestock grazing can be used as an efficient and relatively passive method to control hundreds to thousands of tree and brush seedlings annually over a wide area, thus favoring maintenance of open grasslands. In some cases, hand pulling or mechanical methods may be the most practicable tool. Chemical application of eucalyptus stumps would be required to prevent and treat any resprouting.

The September 2007 Records of Decision for the companion documents *Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS)* and the *Final Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report (PER)* provides national guidance and authorization

to utilize treatment tools that meet or exceed standard operating procedures and herbicide label requirements.

### **Centerville Bluffs East:**

**Action 3:** Remove all 4 eucalyptus trees and 15 Monterey pine trees along the northern property boundary but retain all 34 Monterey cypress trees.

Removal techniques would include falling trees with chainsaws, whole log removal or split on-site for firewood, and chipping of slash and green tops for biomass. Removal would only occur when conditions are dry enough so that equipment used for removal would not significantly damage or rut grasslands.

**Rationale:** The native landscape is composed of coastal perennial grassland and coastal scrub plant communities, with pockets of Sitka spruce dominated forest in the draws. The Proposed Action seeks to remove invasive, non-native trees to return the landscape to its pre-developed, natural state. Selected retention of Monterey cypress trees would provide a wind break from north winds, and selected individuals within the proposed day use area would provide visual features and shade trees.

**Action 4:** Remove all 17 eucalyptus trees, 50 Monterey pine trees along with seedlings and saplings, and all 70 Monterey cypress trees along the eastern property boundary.

**Rationale:** Removal of the eucalyptus, Monterey pines and cypress would reduce invasive species pressure and restore native landscape views across the prairie to the Douglas-fir-Sitka spruce forest to the east.

**Action 5:** Remove 40 Monterey pine second growth trees (6-14 inch diameter) and all seedlings and saplings encroaching along the western boundary of the Centerville Bluffs East area. Retain four eucalyptus trees and two cypress trees in the interior of Centerville Bluffs East area.

**Rationale:** Monterey pine is not native to Humboldt County. Monterey pine is a native tree from Central and Southern California to Baja California. However, cultivars of Monterey pine have been developed and widely planted for economic and ornamental purposes for decades. These cultivars are very invasive and displace native habitats where they would not normally be found. Without seedling suppression, pines will rapidly encroach and displace open space, coastal vistas, and native and naturalized grassland and coastal scrub communities. Young encroaching trees are spreading rapidly. These trees are rapid growing, often attaining 6 additional feet in height per year in the first 5 years of growth. Colonization of new trees following treatment that result from seed bank germination is proposed to be controlled through grazing, and/or manual or mechanical labor.

Eucalyptus is an invasive, non-native tree (native to Australia) exhibiting an aggressive reproductive regime. Complete removal may require the integrated use of manual, mechanical, and chemical methods.

Monterey cypress is native to California, but has been widely cultivated and planted in many non-native areas for landscaping purposes. This tree species has the least aggressive pattern of invasiveness, though it is spreading and reproducing on site.

Prior to 1942, the Centerville Bluffs area was composed of grasslands and entirely lacked trees with the primary land use being grazing. Around 1965, aerial photos show the northern and eastern Centerville Bluffs boundaries planted with young trees following establishment of the naval base. All three tree species are fast growers and were likely selected to provide a visual screen from the naval base structures themselves, and also to serve as a windbreak from the northwest and southeast winds.

Selected individual trees would be retained to provide aesthetic diversity and shade within the Centerville Bluffs East area.

### **Centerville Bluffs West and North:**

**Action 6:** Remove all Monterey pine trees in the Centerville Bluffs North area.

**Rationale:** Since the U.S. Navy contractors stopped mowing encroaching pines in 2006, rapid spread is occurring that threatens open space on the west side. Colonization of new trees following treatment that result from seed bank germination is proposed to be controlled through grazing, and/or manual or mechanical labor.

**Action 7:** Retain two mature Monterey pine stands on the west side of Centerville Road, in Centerville Bluffs West area. Remove all young, dense, second growth encroaching trees up to the County Road.

**Rationale:** Two stands of Monterey pine would be retained, that appear in aerial photos to pre-date the Centerville Beach Naval Facility construction. These trees could provide nesting habitat for birds as well as serve as a visual feature preceding a very unstable cliff. Since the U.S. Navy stopped mowing the young, encroaching trees, the trees have since become very dense and well established. Re-encroachment from seed source produced by these trees is proposed to be controlled through grazing.

### **3.1.5 Alternative 1 – Vegetation Management**

Alternative 1 is the same as Proposed Action except for:

**Goal:** Eradicate invasive, non-native plants and establish and maintain native plant communities.

**Objective:** For the Centerville Bluff areas, control invasive, non-native forbs, shrubs and trees where invasiveness would displace open space and potentially obstruct coastal views.

**Action 1.** Remove all eucalyptus, Monterey pine, and Monterey cypress trees along the eastern property boundary; but retain eight Monterey cypress trees in scattered clusters of two to three trees along the eastern boundary to provide a visual feature.

**Rationale:** All trees on the eastern property boundary of Centerville Bluffs East are invasive and non-native to Humboldt County. If grazing regimes change on adjacent private lands, the trees would spread out over the native landscape quickly reducing the grassland and open space. Removal of these trees would lead to a slow reduction and eventual elimination of seed from the seed bank that would be a continual source of maintenance for years to come.

### **3.1.6 Alternative 2 No Action – Vegetation Management**

**Objective:** Retain tree stands as they were at the time of the land transfer, manage new or ongoing encroachment from invasive, non-native source trees, shrubs, or herbs.

**Action 1.** Retain all Monterey pine, eucalyptus, and Monterey cypress trees.

**Action 2.** Remove invasive, non-native plants such as iceplant, French broom, pampas grass, three cornered leek, or other invasive plants.

**Rationale:** Treatment of invasive, non-native plants on public lands is categorically excluded (40 CFR 1508.4) under part D. 10. In addition, the *Final Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement* (PEIS) and the *Final Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report* (PER), provides national guidance and authorization to utilize treatment tools that meet or exceed standard operating procedures and herbicide label requirements.

### **3.1.7 Proposed Action – Grazing Management**

**Goal:** Provide opportunities for grazing as compatible with other uses while protecting natural and cultural resources.

**Objective:** Expand grazing to assist with vegetation management to maintain grasslands and open space, as well as suppression of encroaching invasive, non-native tree seedlings.

**Action 1:** Graze Centerville Bluffs East, West, and North areas (Figure 2) for up to 6 weeks. Livestock grazed would be cow/calf only and would exclude bulls. Grazing would occur during the low visitor use season during winter.

**Rationale:** Historically, the Centerville parcel was grazed prior to the Centerville Beach Naval Facility development. The surrounding landscape remains both largely native and agriculturally naturalized under an annual livestock grazing regime. Returning grazing to the Centerville Bluffs East, West, and North areas is likely the most labor and cost efficient solution to prevent rapid conversions to coastal scrub or Monterey pine thickets, and to maintain open space, while being compatible with surrounding private land use. Livestock grazed would be cow/calf only and would exclude bulls to reduce risk to pedestrian recreation. In the winter, visitor use is lower and therefore there would be fewer visitor-livestock interactions. Further, in the colder months grass growth is slow and tree seedlings are available and palatable, leading to greater livestock consumption. However, manual or mechanical methods would also be applied as needed.

**Action 2:** Develop water options in a manner that protects resource values.

**Rationale:** Water provisions would be needed for livestock in Centerville Bluffs East, West, and North areas. Besides providing water to cattle, strategic water provisions could help concentrate livestock in desired areas where emergent brush and tree seedlings are a concern, and also be used to discourage use in natural areas where livestock use might cause unwanted impacts.

**Action 3:** Install livestock gates to facilitate livestock movement among pastures. Install several hundred feet of livestock fencing along west boundary of Centerville Bluffs East to complete pasture enclosure.

**Action 4:** Seedling mortality would be monitored and grazing duration by area would be adjusted as necessary to meet suppression objectives. Details would be developed in an Allotment Management Plan.

**Action 5:** Monitor and manage grazing use and/or trail use adaptively to maintain use of the Centerville Bluffs Trail for the safety of visitors. This trail would traverse the grazing area for up to 6 weeks, during the low use season. Adaptations may include closing the trail and adjacent area to pedestrian use during grazing, or temporarily protecting the trail (e.g., fencing or cattle removal) from grazing use.

**Rationale:** Consistent with authorizing up to 6 weeks of grazing use to achieve open space and invasive weed objectives, BLM would work adaptively to provide safe trail access to pedestrians.

**Action 6:** Manage grazing in a manner to facilitate safe livestock movement and distribution, pedestrian flow and safety, and protection of natural and cultural resources.

**Rationale:** Grazing use of the proposed Centerville pasture may co-exist with a day use trail from the new picnic area, to the south west corner of the pasture, en route to the Fleener Creek Overlook. Grazing use would occur during a low visitor use time of year, therefore, it is likely that interactions between livestock and visitors would be reduced. Should the trail become obstructed, rutted, or otherwise degraded so as to impede pedestrian flow and safety, it could be repaired and/or closed (along with the adjacent area) to pedestrian use for the duration of the grazing use, approximately 6 weeks. Alternatively, livestock could be removed from the area if unacceptable conflicts arise.

