Part 3 – Resource Management

This part of the General Plan focuses on the natural environment and how land use activities interact with it. Included in this part are the Conservation and Open Space elements, which are required pursuant to California planning law. It also includes the optional Water Resources, Energy, and Air Quality elements.

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Chapter 10. Conservation and Open Space Elements

10.1 Combined Element Organization

This chapter combines the Plan's required Conservation Element and Open Space Elements. The Conservation Element guides the conservation, development, and utilization of natural resources (water, forests, soils, rivers, mineral deposits, and others), while the Open Space Element guides the comprehensive and long-range preservation and conservation of open-space lands. Together, these elements present a framework of goals and policies for use and protection of all the natural resource and open space assets of the county.

Because these two elements naturally overlap, they have been combined into this single chapter, which has been organized into six related sections: Open Spaces, Biological Resources, Mineral Resources, Waste Management, Cultural Resources, and Scenic Resources. The relationship of these sections to the two elements of this chapter and other elements in this Plan is set forth in Table 10-A.

10.1.1 Relationship to Other Elements

State planning law provides a detailed description of open space lands and the topics that must be addressed in the Conservation and Open Space Elements. These topics include:

- **Open Space for the Preservation of Natural Resources**—areas required for the preservation of plant and animal life, such as habitat for fish and wildlife and areas required for ecological and other scientific study (for example: rivers, streams, bays and estuaries, coastal beaches, lakeshores, riverbanks, and watersheds).
- **Open Space for the Managed Production of Resources**—including forest lands, rangelands, agricultural lands, and areas of economic importance for the production of food or fiber; areas required for recharge of ground water basins; areas that are important for the management of commercial fisheries; and areas containing major mineral deposits.
- **Open Space for Outdoor Recreation**—areas of outstanding scenic, historical, and cultural values; areas suited for park and recreational purposes (for example: access to lake shores, beaches, rivers, and streams); and areas that serve as links between major recreation and open-space reservations such as highway corridors, trails, and utility easements.
- **Open Space for Public Health and Safety**—areas that require special management or regulation because of hazardous conditions such as earthquake fault zones, floodplains, high fire hazard areas, and areas required for the protection of air and water resources; areas designed for fuel breaks, fire access, and fuel reduction zones; and historical natural hazard boundaries (for example: inundation areas, landslide paths, debris flows, and earthquake faults).

- **Open Space for military bases, installations, and operating and training areas** — areas adjacent to military installations, military training routes, and underlying restricted airspace that can provide additional buffer zones to military activities and complement the resource values of the military lands. [Mitigation Measure 3.1.3.2.b]

- **Open Space for Native American historic, cultural or sacred site** — Open space for the protection of places, features, and objects described in Sections 5097.9 and 5097.993 of the Public Resources Code. [Mitigation Measure 3.1.3.2.b]

These open space areas and topics are covered throughout the General Plan as detailed below and in Table 10-A:

Open Space for the Preservation of Natural Resources

- Maintenance of natural resources and public lands managed for resource protection are addressed in the Land Use Element.
- Preservation of fish, plants, and wildlife, including protection of rivers and streams is a main topic of the Biological Resources section of this element.
- Protection of watersheds and their water resources is covered in the Water Resources Element.
- Bay, estuary, and coastal beach protections can be found in the coastal plans.

Open Space for the Managed Production of Resources:

- Timber and agricultural production topics are contained in the Forest and Agricultural Resources section of the Land Use Element.
- Production of mineral resources, including rock, sand, and gravel, are addressed in the Mineral Resources section of this element.

Open Space for Outdoor Recreation:

- Public lands managed for public recreation and open space are addressed in the Land Use Element and the Community Infrastructure and Services Element.
- Demands for trails and trails oriented recreational uses and bikeways are primarily covered in the Circulation Element.
- Protection of scenic, historic, and cultural assets, including Native American cultural heritage resources, is the primary topic of the Cultural and Scenic Resources section of this Element.
- Coastal access and recreational is a major topic of the Coastal Plans.

Open Space for Public Health and Safety:

- Policies to minimize risks and manage development in hazardous areas are included in the Land Use Element and the Safety Element.
- Community design and circulation for public health is a topic of the Circulation Element and the Land Use Element.
- Policies to retain publicly owned corridors for future trail use are found in the Circulation Element.
- Policies to integrate city and county trail routes with state trail systems are

included in the Circulation Element. The Water Resources Element addresses water supply and water quality. The Air Quality Element addresses the protection and enhancement of air quality.