**Action 7:** Remove old fencing no longer necessary for grazing operations and adjust fencing as necessary.

**Rationale:** Removal of unnecessary fencing would improve coastal views and open space. As conditions change, adjustments to fence lines are necessary to accommodate grazing operations and protect resources.

**Action 8:** Adjust Lost Coast pasture configuration in southeast corner approximately 200 feet to include a stand of spruce trees.

**Rationale:** Expanding the Lost Coast pasture to include a stand of spruce trees would provide replacement wind and storm shelter for livestock that would be lost as a result of Monterey pine eradication along the eastern fence line adjacent to the county road and Pacific Gas and Electric (PG&E) utility lines.

### **3.1.8 Alternative 1 – Grazing Management**

**Objective:** Expand existing active and adjacent Centerville Bluffs pasture to include the proposed Centerville Bluffs East and West areas (Figure 2) to provide grazing opportunities and to assist with vegetation management in terms of encroaching invasive, non-native tree seedling suppression. Grazing would be accomplished while protecting year-round recreation trail access separated from grazing use.

**Action 1.** Grazing in the Centerville Bluffs North area would not occur.

**Rationale:** No grazing in Centerville Bluffs North area would allow for year-round day use access to western bluffs with an ocean view and would exclude any user conflicts from grazing in this area.

**Action 2:** Remove old fencing no longer necessary for grazing operations and adjust fencing as necessary.

**Rationale:** Removal of unnecessary fencing would improve coastal views and open space. As conditions change, adjustments to fence lines are necessary to accommodate grazing operations and protect resources.

### **Alternative 2 No Action – Grazing Management**

**Objective:** No additional grazing opportunities would be provided beyond what is already established in the management area.

### **3.1.9 Proposed Action – Interpretation, Education and Partnerships**

**Goal:** Provide current and accurate safety information to visitors.

**Objective:** Ensure visitors are aware of important safety information, public land boundaries, potential risks, and are familiar with the management area.

**Action 1:** Maintain and continue to update information at the existing kiosks located at Fleener and Guthrie Creek Trailheads.

**Rationale:** Fleener and Guthrie Creek Trailheads lead to rugged beaches that are prone to frequent landslides and seasonal variations in beach accessibility. Locating kiosks at these trailheads gives the visitor an opportunity to obtain important safety information, including up-to-date tide calendars, before they begin their hike. In addition to providing safety information, these kiosks also interpret natural and cultural resources found at Lost Coast Headlands and connect the visitor to the landscape.

**Action 2:** Install a four-sided kiosk near the restroom in the Centerville Bluffs Picnic Area.

Information displayed would include a variety of interpretive and safety information including a land status map, current safety information, local geology, Eel River watershed overview, and cultural land uses.

**Rationale:** For visitors on site, the kiosk would provide pertinent safety and interpretive information for their visit.

**Action 3:** The Arcata Field Office webpage would include a Lost Coast Headlands link so visitors could access safety information, maps, background history, planning documents, photos, and contact information.

**Rationale:** The website would be a current source of information for visitors planning a trip to Lost Coast Headlands as well as for virtual visitors who would like to learn about the area but may never physically visit. An improved and up-to-date website would provide pre-visit information and trip planning opportunities. Visitors would be aware of safety and resource issues prior to visiting.

**Goal:** Provide education, interpretive and partnership opportunities to enhance the visitors' understanding and appreciation of the management area while protecting and preserving its natural and cultural resources.

**Objective 1:** Through effective interpretation and education of the history, geology, flora and fauna, visitors would act on inspiration to demonstrate responsible ownership and land ethics stewardship.

**Action 1:** Interpretation through site-specific wayside exhibits along Centerville Bluffs Trail would interpret the natural and cultural resources. Interpretive information would also include connections to the California Coastal National Monument where appropriate.

**Rationale:** Wayside exhibits along the trail would enhance the overall visitor experience and provide on-site interpretation of the history, recreational opportunities, and the natural and cultural resources.

**Action 2:** An interpretive brochure would offer a synopsis of the history and prehistory of the area. Brochures would be available in visitor information centers and BLM offices.

**Rationale:** Visitors typically use interpretive brochures for information and orientation during their visit, and for in-depth interpretation following their visit. Providing a brochure with a comprehensive map and interpretive information would allow the visitor to experience the area before and after their initial visit.

**Action 3:** Foster an understanding and stewardship of native plant communities through service-learning projects with the local communities and schools.

**Rationale:** Educational possibilities exist for local schools. BLM would work with local schools and communities to use the management area as a service learning area to foster understanding about native, naturalized, and invasive plant communities, as well as implement projects enhancing native plant communities.

Some projects might include planting of native tree species to replace retained non-native trees or developing and planting native perennial grass colonies.

**Action 4:** Develop opportunities to utilize the management area as an outdoor classroom. In-class presentations and field trips would be established at the appropriate developmental level and fit within the current Science and History/Social Science California State Content Standards for elementary and high school students.

**Rationale:** A system of well-designed education programs and activities would foster the desire to protect the natural and cultural resources of the Lost Coast Headlands.

### **3.1.10 Alternative 1 – Interpretation, Education and Partnerships**

Alternative 1 would include only the first goal from the Proposed Action and include minimal changes or improvements.

**Goal:** Provide current and accurate safety information for visitors.

**Objective:** Ensure visitors are aware of important safety information, public land boundaries and are familiar with the management area.

**Action 1:** Maintain and continue to update information at the existing kiosks located at Fleener and Guthrie Creek Trailheads.

**Rationale:** Fleener and Guthrie Creek Trailheads lead to rugged beaches that are prone to frequent landslides and seasonal variations in beach accessibility. Locating kiosks at these trailheads gives the visitor an opportunity to obtain important safety information, including up-to-date tide calendars, before they begin their hike. In addition to providing safety information, these kiosks also interpret natural and cultural resources found at Lost Coast Headlands and connect the visitor to the landscape.

**Action 2:** Install a four-sided kiosk near the restroom in the Centerville Bluffs Picnic Area.

Information displayed would include a variety of interpretive and safety information including a land status map, current safety information, local geology, Eel River watershed overview, and cultural land uses.

**Rationale:** For visitors on site, the kiosk would provide pertinent safety and interpretive information for their visit.

**Action 3:** The Arcata Field Office webpage would have a Lost Coast Headlands link so visitors can access safety information, maps, background history, planning documents, photos, and contact information.

**Rationale:** The website would be a current source of information for visitors planning a trip to the area as well as for virtual visitors who would like to learn about the area but may never physically visit. An improved and up-to-date website would provide pre-visit information and trip planning opportunities. Visitors would be aware of safety and resource issues prior to visiting.

### **3.1.11 Alternative 2 No Action – Interpretation, Education and Partnerships**

The interpretive and education programs for the management area would continue to be underdeveloped. The existing kiosks at both Fleener and Guthrie Creek trailheads would continue to provide maps, tide charts, descriptions of the resources, recreation opportunities, natural history information, and regulations for use and safety considerations. The four-sided kiosk near the restroom in the Centerville Bluffs Picnic Area would not be installed.

Thematic interpretive panels would not be installed along any new or existing trails.

Interpretation connecting the Lost Coast Headlands with the California Coastal National Monument would not be developed.

Existing partnerships would continue with local landowners and owners of grazing leases.

## Chapter 4 – Environmental Effects

### 4.1 Climate and Climate Change

#### Direct Effects

Actions that would contribute some small amount of greenhouse gas emissions include livestock grazing, operation of equipment involved in hand and mechanical vegetation management, combustion of slash piles, and operation of equipment involved in trail construction and facilities development and maintenance. Cessation of carbon sequestration by removed non-native conifers would occur.

#### Indirect Effects

Short-term carbon release and emissions from combustion of fuel wood resulting from potential public fuel wood permits would likely occur. Long-term continuation of carbon dioxide sequestration through maintenance of perennial grasslands and open space would persist. Without soil disturbance, grasslands hold their sequestered carbon in the soil bank indefinitely. Continued native conifer tree growth and carbon sequestration would persist. Over time, the carbon sequestration provided by the vegetation of the management area would likely more than offset the minor, short-term emissions released during project implementation.

### 4.2 Geology and Soils

#### 4.2.1 Recreation – Proposed Action

Elements of the Recreation Proposed Action that could impact geology and soils are:

*Guthrie Creek Trail upgrade.* Continued use of the Guthrie Creek Trail by hiking and horseback would result in localized areas of enhanced surface erosion. The proposed additional upgrades to the trail would reduce the long term erosion from current levels.

*Centerville Bluffs Trail.* Construction of a new trail would result in minor soil disturbance. The location of the trail on the relatively flat uplands would result, at most, in minor amounts of surface erosion.

*Guthrie Creek Trailhead improvements.* Additional split rail fence at the trailhead would reduce the extent of ground disturbance and likely result in a reduction in surface erosion.

*Centerville Bluffs Picnic Area.* The proposed parking lot would be located on existing asphalt surface. Thus, no additional ground disturbance is anticipated with the parking lot. Placement of picnic tables and a restroom would result in minor amounts of soil displacement, but the impacts would be negligible given the relatively flat ground at the site.

*Reduce Fleener Creek Overlook.* Reducing the parking lot size to approximately one quarter of its current size would reduce the extent of vehicle ground disturbance at the site.

*County Road.* Widening the road would result in soil displacement and additional surface prone to surface erosion. However, any increased surface erosion is likely to be localized, remaining near the road. Additionally, more frequent road maintenance such as road rocking, would likely offset this minor impact.

#### **4.2.2 Recreation – Alternative 1**

*Guthrie Creek Trail upgrade.* Same as Proposed Action.

*Centerville Bluffs Trail.* Same as Proposed Action.

*Guthrie Creek Trailhead improvements.* Same as Proposed Action.

*Centerville Bluffs Picnic Area.* Same as Proposed Action.

*Reduce Fleener Creek Overlook.* The parking lot would be reduced by half of its current size, limiting the extent of vehicle disturbance and consequent soil impacts.

*County Road.* Same as Proposed Action.

#### **4.2.3 Recreation – No Action Alternative**

*Guthrie Creek Trail upgrade.* Improvements to the Guthrie Creek Trail would occur as needed to maintain access and control erosion. Continued use of the Guthrie Creek Trail by hiking and horseback would result in localized areas of enhanced surface erosion. Ongoing maintenance would help control this, but not to the extent described in the Proposed Action or Alternative 1.

*Centerville Bluffs Trail.* No trail would be constructed from the Centerville Bluffs East area to the Fleener Creek Trailhead. The minor soil disturbance described in the Proposed Action or Alternative 1 would not occur.

*Guthrie Creek Trailhead improvements.* The extent of vehicle use and consequent ground disturbance would not be limited by the additional fencing described in the Proposed Action and Alternative 1.

*Centerville Bluffs Picnic Area.* No facilities would be developed. The difference in impacts among the various alternatives would likely be negligible since the paved parking area proposed in the Proposed Action and Alternative 1 is already present. And any ground disturbance would be from visitors.

*Reduce Fleener Creek Overlook.* The parking lot would not be reduced in size. The extent of vehicle use and disturbed ground would remain unchanged.

*County Road.* Any improvements to the county road would occur solely at the county's discretion.

#### **4.2.4 Vegetation Management – Proposed Action**

The Proposed Action would remove and manage vegetation. Minor soil disturbance would result in some instances, but impacts would be short-lived and negligible. The effects of tree removal on coastal landsliding are expected to be negligible. The stabilizing role of tree roots on hillslopes prone to shallow landsliding is well studied. However, the depth of slides present along the management area extends well beyond the effects of root strength. The principal means of slope failure in the areas proposed for vegetation management are driven by earthquakes, heavy rainfall and storm waves.

#### **4.2.5 Vegetation Management – Alternative 1**

Effects would be similar to the Proposed Action described above.

#### **4.2.6 Vegetation Management – No Action Alternative**

Limited ground disturbance would occur due to removal of invasive, non-native plants, but impacts would be negligible.

#### **4.2.7 Grazing – Proposed Action**

The principal effects of expanded grazing would be soil disturbance and compaction. The soil types present in the area are noted for their ability to withstand grazing and widespread impacts to soils and erosion are not expected. Impacts would likely be most prevalent during wet periods and near natural gathering points (*e.g.*, water sources) and constrictions (*e.g.*, gates). Overall, the proposed grazing would occur in the relatively flat uplands and increased erosion is not expected. Likewise, comparison of adjacent areas suggests that the proposed grazing would result in minor amounts of soil disturbance. Furthermore, the grazing allotment management plan process provides for ongoing monitoring and adaptation. Should conditions change, changes in the grazing strategy can be implemented to address any issues that may arise.

#### **4.2.8 Grazing – Alternative 1**

Impacts would be similar to those described above for the Proposed Action except that grazing would not occur in the Centerville Bluffs North area.

#### **4.2.9 Grazing – No Action Alternative**

No additional grazing would occur in the area.

#### **4.2.10 Interpretation and Education – Proposed Action**

No impacts anticipated from the Interpretation and Education Proposed Action.

#### **4.2.11 Interpretation and Education – Alternative 1**

No impacts anticipated from the Interpretation and Education Alternative.

#### **4.2.12 Interpretation and Education – No Action Alternative**

No impacts anticipated from the Interpretation and Education No Action Alternative.

#### **4.2.13 Cumulative Effects – Proposed Action**

Assessment Area: Lost Coast Headlands Management Area, adjacent parcels and watercourses.

#### Proposed Action

The magnitude and extent of soil disturbance expected in the action area is not likely to contribute to cumulative effects. Expanded grazing, new trail construction and development of a day use area would occur on the relatively flat uplands where erosion potential and delivery to a watercourse is low. Improvements to the Guthrie Creek Trail and reducing the size of the Fleener Creek Trailhead would reduce the amount of ground susceptible to erosion.

#### Alternative 1

The assessment area for geology and soils includes all of the BLM parcels in the Lost Coast Headlands vicinity, adjacent parcels or watercourses that could potentially receive runoff from

these areas. The magnitude and extent of soil disturbance expected in the action area is not likely to contribute to cumulative effects. Expanded grazing would occur on the relatively flat uplands where erosion potential is low. Reducing the Fleener Creek Trailhead parking area by 50 percent would reduce the extent of bare surface susceptible to erosion. No improvements to the Guthrie Creek Trail would allow current conditions to prevail where erosion issues are treated as they occur, rather than proactively attempting to avoid erosion through construction of improved drainage features along the trail.

### No Action

Under the No Action Alternative, current conditions would persist. The principal effect would be occasional erosion from the Guthrie Creek Trail. Although erosion issues eventually receive treatment along the trail, the ad-hoc nature of the treatments allows some erosion features to occur and contribute to the ongoing erosion in the area. Grazing would continue at current levels.

## **4.3 Cultural Resources**

No cultural deposits eligible for, or listed on, the National Register of Historic Places have been located within the area of potential effects, and there are currently no known cultural resources in the area.

Although there are no known cultural resources, it is possible that subsurface cultural deposits are present. As such, all ground-disturbing activities will be monitored by a qualified archaeological technician, and any exposed cultural materials examined by the Arcata Field Office archaeologist prior to any further disturbance.

## **4.4 Invasive, Non-native Species**

### **4.4.1 Recreation – Proposed Action**

Public access, facility development, trail development, and trail improvements described in the Proposed Action would likely have a negligible impact to the introduction of invasive, non-native species. Incidental introductions could potentially come from soil disturbance, pedestrian hiking shoes, vehicles, horse trailers, or horse manure. However, standard operating procedures employed to prevent introductions, public education outreach, early detection, and rapid response protocols by BLM staff would likely limit any new infestations.

### **4.4.2 Recreation – Alternative 1**

The impacts are the same as the Proposed Action.

### **4.4.3 Recreation – No Action Alternative**

The No Action Alternative would pose fewer risks to new invasive, non-native species introductions through less soil disturbance associated with no new trail development or day use area development.

### **4.4.4 Vegetation Management – Proposed Action**

The Proposed Action would benefit the invasive, non-native weed element and lead to eradication of most invasive, non-native species, including trees, to the extent feasible. Some

individual invasive, non-native species would be retained within the designated Centerville Bluffs East picnic area, as well as two mature stands in Centerville Bluffs West. Also, all Monterey cypress trees would be retained along the northern boundary of the Centerville Bluffs East area.

Retention of many invasive, non-native parent trees would contribute to an indefinite, ongoing need to treat resulting seedling recruitment. Regardless of retention, ongoing management would be needed to treat seedling recruitment that resulted from the seed bank of removed parent trees and from any remaining viable root systems or stumps of eucalyptus as well.

Using an integrated combination of management tools including manual, mechanical, livestock grazing, and chemical applications, invasiveness of non-native species would be controlled and native plant communities and semi-natural grasslands would be conserved.

Retention of some invasive, non-native parent trees over the life of this Plan does not preclude the possibility of removal and/or replacement with native trees at some point in the future.

#### **4.4.5 Vegetation Management – Alternative 1**

The impacts are the same as the Proposed Action.

#### **4.4.6 Vegetation Management – No Action Alternative**

Under the No Action Alternative, encroachment pressure would be increasingly difficult to manage manually and mechanically. Should encroachment prevail, grasslands would decrease, coastal vistas would not be restored and open space and recreation objectives for the project area would not be met.

#### **4.4.7 Grazing – Proposed Action**

The Proposed Action would benefit the invasive, non-native species element more than other alternatives by providing an efficient tool required for successful integrated suppression of ongoing emergence of invasive tree seedlings over the greatest amount of infested area. Livestock grazing at levels described in the Proposed Action is not likely to contribute to the introduction or spread of other invasive, non-native species.

#### **4.4.8 Grazing – Alternative 1**

Alternative 1 is similar to the Proposed Action except that the benefits to the invasive, non-native species element would be applied in fewer areas in need of invasive, non-native tree seedling suppression, specifically Centerville Bluffs North.

#### **4.4.9 Grazing – No Action Alternative**

Under the No Action Alternative, livestock grazing would not contribute any benefits to the invasive, non-native species element and the suppression of invasive tree seedlings and subsequent depletion of the invasive tree seed bank.