Open Space for military bases, installations, and operating and training areas:

- Narrative description of these open space lands and a map showing their locations is included in the Safety Element.
- Policies to minimize impacts to military trainings areas are included in the Safety Element.
- Policies to provide notification to the military are included in the Safety Element. [Mitigation Measure 3.1.3.2.b]

Open Space for Native American historic, cultural or sacred site:

- Narrative description of these open space lands is included in the Cultural Resources Section of the Conservation and Open Space Elements.
- Policies relating to Native American Tribal consultation are included in the Cultural Resources Section of the Conservation and Open Space Elements.
- Policies relating to the identification, protection, and enhancement of cultural resources are included in the Cultural Resources Section of the Conservation and Open Space Elements. [Mitigation Measure 3.1.3.2.b]

Table 10-A Conservation and Open Space Policy Summary	
Policy Summary	**General Plan Elements/Sections**
Open Space for the Preservation of Natural Resources Maximize the long-term public and economic benefits from the biological resources within the county by maintaining and restoring fish and wildlife habitats.	Conservation and Open Space Element, Biological Resources Section Water Resources Element
Sustainable Development of Natural Resources / Open Space for Managed Production of Resources	
<u>Forest Resources</u> ▪ Actively protect and conserve timberlands for long-term economic utilization and to actively enhance and increase county timber production capabilities.	Land Use Element, Forest and Agricultural Resources and Land Use Maps
<u>Agricultural Resources</u> ▪ Promote and increase Humboldt County's agricultural production and the economic viability of its agricultural operations. ▪ Conserve agricultural land for continued agricultural use. ▪ Protect working landscapes.	Conservation and Open Space Element
<u>Mariculture</u> ▪ Support mariculture expansion with permit coordination and streamlining, improved dock and processing facilities, and pubic education.	Economic Development Element
<u>Water Resources</u> ▪ Maintain or enhance the quality of the county's water resources and the fish and wildlife habitat utilizing those resources. ▪ Maintain a dependable water supply, sufficient to meet existing and future domestic, agricultural, industrial needs and to assure that new development is consistent with the limitations of the local water supply.	Water Resources Element
<u>Mineral Resources</u> ▪ Assure the long-term availability of adequate supplies of mineral resources and construction materials, to protect mineral resource areas from incompatible land uses, and to minimize adverse environmental impacts.	Conservation and Open Space Element, Mineral Resources
<u>Energy Resources</u> ▪ Develop and implement countywide strategic energy planning. ▪ Increase energy efficiency and conservation. ▪ Increase the supply of energy from renewable sources, distributed generation, and cogeneration. ▪ Pursue opportunities for local management of energy supply. ▪ Move toward self-sufficiency in energy use, with maximum reliance on local renewable resources for local energy needs.	Energy Element

Table 10-A. Conservation and Open Space Policy Summary	
Policy Summary	**General Plan Elements/Sections**
Sustainable Development of Natural Resources / Open Space for Managed Production of Resources (continued) Fish and Wildlife ▪ Maximize, where feasible, the long-term public and economic benefits from the biological resources within the county by maintaining and restoring fish and wildlife habitats. **Open Space for Outdoor Recreation & Cultural and Scenic Values** ▪ Provide for compatible recreation opportunities on forestland. ▪ Encourage a safe, efficient, and enjoyable county transportation and trails system for the transportation and recreation needs of bicyclists, equestrians, hikers, and joggers. ▪ Increase participation in active recreational opportunities. ▪ Maximize public access to and along the coast. ▪ Provide for recreation needs of residents with public parks in the urban study areas. ▪ Provide for the protection and enhancement of cultural resources including Native American cultural heritage resources. ▪ Provide park and recreation opportunities in the county. ▪ Develop a program to coordinate acquisition of important open space property through conservation easements and other mechanisms. ▪ Promote the individual identities of communities by maintaining scenic open space areas between cities and communities.	Conservation and Open Space Element, Biological Resources, Water Resources Element Land Use Element – Forest Resources Circulation Element Community Infrastructure and Services Element Conservation and Open Space Element: Cultural and Scenic Resources Conservation and Open Space Element
Open Space for Public Health and Safety Minimize the potential for loss of life and property resulting from natural and manmade hazards.	Safety Element
Open Space for Military Training Areas • Minimize impacts to military trainings areas • Provide notification to the military of projects that could affect military readiness. [Mitigation Measure 3.1.3.2.b]	Safety Element

Section 10.2 Open Space

10.2.1 Purpose

This subsection of the Conservation and Open Space elements addresses the conservation of open space lands, including issues related to working lands and park lands, the orderly development of residential land, and coordination with other agency programs related to conserving open space lands. Open spaces distinguish and showcase the county's natural environment and rural lands and provide attraction and enjoyment to residents and visitors.