#### **4.4.10 Interpretation and Education – Proposed Action**

The Proposed Action would benefit the invasive, non-native species element more than other alternatives through natural resource and ecology based public education and on-the-ground invasive weed prevention and/or potential volunteer eradication programs.

#### **4.4.11 Interpretation and Education – Alternative 1**

Alternative 1 would not include on-the-ground invasive weed prevention, volunteer eradication programs, or local public involvement. Without local stewardship opportunities there would be fewer long-term benefits to invasive, non-native species.

#### **4.4.12 Interpretation and Education – No Action Alternative**

Under the No Action Alternative, interpretation and education implementation would be less developed and would contribute fewer tangible stewardship benefits in terms of invasive, non-native species education, prevention, and potential volunteer eradication projects.

#### **4.4.13 Cumulative Effects**

Assessment Area: Humboldt Bay area and Eel River Valley

##### Proposed Action

The BLM Arcata Field Office is a member of the Humboldt County Weed Management Area (HWMA), which unites individuals, organizations and agencies, who own land or have jurisdiction over designated lands, to work cooperatively to reduce the extent and threat of invasive weeds within their scope of authority to promote healthy agricultural and ecological ecosystems. In this context, the Proposed Action would contribute most to the cumulative effort by HWMA members in the assessment area to control invasive, non-native species. Cumulative effects of the Proposed Action are expected to be minor.

##### Alternative 1

The cumulative effects of actions proposed in Alternative 1 are the same as the Proposed Action.

##### No Action

The cumulative effect of the No Action Alternative would likely lead to an increase in invasive, non-native species infestation and distribution within the assessment area. Although some control actions are authorized for the BLM, such control actions would not be sufficient to curb the sources and vectors of spread by the invasive species present in the management area. The effects of the No Action Alternative would add a minor amount of invasive species.

### **4.5 Lands and Realty Management**

No impacts are expected except for:

#### **4.5.1 Recreation – Alternative 1**

Archery hunting may lead to a minor increase in trespass by visitors onto neighboring private lands. If animals are wounded but not killed then hunters are required by hunting regulations to pursue and kill the wounded animals. Wounded deer tend to move sidehill or downhill (Iverson 1999) and thus may move to private property. Hunters are required to ask permission from landowners prior to entering private property. The limited number of hunters and the limited season proposed reduce the chance of trespass. Because hunters would be selected from a special draw, law enforcement personnel would know the names and addresses of hunters

allowed to hunt in the management area; thus, hunters are less likely to risk infractions. This minor increase in the probability of trespass is not expected to result in detectable direct, indirect, or cumulative effects.

## **4.6 Social and Economic Considerations**

### **4.6.1 Recreation – Proposed Action**

Improvements to facilities and trails may lead to a slight increase in tourism. Any increase, however, is expected to be too small to measure. Contracts to local businesses and other entities to install facilities and implement improvements would provide a small, short-term positive impact to local business.

### **4.6.2 Recreation – Alternative 1**

Impacts are expected to be the same as the Proposed Action.

### **4.6.3 Recreation – No Action**

No impacts are expected.

### **4.6.4 Vegetation Management – Proposed Action**

Contracts to local businesses and other entities to remove trees would provide a small, short-term positive impact to local business. The timing and duration of this impact would depend on the time frame that the tree removal actions are implemented.

### **4.6.5 Vegetation Management – Alternative 1**

Impacts are expected to be the same as the Proposed Action.

### **4.6.6 Vegetation Management – No Action**

No impacts are expected.

### **4.6.7 Grazing – Proposed Action**

Although the total area allowed for grazing would increase slightly, it is not known if this increase would allow for a measureable increase in cattle production. Any effects would likely be too small to measure.

### **4.6.8 Grazing – Alternative 1**

Impacts are expected to be the same as the Proposed Action.

### **4.6.9 Grazing – No Action**

No impacts are expected.

### **4.6.10 Interpretation and Education- Proposed Action**

This alternative would provide a small but long-term increase in the level of information that the community would have regarding natural coastal ecosystems through public education and work with schools.

#### **4.6.11 Interpretation and Education- Alternative 1**

No impacts are expected.

#### **4.6.12 Interpretation and Education- No Action**

No impacts are expected.

#### **4.6.13 Cumulative Effects**

Assessment Area: Humboldt Bay area and the Eel River Valley

##### Proposed Action

The Proposed Action would provide small, short-term positive impacts to local businesses. Because of the short-term nature and limited magnitude of these impacts and the dynamic nature of the business environment it is unlikely these impacts will result in cumulative impacts.

The Proposed Action is expected to have a small but long-term impact on the amount of information on coastal ecosystems available to the community. Federal, state, and local land managers have been providing information at public access coastal areas as well as participating in public outreach efforts for decades. Non-profit organizations such as Friends of the Dunes and others have also had extensive public education and outreach efforts for decades. The impacts of the Proposed Action would add to these existing efforts. The cumulative impacts of increased levels of information are difficult to ascertain but are not expected to be significant.

##### Alternative 1

Cumulative effects are expected to be the same as the Proposed Action.

##### No Action

The No Action alternative is expected to have no effects.

### **4.7 Fisheries, Riparian, and Water Quality**

#### **4.7.1 Recreation – Proposed Action, Alternative 1, and No Action**

The actions for recreation are not proximal to any water body and thus no effects are expected from these actions.

#### **4.7.2 Vegetation Management – Proposed Action, Alternative 1, and No Action**

The actions for vegetation management are not proximal to any water body and thus no effects are expected.

#### **4.7.3 Grazing -- Proposed Action**

The proposed expansion of grazing pastures includes a wet area near the proposed Centerville Bluffs Trailhead. This seasonal wet area is less than 100 square feet in size and was likely recently created during building demolition and ground contouring. Cattle use of this area could result in increased turbidity and decreased vegetation in the immediate vicinity. Given the proposed short duration of grazing and the timing of the proposed grazing, it is expected that these impacts would be both minor and temporary in nature.

#### **4.7.4 Grazing – Alternative 1**

Impacts are expected to be the same as the Proposed Action.

#### **4.7.5 Grazing – No Action**

No impacts are expected.

#### **4.7.6 Interpretation and Education – Proposed Action, Alternative 1, and No Action**

No impacts are expected.

#### **4.7.7 Cumulative Effects**

The only effects anticipated from any alternative are temporary in nature and are not expected to persist or accumulate. Thus no cumulative effects are expected.

### **4.8 Wildlife**

#### **4.8.1 Recreation – Proposed Action**

The Proposed Action would increase wildlife-public interactions due to the expanded area available for public recreation. The expanded area includes the portions of the area formerly occupied by the Centerville Beach Naval Facility. Additional developed recreation sites would likely increase the number of visitors using the area, subjecting wildlife to more frequent low-level disturbance. Maintaining the picnic area (mowers, string-trimmers, chainsaws, etc.) would also cause intermittent low-level disturbance. Heavy equipment used to develop the recreation sites would cause a more intense localized disturbance; however, the recreation site construction phase would likely be of a short duration.

Installing strategically placed vehicle barriers would benefit wildlife by preventing disturbance to wildlife from vehicles except in designated areas such as the proposed parking areas and roads. Vehicle barriers also prevent illegal off-road use which can be detrimental to wildlife forage.

Replacing the chain link fence with smooth or barbed wire would remove a movement barrier for species such as deer, fox, and other mammals too large to fit through the existing fence. In some areas the chain link fence would be replaced with a shorter wire fence which would prevent dogs from passing onto private property. Dog barrier fences would be less beneficial to wildlife as mammal species other than deer would not be able to pass through the new fence. The sections of chain link or dog barrier fences would not cause more than a minor detour for wildlife as the fences are not more than 0.5 miles in length.

#### **4.8.2 Recreation -- Alternative 1**

Alternative 1 would provide a limited-entry archery only deer hunt. A small number of hunters would receive deer tags through the annual big game drawing operated by California Department of Fish and Game. No other hunting would be authorized. Alternative 1 could result in the harvesting of male deer up to the number of tags issued for the hunt. The hunt area proposed in Alternative 1 is not currently open to hunting. Opening the area to hunting pressure often changes the behavior of the hunted species. Deer would likely respond to

hunting pressure by becoming more nocturnal and retreating to adjacent private property with no or less hunting pressure.

#### **4.8.3 Recreation – No Action**

No impacts are expected.

#### **4.8.4 Vegetation Management – Proposed Action**

Removing most of the non-native trees would reduce the perch availability for foraging raptors. The Proposed Action would not remove all trees and retains sufficient perch availability to provide for raptor needs throughout the area. The trees currently onsite that occur in single row-wind breaks are of little value to wildlife as they do not provide cover or forage for ground species. Two large stands of established pines would be left standing in addition to Sitka spruce in the draws. Most of the birds detected in trees are found in trees that would remain standing.

#### **4.8.5 Vegetation Management– Alternative 1**

Impacts are expected to be the same as the Proposed Action.

#### **4.8.6 Vegetation Management – No Action**

The continued encroachment of Monterey pines would lead to a continuous loss of grassland habitat throughout the Centerville Bluff North, East, and West areas. Loss of open grasslands would impact habitat for deer and some songbird species and reduce foraging habitat for raptors.

#### **4.8.7 Grazing – Proposed Action**

The Proposed Action would open a small additional area to grazing to help control vegetation and prevent encroachment from Monterey pines. The proposed grazing season would occur in mid-winter and consists of a short season. Deer often avoid the immediate vicinity of cattle but continue to utilize the area. Deer, raptors, and other wildlife would benefit from maintaining open space.

#### **4.8.8 Grazing – Alternative 1**

Impacts are expected to be the same as the Proposed Action.

#### **4.8.9 Grazing – No Action**

No impacts are expected.

#### **4.8.10 Cumulative Effects**

Assessment Area: BLM lands at the Lost Coast Headlands and the former Centerville Beach Naval Facility.

#### Proposed Action

Long-term impacts, both negative and positive, would result from all alternatives. The Proposed Action would result in better habitat conditions for deer, small mammals, raptors and other wildlife. Controlling the expansion of Monterey pines into the prairies will maintain open habitat and edge habitat utilized by many wildlife species. Vegetation on the steep hillsides and

drainages will be mostly unaffected and continue to provide cover habitat, avian roost sites, and riparian habitat. Expanding the trail system will subject wildlife to disturbance from hikers and their pets in proportion to the amount of increased use. The increase in disturbance would continue into the foreseeable future.

#### Alternative 1

The long-term effects of Alternative 1 would be similar to the Proposed Action. Allowing a limited entry deer hunt would increase wildlife disturbance and subject targeted wildlife to harvest. Hiking resulting from hunting related activities is more likely to occur off designated trails and has the potential to influence wildlife which are less accustomed to hikers.

#### No Action

Wildlife habitat would be substantially degraded as a result of the No Action Alternative. The Monterey pines will continue to encroach into the open prairies without some control measures and eventually much of the grasses and forbes found in flat prairies will be shaded out. Monterey pine habitat is used as cover by wildlife but is of little forage value. The plant species that will be shaded out by the Monterey pines are generally of higher forage value to deer and other wildlife species. There would be no increase in disturbance to wildlife as the trail system would not be expanded and hunting would not be allowed.

No other projects are known or proposed in the area that would affect wildlife.

## **4.9 Vegetation Including Threatened and Endangered Species**

### **4.9.1 Recreation – Proposed Action**

Under the Proposed Action, there would be minor, but long-term impact to a small footprint where facilities and trails would be developed. Some short-term, transitory trampling of common vegetation would occur by utilization of equipment associated with trail or facility development. Minor benefit would accrue to vegetation as the Fleener Creek Overlook would be decreased in size and returned to native and naturalized vegetation.

### **4.9.2 Recreation – Alternative 1**

Alternative 1 would have similar impacts as the Proposed Action.

### **4.9.3 Recreation – No Action Alternative**

No impacts are expected.

### **4.9.4 Vegetation Management – Proposed Action**

Short-term effects to grassland vegetation from transitory disturbance associated with proposed invasive tree removal would occur. Effects such as trampling by equipment are expected to be minor and/or temporary. Native and naturalized prairie vegetation would benefit by not being ecologically displaced by invasive, non-native trees. However, without ongoing maintenance, the threat of displacement would return.

#### **4.9.5 Vegetation Management – Alternative 1**

Impacts are expected to be the same as the Proposed Action.

#### **4.9.6 Vegetation Management – No Action Alternative**

Under the No Action Alternative no large trees would be removed and therefore the intensity and degree of reproductive effort by parent trees would require a high level of maintenance to prevent grassland loss to displacement. Repeated, short-term effects would occur from transitory disturbance associated with repeated treatment of new encroachment by invasive, non-native tree species. This might lead to a long-term, but minor impact in vegetation appearance along the tree lines. There would likely be a long-term, major impact to the grasslands around Centerville Bluffs East, North, and West, as well as potentially adjacent private lands should their livestock grazing regime change in the future and trees spread unchecked into grasslands.

#### **4.9.7 Grazing – Proposed Action**

The Proposed Action could affect common vegetation resources in a minor way. Certain types of plants are generally favored over others. For example, certain native species of rush (genus *Juncus*) are tough, filled with silica and not palatable to livestock. This can favor the rush species and increase its cover within a grassland ecosystem, given adequate soil water availability. This is not a concern from a purely vegetation standpoint, necessarily, unless it leads to some other form of displacement. In general, livestock grazing at Centerville Bluffs meets rangeland health standards which require that biological diversity and soil objectives are met, thereby leading to sustainable plant communities, although shifts in native and naturalized vegetation composition could occur.

The timing of grazing in the Proposed Action is expected to lead to more vigorous and diverse grasslands and a greater expression of annual forbs through thatch removal and nutrient cycling. It is expected that grassland vigor would improve with moderate, properly-timed grazing, that reduces thatch, but allows for grasses and desired forbs to seed out and reproduce.

Much of the Centerville Bluffs East site is capped with fill material and a shallow layer of topsoil. This area is currently supporting some seeded native plants and many disturbance-related naturalized plants and grasses. Livestock grazing may assist vegetation growth in these areas as a result of nutrient deposits in the form of urine and manure. In general, it is not expected that livestock would linger in areas not well vegetated while grazing. As there would be no bulls in these areas, wallowing would not occur.

The proposed modification to the southeast corner of the Lost Coast pasture would lead to very minor, short-term trampling of common vegetation during high wind, or otherwise stormy events. The majority of the spruce stand to be included in the pasture is primarily needle duff devoid of understory vegetation. The majority of the vegetated area and Pacific reedgrass stands on the eastern-most portion of the area would be excluded from grazing activity.

The Proposed Action for grazing provides the greatest benefit to the vegetation element of all the alternatives.

#### **4.9.8 Grazing – Alternative 1**

Alternative 1 provides the same impacts and benefits as the Proposed Action, but would not include Centerville Bluffs North.

#### **4.9.10 Grazing – No Action Alternative**

Under the No Action Alternative, vegetation in the Centerville Bluffs North, West, and East areas would not receive any benefits to grassland vigor and species diversity, and would have different pressures influencing species composition. Without grazing, native shrubs and invasive trees would increase, annual wildflower abundance would decrease, and general grassland health would decline. Other areas would remain unchanged.

#### **4.9.11 Interpretation and Education- Proposed Action**

Native and naturalized grassland vegetation and native trees would ultimately benefit under the Proposed Action. Potentially, there could be projects such as native perennial bunchgrass planting and colony establishment and/or native tree planting that could ultimately replace services provided by retained non-native trees.

Further, public education and service-learning projects generally help create a sense of stewardship for an area which can yield long-term and tangible conservation benefits.

#### **4.9.12 Interpretation and Education – Alternative 1**

See Proposed Action.

#### **4.9.13 Interpretation and Education – No Action Alternative**

Under the No Action Alternative, public education and potential projects would not occur at a level affirmed by the Proposed Action.

#### **4.9.14 Cumulative Effects**

Assessment Area: Humboldt County coastal grasslands.

##### Proposed Action

The BLM manages two other management areas that contain coastal grasslands, the King Range National Conservation Area and the Lacks Creek Management Area. For these two areas combined, coastal grassland extent has decreased by an average of 34 percent in the last 50 years due to lack of fire and Douglas-fir encroachment. In the case of the Centerville Bluffs unit of Lost Coast Headlands Management Area, the decrease is due to invasive, non-native tree species, coastal erosion, and associated road realignments. The result is the same, decreasing extent of native coastal grasslands. Under the Proposed Action, recovery efforts would occur to reverse the trend of decline. In the other two BLM management areas, efforts are underway to try and halt this decline, and hopefully recover and maintain prior extents of coastal grassland distribution.

##### Alternative 1

The cumulative effect would be the same as the Proposed Action.

## No Action

The cumulative effect of the No Action Alternative could contribute to the long-term trend of coastal grassland loss in Humboldt County through lack of management maintaining healthy grasslands.

## **4.10 Livestock Grazing**

### **4.10.1 Recreation – Proposed Action**

Development of the Centerville Bluffs Picnic Area and connecting trail to the Fleener Creek Overlook could have a moderate impact on the minor addition of livestock grazing in the Centerville Bluffs East area. The potential exists for damage to range improvements that could result in livestock trespass or for harassment or injury to livestock from unleashed dogs. In a worst case scenario, user conflicts could result in public closure of the trail during livestock use, or alternatively, removal of livestock to allow undisturbed year round wheelchair access to the trail. Maintenance of the proposed wheelchair-accessible trail may require minor reductions in the grazing area to allow for safe trail access. The extent of such reductions is not known at this time but would be determined through monitoring.

### **4.10.2 Recreation – Alternative 1**

Alternative 1 has the same impacts to livestock grazing as the Proposed Action.

### **4.10.3 Recreation – No Action Alternative**

Under the No Action Alternative for recreation the Centerville Bluffs Picnic Area would be accessible to the public but no facilities would be provided. Therefore, there would be little incentive for the public to use the area. This would decrease the chances of livestock harassment or improvement disturbance by the public. The duration of livestock use in this area is brief, and the season of use for the livestock would be at a time of year infrequently visited by the public. Therefore, the potential net benefit to livestock operations by lack of recreation improvements would be negligible.