10.2.2 Background

Humboldt County has vast and beautiful natural resources, areas of incomparable ecological value and a wealth of outdoor recreational opportunities. These are the defining characteristics of Humboldt County and represent its most significant environmental, social and economic assets. Approximately 1.4 million of the county's 2.3 million acres are used for agricultural and timber production. More than 550,000 acres are protected open space, forests, and recreation areas. Within county boundaries, there are 4 federal parks and beaches; 10 state parks; and 16 county parks and beaches, recreational areas, and reserves. There is also considerable National Forest land, as well as a number of city parks and open space areas owned by non-profit conservation groups. Conserving and protecting these assets to benefit multiple generations is a key goal of the General Plan.

State law (Government Code 65560 et seq.) requires a local open-space plan (element) for the comprehensive and long-range preservation and conservation of open-space land within its jurisdiction, and that the open space plan contain an action program that identifies how the plan or element is to be implemented.

10.2.3 Open Space Action Program

Table 10-A summarizes the goals from various sections of the general plan that outline the comprehensive and long-range preservation and conservation of open-space land. The County's open space action program includes the policies, standards, and implementation measures intended to achieve these goals. The County's strategy involves identifying and mapping significant natural resources and open spaces and implementing conservation and protection policies through zoning, project review, and proactive programs. Zoning designations will apply natural resource and open space development standards to individual properties. Discretionary projects will be evaluated for conformance with conservation and open space policies and standards of this Plan and the requirements of the California Environmental Quality Act (CEQA). Standards for the issuance of building permits and subdivision approvals are required by state law (Government Code Section 65567) to be consistent with Open Space Element policies.

The County will continue to implement state programs such as the Williamson Act and the Timberland Productivity Act, and work with the Coastal Commission for consistent implementation of the Coastal Act and other relevant state and federal resource agencies for implementation of other resource protection laws and programs. Several regulatory agencies manage parks, recreation, and open space resources in the county, including the U. S. Forest Service (USFS), Bureau of Land Management (BLM), California State Parks Department, California Department of Fish and Game, Native American tribes, local city governments, and the County itself. The County will coordinate with federal and state agencies involved with managing resource land, as well as cities and tribes.

The County will seek to expand its ability to implement and sustain voluntary natural resource and open space protection programs such as the County's existing Conservation and Recreation Easement Program. The County will also participate in regional conservation efforts such as the Five County Salmon Conservation Plan and the Integrated Regional Water Management Plan.

The County will work to protect and develop outdoor recreation areas and opportunities necessary to maintain competitiveness as a tourist destination and as a desirable place to work and conduct business.

To maintain working landscapes, the County will refrain from measures that reduce the economic viability of continued timber, mining, and agricultural operations and lobby for more efficient application of state and federal regulatory standards. The County will also work to improve the infrastructure and workforce necessary for the forest products and agriculture industries and help promote innovative forest and agriculture products.

Conservation and Recreation Easement Program

Program Description

In July 2004, the Board of Supervisors initiated a county-level program to preserve Humboldt County working lands and improve access to public lands. This Conservation and Recreation Easement Program (the "Program") will be further developed to implement a full range of General Plan conservation and open space goals. Currently, the Program provides support for conservation easements, including new Williamson Act contract fees and public access easements. The Program provides small grants to facilitate conservation and open space easements and pays processing fees for owners enrolling new lands in the Williamson Act program. The Program also helps secure non-motorized access to public lands to support hunting, fishing, and recreational use.

The goals of the Program are as follows:

1. Position the County as an active participant in local conservation and preservation activities.
2. Implement General Plan conservation and open space policies, including the conservation of working lands and access to public lands.
3. Create cooperative working relationships with local land trust and conservancy organizations.
4. Provide incentives for voluntary participation by producers and landowners in the conservation of working lands.
5. Provide non-motorized access to public lands for hunting, fishing, and recreational uses.

Program strategies will focus on incentive-based, voluntary, and cooperative approaches to implementing access and conservation easements in the county. The County GIS will be used to identify, inventory, and prioritize working lands that may be eligible and appropriate for the Program. With the input of Program partners, potential benefits of placing conservation easements on particular parcels can be examined in light of specific threats or development pressures. Partners will include local land trusts, the Humboldt Farm Bureau, agricultural and timber interest groups, and agencies that fund easements or manage public lands. Access easement will be explored with groups concerned with non-motorized access to public lands for hunting, fishing, and other recreational purposes, as well as with affected public lands agencies.

Legal Lots and Open Space Provisions

Parcels have legal status if at the time they were created applicable laws were followed.

For older lots the Subdivision Map Act sets out a process that a property owner can use to determine if a parcel was created legally and can be considered a separate legal parcel under the law. This "Determination of Status" process results in the issuance of a Certificate of Compliance or Conditional Certificate of Compliance depending upon the legal status of the property.