### **4.10.4 Vegetation Management – Proposed Action**

The Proposed Action would have no impact on livestock grazing as invasive tree removal would occur when livestock were not on site. Any modification to livestock fencing would be restored following invasive tree removal efforts. Ongoing maintenance of invasive trees could require minor but permanent modification involving gates installed into existing stretches of fence which would not impact grazing operations.

### **4.10.5 Vegetation Management – Alternative 1**

See Proposed Action Analysis above.

### **4.10.6 Vegetation Management – No Action Alternative**

See Proposed Action Analysis above.

#### **4.10.7 Grazing – Proposed Action**

The Proposed Action would provide for a minor positive benefit to livestock grazing through expansion of acres available for grazing. No change in overall grazing season of use would occur; only an increase of the available area in which to rotate livestock. Approximately 23 acres would become available for livestock grazing.

Prior to the development of the Centerville Beach Naval Facility the area was grazed by livestock. Development removed approximately 40 acres from livestock grazing in 1958. During the 7 year tenure of the existing BLM grazing lease, a reduction of approximately 12 acres has occurred. Returning 23 acres of land to grazing use would benefit the area which is well suited to maintain open space and grasslands.

Some range improvements involving approximately four gates, two to three additional water provisions, and several hundred feet of new fencing would be required.

The Proposed Action offers the most additional acreage of new grazing area, but requires more range improvement effort than the other alternatives.

#### **4.10.8 Grazing – Alternative 1**

Alternative 1 is similar to the Proposed Action in that it would provide for a moderate positive benefit to livestock grazing through expansion of acres available for grazing. However, the Centerville North area would not be included. No change in overall grazing season of use would occur; only an increase of the available area in which to rotate livestock. Approximately 17 acres would become available for livestock grazing— 6 acres less than in the Proposed Action.

Fewer range improvements would be required than in the Proposed Action including approximately three gates and one to two additional water provisions, as well as several hundred feet of new fencing.

#### **4.10.9 Grazing – No Action Alternative**

Under the No Action Alternative, no additional livestock grazing opportunities would be provided. No additional range improvements would be proposed.

#### **4.10.10 Interpretation and Education- Proposed Action**

Under the Proposed Action, there could be benefits to livestock grazing operations through general public understanding of the role of grazing in healthy landscapes and through greater cooperation with posted safety guidelines.

#### **4.10.11 Interpretation and Education – Alternative 1**

Under Alternative 1 there would be minor positive impacts to grazing resources through on-site interpretation of historic and existing livestock grazing operations.

#### **4.10.12 Interpretation and Education – No Action Alternative**

Under the No Action Alternative, there could be a minor impact to livestock grazing from Interpretation and Education if posted public guidelines result in less cooperation and compliance by the public, and respect for livestock operations.

#### **4.10.13 Cumulative Effects**

Assessment Area: Humboldt County

##### Proposed Action

There would be no cumulative effect to grazing under the Proposed Action as the level of grazing would not change. The Proposed Action only modifies the areas grazed within the allotment, but does increase the number of livestock grazed on the overall allotment. There would be no net increase or decrease in livestock grazing within Humboldt County, therefore, no cumulative impact.

##### Alternative 1

Same as Proposed Action.

##### No Action

There would be no cumulative effect if no changes to livestock grazing are implemented.

### **4.11 Recreation**

#### **4.11.1 Recreation – Proposed Action**

##### Trails

Maintaining and improving trail conditions would result in a moderate, localized, long-term beneficial impact on recreation because trails would continue to provide visitors access to the beach. Additional gravel and erosion control features on the Guthrie Creek Trail would provide a more firm trail tread, thus improving safety conditions. Installing hitching posts near the end of the trail would allow horseback riders a place to tie up their animals and continue hiking the last 100 feet of trail (too steep for horse use) to the beach. Coordination among the landowners and BLM regarding maintenance of this trail would allow best management practices to be utilized to reduce soil erosion and sediment runoff and to provide improved trail conditions. The Centerville Bluffs Trail would provide a link between the new picnic area and Fleener Creek Overlook, and provide continued access to the beach.

##### Facilities

Improvements at the Guthrie Creek Trailhead, including additional split-rail fence and vault restroom, would prevent vehicles from travelling outside the parking area. This would have a moderate, localized, long-term beneficial impact to the area's scenic quality.

Reducing the size of the Fleener Creek Overlook would have a moderate, localized, long-term beneficial impact on the area's scenic quality because more land would appear natural. Deterring inappropriate and reckless vehicle use at the site would result in a moderate, localized, long-term beneficial impact on visitor safety and recreation experience. Providing the minimum facilities necessary for ocean viewing and hiking the trail to the beach would have a minor, localized, long-term beneficial impact on the overall recreation experience at this site. Removing the portable restroom from this site would result in visitors having to travel to the new Centerville Bluffs Picnic Area (the closest location with restroom facilities).

Providing a permanent vault restroom, picnic tables, a kiosk, and vehicle barriers at the new Centerville Bluffs Picnic Area would result in a moderate, localized, long-term beneficial impact on the overall recreation experience at this site because recreational opportunities would increase, visitor needs for health and safety would be met, and the surrounding open space and highly scenic landscape would be protected from potential damage caused by inappropriate vehicle use. The open grassy areas surrounding the parking area are relatively level and would provide an undeveloped use area for various activities.

Replacing chain link fence with other types of fence throughout the management area would result in a moderate, long-term beneficial impact on the area's scenic quality.

#### Use Regulations

Restricting bicycles and horses on specific trails would reduce maintenance costs and eliminate any potential conflicts with hikers and visitors with mobility limitations.

Open campfires throughout the management area pose an unacceptable risk of causing wildfires for several reasons. They include (1) the close proximity of private residences, (2) frequent high winds, (3) expansive areas of grass, and (4) large accumulations of driftwood at the mouths of Fleener and Guthrie Creeks. A provision to allow fires in cooking grills at the Centerville Bluffs Picnic Area outside the fire season would not likely pose a fire hazard but would add an important amenity for the visiting public.

Allowing motorized vehicles on maintained roads and parking areas would prevent unwanted soil erosion and would maintain the area's high scenic quality. Prohibiting firearms use and archery hunting would reduce the chance for conflicts between hunters, neighboring landowners and other visitors. Requiring dogs to be leashed in areas where interactions with cattle are likely to occur would reduce the potential of cattle being chased and injured. Some dog owners would most likely choose to recreate at some other nearby area, causing a short-term, minor impact on their recreation experience.

#### **4.11.2 Recreation – Alternative 1**

Impacts on recreation would be the same as the Proposed Action except:

At the Fleener Creek Overlook, improvements in scenic quality would be less than the Proposed Action because the portable restroom would remain in place. Visitors, however, would not be inconvenienced in having to travel to the Centerville Bluffs Picnic Area to use a restroom.

Establishing an archery deer hunting area and allowing a limited number of individuals each year to participate would result in a moderate, localized, long-term benefit to those hunters selected in the draw. Impacts on other visitors such as hikers and picnickers, as well as neighboring landowners, could be highly variable, and range from moderate to negligible depending on a person's comfort level with seeing or even knowing that deer hunting is occurring. Minimization measures such as limiting the number of hunters and defining the hunting area boundary to include mostly the west slope between Fleener Creek and Guthrie Creek where encounters with other recreation uses and activities are not likely to occur, would result in a minor, localized, long-term impact on individuals who are opposed to hunting. Impacts on visitor safety would also be minimized by the small number of individuals allowed to

hunt each year and the remote location of the proposed hunting area. It would be highly unlikely that an arrow would cross over or land on any of the nearby private properties.

#### **4.11.4 Recreation – No Action Alternative**

Impacts on recreation would be the same as the Proposed Action except that:

Recreation opportunities such as hiking, facility-based picnicking, and trail access for individuals with limited mobility would be reduced because the Centerville Bluffs Picnic Area and trail leading to the Fleener Creek Overlook would not be constructed.

Scenic views of the ocean and grassy open areas would continue to be negatively impacted because the chain link fences would remain in place.

The visual quality of the two existing trailheads would continue to be negatively impacted because the portable restrooms would remain in place.

Visitor safety at the Fleener Creek Overlook would continue to be compromised as the parking area's large size allows for inappropriate vehicle use.

#### **4.11.5 Vegetation Management – Proposed Action**

The Proposed Action to graze cattle for suppressing emerging invasive tree seedlings could result in a moderate, localized, short-term impact on visitors. Refer to the discussion under "Grazing Management" below as the impacts, minimization measures, and adaptive management techniques would be the same. Mechanical treatment using either chainsaws or weed eaters would create noise and interfere with a visitor's experience. Due to the short duration of this type of treatment, this impact is considered negligible.

Using chainsaws and heavy equipment to remove trees would result in a moderate, localized, short-term impact on visitors, particularly at Centerville Bluffs East where the new picnic area and trail are located and more concentrated visitor use is likely to occur. During the period when tree removal occurs, this area would be temporarily closed to public use and visitors would have to recreate somewhere else. Other tree removal areas are not likely to receive much visitor use due to the absence of facilities and trails, but they would nevertheless be closed to public use for the time it takes to fall the trees and remove them from the area. Particular sites where slash pile burning and chipping were to occur would also have to be temporarily closed to public use.

#### **4.11.6 Vegetation Management – Alternative 1**

Impacts on recreation would be the same as the Proposed Action.

#### **4.11.7 Vegetation Management – No Action Alternative**

Impacts on recreation would be the same as the Proposed Action.

#### **4.11.8 Grazing – Proposed Action**

The Proposed Action to expand cattle grazing could result in a moderate, localized, short-term impact on visitors recreating in the vicinity of the cattle. Particular areas of concern are the Centerville Bluffs East and Centerville Bluffs North. Some visitors may not want to visit an area where interactions with cattle may occur.

These impacts would be minimized by limiting the grazing period to no more than 6 weeks during the winter when visitor use is low. Additional adaptive management measures could be utilized and include temporarily closing the Centerville Bluffs Trail and surrounding area to public use during the time the cattle are grazing and/or installing a temporary fence adjacent to the trail. Alternatively, cattle could also be removed from the visitor use areas if these minimization measures do not provide a safe and healthy visitor experience.

Cattle grazing could also result in a moderate, localized, short-term impact on the Centerville Bluffs Trail. Trampling of the trail tread could make it unusable by visitors with limited mobility as their wheelchairs need a smooth and level surface for safe travel. Minimization measures described above could reduce or eliminate this impact.

#### **4.11.9 Grazing –Alternative 1**

Impacts on recreation would be slightly less than those identified in the Proposed Action because Centerville Bluffs North would not be grazed.

#### **4.11.10 Grazing – No Action Alternative**

No impacts on recreation would occur because no new areas would be grazed.

#### **4.11.11 Interpretation and Education – Proposed Action**

Providing up-to-date safety information, area maps, brochures, and use regulations at kiosk locations and on BLM’s Arcata office website would have a moderate, long-term beneficial impact on recreation because visitors would know beforehand where safety hazards exist and thus they could avoid them, plan their trip more efficiently, and become familiar with what types of activities are allowed.

Providing interpretive information on wayside exhibits, kiosks, and in an interpretive brochure would have a moderate, long-term beneficial impact on recreation because visitors could learn about the area’s valuable resources and become inspired to protect them for future generations.

Visitors that understand the unique resources found at the Lost Coast Headlands are more likely to feel a sense of connection to the landscape. As this relationship develops it inspires a sense of ownership and respect for the resources and results in long term stewardship. Partnerships with local schools and community groups would assist in this mission.

#### **4.11.12 Interpretation and Education – No Action Alternative**

Impacts on recreation would be slightly less than those identified in the Proposed Action because no information would be provided on BLM’s website, and no wayside exhibits or interpretive brochure would be provided.

#### **4.11.13 Cumulative Effects**

Assessment Area: Humboldt Bay area

### Proposed Action

Growing urban development in Eureka, Arcata, McKinleyville, and Fortuna, and associated population growth is expected to contribute to increased demand for recreational opportunities in the region. Although the region has a diversity of coastal trails, reasonably foreseeable future actions are anticipated to add only limited trail mileage in the area. Positive cumulative impacts would occur for visitors who prefer to access relatively remote beach areas as the Fleener Creek Trail would be open to pedestrian use and Guthrie Creek Trail would be open to hikers, equestrians, and mountain bikers. The new universally accessible trail would have only minor cumulative effects as there are very few coastal trails accessible by wheelchair — the Hammond Trail in McKinleyville being the most notable.

### Alternative 1

No cumulative effects are expected to occur from Alternative 1.

### No Action

No cumulative effects are expected to occur from the No Action Alternative.

## **4.12 Visual Resources**

### **4.12.1 Recreation – Proposed Action**

Maintaining existing trails and trailheads may have a minor beneficial impact on visual resources because visitors prefer to see well-groomed trails rather than trails that appear eroded. Developing the Centerville Bluffs Picnic Area and trail leading to the Fleener Creek Overlook would result in a minor, localized, long-term impact on scenic quality because this area would appear less natural. Reducing the size of the Fleener Creek Overlook and removing the portable restroom would have a moderate, localized, long-term impact on scenic quality because the site would appear more natural. Replacing the portable restroom with a vault restroom at the Guthrie Creek Trailhead would also improve the sites scenic quality. Removing the chain link fences would have a moderate, localized, long-term beneficial impact on scenic quality because of enhanced views of the ocean, open grassy areas, and stands of relatively large trees.

### **4.12.2 Recreation – Alternative 1**

Impacts on visual resources would be slightly greater than those identified in the Proposed Action because the parking area's size at the Fleener Creek Overlook would not be as small and the portable restroom would remain in place.

### **4.12.3 Recreation – No Action Alternative**

Impacts on visual resources would be slightly greater than those identified in the Proposed Action. The Centerville Bluffs Picnic Area and trail would not be constructed, which would maintain the area's naturally appearing landscape. However, the chain link fences would remain in place, resulting in a moderate, localized, long-term impact because the views of the ocean and open grassy areas would continue to be compromised. The parking area's large size

at the Fleener Creek Overlook would continue to detract from the adjacent naturally appearing landscape.

#### **4.12.4 Vegetation Management – Proposed Action**

Eradicating invasive, non-native plants would have a moderate, localized, long-term beneficial impact on scenic quality because most visitors prefer to view native vegetation and removing these shrubs and trees would improve highly scenic views of open grassy areas and the ocean. A minimization measure to cover or grind tree stumps would maintain the area's visual resources. Maintaining pockets of mature cypress and individual eucalyptus trees would add to the variety of visual landscapes, thus improving visual resources. However, removing all the trees along the east fence line at Centerville Bluffs East would expose the existing chain link fence and attract attention to the casual observer. Views to the east would appear more homogeneous without some pockets of cypress trees.

#### **4.12.5 Vegetation Management – Alternative 1**

Impacts would be similar to the Proposed Action as maintaining additional pockets of mature cypress would add to the variety of visual landscapes, thus improving visual resources.

#### **4.12.6 Vegetation Management – No Action Alternative**

Impacts would be moderately greater than the Proposed Action because the thick stands of brush and trees would make it difficult for visitors to view the ocean and open grassy areas.

#### **4.12.7 Grazing – Proposed Action**

Impacts on scenic quality resulting from cattle grazing could range from negligible to moderate depending on the individual. Some visitors do not like to see cattle grazing on public lands, while others prefer to see the grasslands utilized for agricultural production. Within areas where use is expected to be more concentrated, such as the Centerville Bluffs East and North, it is likely there would be a moderate, localized, medium-term impact on scenic quality caused by the cow manure that would be left behind for several months after the cattle have left the area.

#### **4.12.8 Grazing – Alternative 1**

Impacts would be slightly less than the Proposed Action because the Centerville Bluffs North area would not be grazed.

#### **4.12.9 Grazing – No Action Alternative**

No additional impacts, other than what is currently taking place, are expected because no new grazing would occur.

#### **4.12.10 Interpretation and Education – Proposed Action**

No impacts are expected to occur from the Proposed Action.

#### **4.12.11 Interpretation and Education – Alternative 1**

No impacts are expected to occur from Alternative 1.

#### **4.12.12 Interpretation and Education – No Action Alternative**

No impacts are expected to occur from the No Action Alternative.

#### **4.12.13 Cumulative Effects**

Assessment Area: Humboldt Bay area and Eel River Valley

##### Proposed Action

The Humboldt Bay area contains several semi-developed, naturally-appearing public recreation areas of high scenic quality. Facility developments and resource projects adjacent to the coastline and within the coastal zone are carefully evaluated to protect visual resources. Scenic quality is highly vulnerable to incremental effects from development of all sorts.

The project area's visual resources would be slightly improved by implementing actions such as brush and weed removal, and facility maintenance activities. Removing large numbers of trees would have short-term, minor negative visual impacts, but in the long-term, would improve the area's natural-appearing landscape. Overall, the proposed project would result in negligible cumulative effects on visual resources.

##### **Alternative 1**

No cumulative environmental effects are expected to occur from Alternative 1.

##### No Action Alternative

No cumulative environmental effects are expected to occur from the No Action Alternative.

#### **4.13 Fire Management**

##### **4.13.1 Recreation – Proposed Action**

An increase in recreation due to the implementation of this project has the potential to have some impact to fire management and fuels considerations in the area. Considerations currently incorporated into the Proposed Action and alternatives address the concern of an increase in human ignitions by preventing users from having open campfires, clearing vegetation around designated cooking areas in the picnic area, and only allowing fires in cooking grills outside of fire season. Therefore effects of the Proposed Action are expected to be minor.

##### **4.13.2 Recreation – Alternative 1**

Effects of Alternative 1 are expected to be the same as the Proposed Action.

##### **4.13.3 Recreation – No Action Alternative**

Under the No Action Alternative recreation patterns would likely continue at existing levels. Human caused ignitions from visitors would remain at existing levels thus no effects are expected.

##### **4.13.4 Vegetation Management – Proposed Action**

The Proposed Action would have minimal impacts to the fuels characteristics. Current timber stand densities do not represent a serious problem to fuel loadings, fire behavior, and resistance to control. In the longer term, however, continued spread of invasive pine could result in a major change to the fuel loadings in the area. The Proposed Action would reduce this

change. While tree removal may generate some slash, each alternative would include measures to eliminate or mitigate fuels accumulations from these activities as necessary.