Patent Parcels

A land patent is the right of ownership to a parcel of land usually granted by the federal or state government to an individual or private company. Over 18,000 patent parcels have been issued in Humboldt County. Based on historical records, the County has been able to map over 17,000 of these parcels. A number of these have been altered by subdivision, lot line adjustments, and mergers and do not retain their original status. The mapped parcels range from a fraction of an acre to over 11,000 acres, with an average size of 153 acres. Within Timber Production Zones TPZ, 7,304 original patents were mapped, with sizes ranging from 5 to 2,227 acres, with an average size of 136.5 acres.

Owning a legal lot does not necessarily guarantee the right of development. Modern lots created through the subdivision process were required to undergo review for consistency with a General Plan and development standards such as access, sewage disposal, water supply, and resource protection. This process guaranteed their suitability for development. Lots that were created legally but without these considerations may not be suitable for development; for example, the entire parcel may be located in a floodway or wetland. Because Open Space Element protection policies must be considered before issuing a building permit (Government Code Section 65567) development potential on legal lots can be restricted.

10.2.4 Goals and Policies

Goals

CO-G1. Conservation of Open Spaces. Open spaces that distinguish and showcase the county's natural environment, including working resource lands while not impacting the ability to provide livelihoods, profitable economic returns and ecological values.

CO-G3. Conservation and Open Space Program. An Open Space and Conservation Program that implements this Element's policies and is complimentary to the conservation and open space lands and programs of cities, tribes, and state and federal agencies while respecting private property rights.

CO-G4. Parks and Recreation. Well maintained and accessible parks offering a range of popular recreation opportunities and a regional trail system that meets future recreational and non-motorized transportation demands**.**

CO-G5. Open Space and Residential Development. Orderly residential development of open space lands that protects natural resources, sustains resource production, minimizes exposure to natural hazards, and seeks to minimize the costs of providing public infrastructure and services.

CO-G6 **Community Separation**. Open space areas between urban development areas that separate and preserve unique identities of the county's cities and communities.

Policies

CO-P1. **Conservation and Open Space Program.** The County shall inventory and appropriately zone conservation, resource and open space lands and work to maintain these lands through discretionary or ministerial review, Williamson Act programs, TPZ zoning designations, conservation easement and recreation programs, and support for continued resource production.

CO-P1x. **Transfer of Development Rights.** Research and develop, if feasible, a voluntary transfer of development rights program as a method of protecting resource lands and open space based on community input.

CO-P1xx. **Open Space Acquisition**. The County may consider opportunities to acquire high value open space lands, including community forests, and open space conservation easements from willing sellers.

CO-P2. **Support for Working Lands.** The County shall support policies that maintain profitable resource production on timber and agricultural lands as a means to secure long-term protection and sustainability of open space lands through programs such as the Williamson Act and Timber Production Zone programs.

CO-P3. **Conservation Easements.** Support conservation easement programs that protect natural resource and open space assets. Where private and/or non-profit options do not exist or are not needed, the County may consider accepting voluntary offers of conservation easements that generate economic returns to the landowners and continued resource production, in exchange for permanent protection of natural resource and open space values.

CO-P4. **Community Separation.** Maintain separation of urbanized communities through appropriate land use designations and zoning density. Avoid merging urban development boundaries of adjacent communities.

CO-P4X **Development within Community Separation Areas.** Retain a rural character and promote low intensities of development in community separation areas, consistent with the LAFCo process. Provide opportunities for transfer of development rights in exchange for permanent open space preservation within community separation areas.

CO-P5. **Planning for Recreational Needs within Communities**. Policies addressing community recreational needs shall be prepared as part of planning efforts within each community. Implement park in-lieu fee programs in major communities.

CO-P6. **Develop and Maintain County Parks.** Secure, develop, and maintain county parks and recreation areas that are highly accessible to the public in order to serve the present and future needs of county residents.

CO-P7. **Encourage Private Outdoor Recreation.** Encourage private acquisition, development, and management of compatible outdoor recreational services and facilities as a means to generate economic returns for the landowner from conservation and open space lands where such recreational uses do not significantly detract from the agricultural capability or timber productivity of lands planned and zoned for agriculture or timber.

CO-Px4. **Public Recreation.** Support acquisition, development and management of parklands and trails primarily in locations that are highly accessible to the public in order to serve the outdoor recreation and ADA needs of current and future residents, and where such uses do not reduce the agricultural capability, timber productivity and ecological services on open space lands.

CO-P8. **Development Review.** Development proposed on conservation and open space lands shall be reviewed for consistency with Conservation and Open Space Element policies.

10.2.5 Standards

CO-S1. **Identification of Local Open Space Plan.** The County's local open space plan consists of the goals, policies, standards, and implementation measures of the following sections of this general plan:

A. Preservation of Natural Resources:
   1. Sections 10.1 and 10.2 - Conservation and Open Space
   2. Section 10.3 – Biological Resources
   3. Chapter 11 – Water Resources Element

B. Managed Production of Resources:
   1. Section 4.5 – Agricultural Resources
   2. Section 4.6 – Forest Resources
   3. Section 10.4 – Mineral Resources
   4. Chapter 12 – Energy Element

C. Outdoor Recreation, and Cultural and Scenic Values:
   1. Section 4.7 – Public Lands
   2. Section 10.6 - Cultural Resources
   3. Section 10.7 – Scenic Resources
   4. Chapter 7 - Circulation

D. Public Health and Safety:
   1. Chapter 14 – Safety Element
   2. Chapter 15 – Air Quality Element

CO-S2. **Identification of the Open Space Action Program.** The specific programs which are intended to implement the open space plan:

A. The following land use designations:
   CF, NR, OS, PR, P, MR/, T, TC, AE, AG, and AEG.

B. The following zoning classifications:
   1. Agriculture Exclusive (AE)

2. Timber Production Zone (TPZ)
3. Commercial Timber (TC) [Coastal Zone]
4. Natural Resources (NR) [Coastal Zone]
5. Public Recreation (PR)

C. The following combining zone classifications:
1. Archaeological Resource Combining Zone (A)
2. Alquist-Priolo Combining Zone (G)
3. Streams and Riparian Corridors Protection Combining Zone (R)
4. Flood Hazard Combining Zone (F)
5. Alquist-Priolo Fault Hazard (G)
6. Mineral Resources Combining Zone (MR) [Coastal Zone]
7. "T" Combining Zone [Coastal Zone]
8. **Streamside Management Areas and Wetlands (WR)**

D. The following plan overlay areas:
1. FEMA mapped flood hazard zones
2. Sensitive cultural resource area
3. Special biological areas
4. Streamside Management Areas and Other Wet Areas
5. Areas mapped of geologic instability
6. Areas mapped as Very High Fire Severity hazard
7. Critical Water Supply
8. Critical Watersheds

E. The implementation measures of the chapters and sections listed in CO-S1.

CO-S3. Conservation and Open Space Element Consistency Determination. No building permit may be issued, no subdivision map approved, and no open space ordinance adopted unless the proposed action is consistent with the local open space plan as identified in CO-S1 and CO-S2 above.

CO-S4. Open Space Consistency Determination on Legal Non-Conforming Parcels. Require an open space consistency determination, based upon the conformance with General Plan density and open space development policies, for the development of residential structures based upon the following standards:

A. Legal Non-Conforming residentially designated lots may be developed with a residential structure if:

1. the lot was lawfully created, regardless of whether or not development of the lot would be consistent with the density of the General Plan. A Special Permit is required for the development of a residential structure on a substandard lot located wholly within a flood hazard zoned or a Streamside Management Area (SMA) or Other Wet Area (OWA).

B. Resource production, open space, and public land designated lots may be developed with a residential structure if:

1. the lot was lawfully created for uses other than utility or right of way purposes.

CO-S5. Lot Line Adjustments on Resource Lands. Lot line adjustments for lands planned for resource production may be allowed to create logical management units where densities are met and there is no resulting increase in the number of building sites.

CO-S6 Development in Community Separation Areas. New development within community separation areas shall:

A. Site and design structures to take maximum advantage of existing topography and vegetation in order to substantially screen structures from view along scenic corridors.

B. Minimize cuts and fills on hills and ridges.

C. Minimize the removal of trees and other mature vegetation.

D. Install landscaping consisting of native vegetation in natural groupings that fit with the character of the area in order to screen structures from view where existing topography and vegetation would not screen structures from view from scenic corridors.

E. Design structures to use building materials and color schemes that blend with the natural landscape.

F. Cluster structures on each parcel within existing built areas to the maximum extent feasible.

G. Locate building sites and roadways to preserve natural features, native vegetation and existing trees.

CO-S7 Subdivisions in Community Separation Areas. Subdivisions in community separation areas shall:

A. Ensure developments are subordinate to or consistent with the viewscape, from the point of view of public roadways and public trails.

B. Reduce visual impact where consistent with the Land Use Element by clustering.

C. Locate building sites and roadways to preserve natural features and native vegetation.

D. Where appropriate, encourage the dedication of permanent open space easement at the time of subdivision

CO-S7X. Location of Community Separation Areas. Community Separation Areas consist of the following areas:

A. The Forested Hillside Area in Figure 3 of the McKinleyville Community Plan.

B. The McKay Community Forest Phase 1 and Conservation Easement Area shown.

10.2.6 Implementation Measures

CO-IM1. Conservation and Recreation Easement Program. Provide staffing and secure

continued funding to support the Williamson Act Program and continue the County's Conservation and Recreation Easement Program as a means to maintain and protect working landscapes, priority open space lands, and outdoor recreational opportunities.