#### **4.13.5 Vegetation Management – Alternative 1**

The changes in Alternative 1 to the Proposed Action do not significantly affect the impacts to fire management and fuels considerations. While the additional trees that would be removed do not currently contribute to fire behavior and fuel loadings, in the long term elimination of the seed bank may help to limit hazardous fuel loadings from developing.

#### **4.13.6 Vegetation Management – No Action Alternative**

Under the No Action Alternative invasive trees would continue to expand. In the longer term, increasing stand densities and associated fuel loadings would lead to increased fire behavior under very dry conditions. If the area gradually transitions from what is primarily a grass fuel model to a timber fuel model, fires would burn hotter and be more resistant to control.

#### **4.13.7 Grazing – Proposed Action**

The grazing actions in the Proposed Action would maintain and reduce fuel loadings at or below their current levels. A decrease in fine fuel (grasses) accumulations would slightly decrease fire behavior in the rare event of an ignition under very dry conditions.

#### **4.13.8 Grazing – Alternative 1**

Eliminating grazing from the Centerville Bluffs area would allow fine fuels to grow taller than under grazed conditions. These increased fuel accumulations would contribute to a slight increase in fire behavior in the rare event of an ignition under very dry conditions.

#### **4.13.9 Grazing – No Action Alternative**

Under the No Action Alternative, no additional grazing beyond current use would be considered. Fuels would continue to be reduced as they have been under current grazing patterns.

#### **4.13.10 Interpretation and Education – Proposed Action**

No effects to Fire Management or Fuels considerations.

#### **4.13.11 Interpretation and Education – Alternative 1**

No effects to Fire Management or Fuels considerations.

#### **4.13.12 Interpretation and Education – No Action Alternative**

No effects to Fire Management or Fuels considerations.

#### **4.13.13 Cumulative Effects**

Assessment Area: CALFIRE Humboldt- Del Norte Direct Protection Area (DPA)

#### Proposed Action

The limited changes resulting from recreation will have no impact on overall fire management in the DPA. Vegetation treatments may reduce seed sources and thus potential fire behavior on

adjacent parcels, however the acreages involved are very small and the net effect will also be extremely limited. No effect.

#### Alternative 1

Minor differences from Proposed Action. No effects are expected.

#### No Action

No effects are expected.

### **4.14 Law Enforcement and Public Safety**

#### **4.14.1 Recreation – Proposed Action**

The improvements to recreation facilities and trails may lead to increased visitor use. Increased use may lead to a decrease in criminal activities such as vandalism and drug use because individuals who engage in those activities often seek isolated areas in order to reduce the probability of detection. If the area became more frequently visited this would reduce the probability that such activities would go undetected by the public. The amount of any reduction in criminal activities is probably small and may change with season and weather conditions.

#### **4.14.2 Recreation – Alternative 1**

The impacts of this alternative would be similar to the Proposed Action except that this alternative also includes a limited archery deer hunt. Implementing this hunt may require a small increase in law enforcement presence during the duration of the hunt.

#### **4.14.3 Recreation – No Action**

No impacts are expected.

#### **4.14.4 Vegetation Management – Proposed Action, Alternative 1, and No Action**

No impacts are expected.

#### **4.14.5 Grazing -- Proposed Action, Alternative 1, and No Action**

No impacts are expected.

#### **4.14.6 Interpretation and Education – Proposed Action**

Public outreach and interactions with schools are likely to result in a long-term decrease in criminal activity and an increase in public safety. The proposed interpretation and education program may increase the understanding and appreciation of the area by a large proportion of the local community and, over time, result in a decreased level of property crimes that harm the area's scenic and natural character.

#### **4.14.7 Cumulative Effects**

Assessment Area: Eel River Valley

### Proposed Action and Alternative 1

The Proposed Action may result in a small decrease in vandalism and drug use in the management area. Such activities would likely not decrease but be displaced to other nearby locations. Therefore no cumulative effects are expected.

The Proposed Action may result in a decreased level of property crimes in the management area. This effect would likely be small in comparison to the level of property crime that occurs throughout the assessment area and therefore no cumulative effects would be expected.

### No Action

No cumulative effects are expected.

## **4.15 Solid Waste and Hazardous Materials**

### **4.15.1 Recreation – Proposed Action and Alternative 1**

No impacts are expected given that prior to excavation for the construction of any improvements BLM would review documents in the administrative record for Centerville Beach Naval Facility to determine proximity to sites where spills are known or suspected to have occurred. If excavation is planned for areas where residual pollutants may be encountered, a hazardous materials specialist should be consulted to determine if soil sampling or other special precautions should be taken.

### **4.15.2 Recreation – No Action**

No impacts are expected.

### **4.15.3 Vegetation Management – Proposed Action, Alternative 1, and No Action**

No impacts are expected.

### **4.15.4 Grazing – Proposed Action, Alternative 1, and No Action**

No impacts are expected given that prior to excavation for the construction of any improvements BLM would review documents in the administrative record for Centerville Beach Naval Facility to determine proximity to sites where spills are known or suspected to have occurred. If excavation is planned for areas where residual pollutants may be encountered, a hazardous materials specialist should be consulted to determine if soil sampling or other special precautions should be taken.

### **4.15.5 Interpretation and Education – Proposed Action, Alternative 1, and No Action**

No impacts are expected.

### **4.15.6 Cumulative Effects**

No cumulative effects are expected.

## **4.16 Air Quality**

No impacts to air quality are expected from any of the management alternatives.

## Chapter 5 – Consultation and Coordination

### 5.1 Tribes, Individuals, Organizations and Agencies Consulted

The following persons, organizations, and agencies were consulted during preparation of this analysis. Inclusion of an organization or individual's name below should not be interpreted as their endorsement of the analysis or conclusions.

The public scoping period was held from May 1, 2010 through July 1, 2010. In addition, the BLM recorded public comments at a public scoping meeting on May 25, 2010 at the Town Hall in Ferndale, California. A total of 18 people wrote their names on the sign-in sheet for the public meeting. In addition to comments recorded at the public meeting the BLM received five e-mail comments from individuals.

In addition, the California Department of Fish and Game, California Coastal Commission and California Department of Forestry and Fire Protection were contacted.

#### 5.1.1 Summary of Scoping Comments

##### Comment summary

The following public comments were provided by commenters during the public scoping meeting and through written letters or e-mails. The letters and e-mails are available for review at the Arcata Field Office.

##### Recreation Use

- Allow archery and short range weapon hunting
- Allow muzzleloader hunting
- Concerns with hunting on grazed lands
- Concerns that hunting is not compatible with current land tenure
- Concerns with safety issues associated with hunting
- Would like to see the area open for day use only
- Concerns about campfires getting out of control
- If camping is allowed it should be limited and supervised
- If camping is allowed law enforcement should be readily available
- If camping is allowed it must be regulated and controlled
- Move Fleener Creek Trailhead and replace restroom with vandal-proof restroom
- BLM should keep area closed to vehicles
- Do not close currently open areas to ATVs

### Neighboring Private Land and County Road

- Road needs increased safety such as signs warning visitors of blind curves
- Concern with increased traffic on county road
- Concerns with vandalism
- Concerns with lack of BLM law enforcement in area
- ATV use on county road is dangerous
- Concerns with public access and vandalism

### Ecosystem restoration

- Need to control and/or eradicate invasive broom species
- Plant young native trees prior to removing large non-native trees
- Large trees next to road should be removed

### Grazing

- Would like the lands to be grazed
- Concerns with conflicts between recreation and grazing

### Community Outreach

- BLM should provide interpretive talks
- BLM should work with local schools to educate community about the area

### General

- Management between jurisdictions should be consistent
- Concern with general lack of BLM resources
- Natural gas and mineral development should be addressed in the Plan
- Proposed Bear River Ridge wind farm may affect area

### 5.1.2 List of Preparers

Lynda Roush	Field Manager	Management Direction
Kathy Stangl	Assistant Field Manager	Management Direction
Chris Heppe	Assistant Field Manager	Management Direction
David Fuller	Planning and NEPA Coordinator, Fisheries Biologist	Team lead, Fisheries, Riparian Water Quality, Social and Economic
Bruce Cann	Recreation Planner	Recreation, Visual Resources, Transportation
Jennifer Wheeler	Botanist	Vegetation, Invasive, Non-native Species, Climate Change, Grazing
Brad Job	Engineer	Hazardous Materials
Jesse Irwin	Wildlife Biologist	Wildlife
Henry Harrison	Forest Ecologist	Vegetation Management
Dan Wooden	Fuels Specialist	Fuels, Vegetation Management
Tim Jones	Fire Management Officer	Fire, Fuels Management
Paul Fritze	Geographic Information System (GIS) Specialist	Mapping
Clara Sanders	Realty Specialist	Realty
C. David Johnson	Archaeologist	Cultural Resources
Sam Flanagan	Geologist	Geology, Soils
Jeff Knisley	Supervisory Law Enforcement Ranger	Law Enforcement

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