CO-IM2. Working Landscapes. Advocate for state and federal regulatory policy that sustains profitable resource production as a means to sustain the conservation and open space values of forest and agricultural land. Support market development efforts that maximize financial returns to the landowner for agriculture and timber products, recreation, and ecological services.

CO-IM3. Review of New Development for Impacts on Recreational Resources. Seek input from Parks and Recreation Division staff regarding land use planning decisions related to recreational opportunities in the county.

CO-IM4. Pursuit of Funding. The County shall maintain its Parks and Recreation Program within Public Works and shall pursue state and federal grant funding for the acquisition and maintenance of recreational facilities, trails, and other programs consistent with this Plan.

CO-IM5. Zoning Ordinance Revision for Open Space Consistency Determinations. Revise the Zoning Regulations governing development in open space lands to guide development consistency determinations pursuant to Government Code Section 65567**.**

Section 10.3 Biological Resources

10.3.1 Purpose

This section addresses biological resources including wildlife, fisheries, special status species and their habitats; it is a subsection of the Conservation and Open Space Element. Biological resource considerations are also reflected in the policies and development standards of the Land Use Element. For example, the list of primary and compatible uses in a given zone can be reflective of wildlife and fisheries considerations. Policies within the Growth Planning section of the Land Use Element (Chapter 4) have been developed to balance the need for growth with the need to protect biological resources. Finally, there are additional biological resource considerations reflected in the County's Local Coastal Program to achieve consistency with the California Coastal Act.

10.3.2 Background

Humboldt County is part of California's Klamath/North Coast bioregion. The major terrestrial habitat types in the county are coniferous forests (61%), oak woodlands (21%), and grasslands (10%). They represent a vast store of plant species and are home to numerous animals including deer, fox, elk, bears, and mountain lions. Nearly 400,000 acres of the county's mountains and coastline are within state and national park systems, leaving large tracts of existing terrestrial habitat in a natural condition.

A signature asset of the county is its aquatic habitats, including rivers, estuaries, and wetlands. Humboldt Bay, one of California's largest coastal estuaries, is second only to San Francisco Bay in size. The bay is home to many invertebrates, fish, birds, and mammals. Humboldt's rivers and the ocean off the coast have tremendous productive potential. In the seventies, over half of the fish produced and consumed in California were landed in the Humboldt Bay Area. Restoring this biological productivity to the region, especially the recovery of threatened Coho salmon and steelhead, is a high priority of this Plan.

In total, there are more than 20 species of plants and animals listed as Endangered or Threatened under federal and state classification systems in Humboldt County. Making land use decisions consistent with the special protections afforded these species is also a high priority of this Plan.

The County's biological resource conservation strategy relies on an understanding and mapping of the locations and extent of sensitive and critical biological habitat. Known habitats can then be protected for future generations by applying conservation policies and standards to development that has the potential for significant adverse effects. For example, new development in proximity to wetlands will trigger protective measures. Riparian corridors will be protected from encroachment with development restrictions. The protective measures will serve to minimize habitat loss and degradation with an emphasis on the protection and restoration of endangered or threatened species.

Sensitive and Critical Habitats

When habitat requirements for a specific species of plant or wildlife are in short supply because either the habitat is limited to a small geographical area or is threatened by rapidly changing conditions, then the habitat is designated in this Plan as *sensitive*. A *critical* habitat is a type of sensitive habitat that is presently threatened, and reduction or loss would cause the extinction of a federal or state listed threatened, rare, or endangered species.

Sensitive Habitats

The protection of sensitive habitats is an important part of planning and environmental assessment for land use development. Impacts to sensitive habitats must be assessed under the California Environmental Quality Act (CEQA), and the Open Space and Conservation elements of the General Plan (Government Code, Sections 65302(d) and (e) and 65560-65567).

10.3.3 Goals and Policies

Goals

BR-G1. **Threatened and Endangered Species.** Sufficient recovery of threatened and endangered species to support de-listing.

BR-G2. **Sensitive and Critical Habitat.** A mapped inventory of sensitive and critical habitat where biological resource protection policies apply.

BR-G3. **Benefits of Biological Resources.** Fish and wildlife habitats protected on a sustainable basis to generate long-term public, economic, and environmental benefits.

Policies

BR-P1. **Compatible Land Uses.** Area containing sensitive habitats shall be planned and zoned for uses compatible with the long-term sustainability of the habitat. Discretionary land uses and building activity in proximity to sensitive habitats shall be conditioned or otherwise permitted to prevent significant degradation of sensitive habitat, to the extent feasible consistent with California Department of Fish and Wildlife guidelines or recovery strategies.

BR-P2. **Critical Habitat.** Discretionary projects which use federal permits or federal funds on private lands that have the potential to impact critical habitat shall be conditioned to avoid significant habitat modification or destruction consistent with federally adopted Habitat Recovery Plans or interim recovery strategies.

BR-P4. **Development within Stream Channels.** Development within stream channels shall be permitted when there is no lesser environmentally damaging feasible alternative, and where the best feasible mitigation measures have been provided to minimize adverse environmental effects. Development shall be limited to essential, non-disruptive projects as listed in Standard BR-S6 - Development within Stream Channels.

BR-P5. **Streamside Management Areas.** To protect sensitive fish and wildlife habitats and to minimize erosion, runoff, and interference with surface water flows, the County shall maintain Streamside Management Areas, along streams including intermittent streams that exhibit in-channel wetland characteristics and off-channel riparian vegetation.

BR-P6. **Development within Streamside Management Areas.** Development within Streamside Management Areas shall only be permitted where mitigation measures (Standards BR-S8 - Required Mitigation Measures, BR-S9 - Erosion Control, and BR-S10 - Development Standards for Wetlands) have been provided to minimize any adverse environmental effects, and shall be limited to uses as described in Standard BR-S7 - Development within Streamside Management Areas.

BR-P7. **Wetland Identification.** The presence of wetlands in the vicinity of a proposed project shall be determined during the review process for discretionary projects and for ministerial building and grading permit applications, when the proposed building development activity involves new construction or expansion of existing structures or grading activities. Wetland delineation by a qualified professional shall be required when wetland characterization and limits cannot be easily inventoried and identified by site inspection.

BR-Pxxx. **Wetlands Banking.** The County supports the development of a wetlands banking system that minimizes potential conversion of prime agriculture lands to wetlands.

BR-P8. **Oak Woodlands.** Oak woodlands shall be conserved through the review and conditioning of discretionary projects to minimize avoidable impacts to functional capacity and aesthetics, consistent with state law.

BR-P9. **Invasive Plant Species.** The County shall cooperate with public and private efforts to manage and control noxious and exotic invasive plant species. The County shall recommend measures to minimize the introduction of noxious and exotic invasive plant species in landscaping, grading and major vegetation clearing activities.

BR-P10. **Biological Resource Maps.** Biological resource maps shall be consulted during the ministerial and discretionary permit review process in order to identify habitat concerns and to guide mitigations for discretionary projects that will reduce biological resource impacts to below levels of significance, consistent with CEQA.

BR-P11. **Agency Review.** The County shall request the California Department of Fish and Wildlife, as well as other appropriate trustee agencies and organizations, to review plans for development within Sensitive Habitat, including Streamside Management Areas. The County shall request NOAA Fisheries or U.S. Fish and Wildlife Service to review plans for development within critical habitat if the project includes federal permits or federal funding. Recommended mitigation measures to reduce impacts below levels of significance shall be considered during project approval, consistent with CEQA.

BR-Px. **Landmark Trees.** Establish a program to identify and protect landmark trees, including trees that exhibit notable characteristics in terms of their size, age, rarity, shape or location. [Mitigation 3.16.3.2.a]

10.3.4 Standards

Sensitive and Critical Habitats

BR-S1. **Development Excluded from Sensitive Habitat Policies.** Proposed development occurring within areas containing sensitive habitats shall be subject to the conditions and requirements of this chapter except for these exclusions (which do not preempt other County regulations or those of other agencies):

A. Timber management and harvest activities conducted under the California Forest Practice Act (Z'Berg-Nejedly) and Rules or activities exempt from local regulation as per California Public Resources Code 4516.5(d). These standards shall not be used to reduce buffers specified under the State Forest Practice Rules and mining activities pursuant to Surface Mining and Reclamation Act.

B. Any area proposed for development, which upon examination of the biological resource maps and field inspection is not actually within or does not contain the indicated habitat.

C. Agricultural practices which are principally permitted within the zone shall not be considered development for the purposes of this standard.

BR-S2. **Agency Consultation**. For discretionary projects with potential to impact critical, or sensitive habitats, the County will seek specific recommendations from the appropriate agencies, as applicable to the specific project location, class of development, or natural resource involved

BR-S3. **Critical Habitat Defined.** Critical habitats are habitats necessary for the protection of threatened or endangered species listed under the Federal Endangered Species Act. Designation, mapping and enforcement of critical habitat is the responsibility of federal agencies.

BR-S4. **Sensitive Habitat Defined.** Sensitive habitats are defined as a biologically unique, limited, or an especially valuable habitat type for a species whose habitat requirements, if significantly changed, would cause a threatening change to the species population across its range and may include the following:

A. Habitat necessary for the protection of rare, threatened and endangered species as listed under the FESA or CESA

B. Migratory deer winter range

C. Roosevelt elk range

D. Sensitive avian species rookery and nest sites (e.g osprey, great blue heron and egret)

E. Streams and streamside areas

F. Wetlands

G. Protected vascular plant communities as listed by the US Fish & Wildlife Service or the California Department of Fish and Wildlife.

H. Other sensitive habitats and communities as may be currently, correctly and accurately listed in the California Department of Fish and Wildlife's California Natural Diversity Data Base, as amended periodically.

BR-S5. **Streamside Management Areas Defined**. Streamside Management Areas (SMA) are identified and modified as follows:

A. Areas specifically mapped as SMA and Wetland (WR) Combining Zones, subject to verification and adjustment pursuant to site-specific biological reporting and review procedures.

B. For areas along streams not specifically mapped as SMA and Wetland (WR) Combining Zones, the outer boundaries of the SMA shall be defined as:

1. 100 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line whichever is greater on either side of perennial streams.

2. 50 feet, measured as the horizontal distance from the top of bank or edge of riparian drip-line whichever is greater on either side of intermittent streams.

3. The width of Streamside Management Areas shall not exceed 200 feet measured as a horizontal distance from the top of bank.

C. The width of Streamside Management Areas shall be expanded to up to 200 feet measured as a horizontal distance from the top of bank as necessary to include slides, or areas with visible evidence of slope instability.

D. The Streamside Management Area may be reduced or eliminated where the County determines, based on specific factual findings, that the mapping of the SMA is not accurate, there are no in-channel wetland characteristics or off-channel riparian vegetation, the reduction will not significantly affect the biological resources of the SMA on the property. When the prescribed buffer would prohibit development of the site for the principal use for which it is designated, measures shall be applied that result in the least environmentally damaging feasible project.

E. SMAs do not include watercourses consisting entirely of a man-made drainage ditch, or other man-made drainage device, construction, or system.

Stream Channels

BR-S6. **Development within Stream Channels.** Development within stream channels may be approved where consistent with Policy BR-P4, Development within Stream Channels, and is limited to the following projects.

A. Fishery, wildlife, and aquaculture enhancement and restoration projects.

B. Road crossings consistent with Standard BR-S9, Erosion Control, of this section.

C. Flood control and drainage channels, levees, dikes, and floodgates.

D. Mineral extraction consistent with other County regulations.

E. Small-scale hydroelectric power plants in compliance with applicable County regulations and those of other agencies.

F. Wells and spring boxes, and agricultural diversions.

G. New fencing, so long as it would not impede the natural drainage or wildlife movement and would not adversely affect the stream environment or wildlife movement.

H. Bank protection, provided it is the least environmentally damaging alternative.

I. Other essential projects, including municipal groundwater pumping stations, provided they are the least environmentally damaging alternative, or necessary for the protection of the public's health and safety.

Streamside Management Areas

BR-S7. **Development within Streamside Management Areas**. Development within Streamside Management Areas may be approved where consistent with Policy BR-P6, Development within Streamside Management Areas, and shall be limited to the following uses:

A. Development permitted within stream channels per BR-S6, Development within Stream Channels.

B. Timber management and harvest activities under a timber harvesting plan or non-industrial timber management plan, or activities exempt from local regulation as per California Public Resources Code 4516.5(d).

C. Road, bridge, and trail replacement or construction, when it can be demonstrated that it would not degrade fish and wildlife resources or water quality, and that vegetative clearing is kept to a minimum.

D. Removal of vegetation for disease control or public safety purposes.

E. Normal, usual and historical agricultural practices and uses which are principally permitted within the SMA shall not be considered development for the purposes of this standard.

F. Normal, usual and historical agricultural and surface mining practices and uses which are principally permitted within the SMA shall not be considered development for the purposes of this standard.

BR-S8. Required Mitigation Measures. Mitigation measures for development within Streamside Management Areas shall, at a minimum, include:

A. Retaining snags unless felling is required by CAL-OSHA, by CAL FIRE forest and fire protection regulations or for public health and safety reasons. The felling must be approved by the Planning Director. Felled snags shall be left on the ground if consistent with fire protection regulations and the required treatment of slash or fuels.

B. Retain live trees with visible evidence of current or historical use as nesting sites by hawks, owls, eagles, osprey, herons, kites or egrets.

C. Erosion control measures (as per Standard BR-S9- Erosion Control).

D. Maximum feasible retention of overstory canopy in riparian corridors.

BR-S9. Erosion Control. Erosion control measures for development within Streamside Management Areas shall include the following:

A. During construction, land clearing and vegetation removal will be minimized, following the provisions of the Water Resources Element and the standards listed here.

B. Consistent with BR-S8, construction sites with at least 100 square feet of exposed soil will be planted or seeded as appropriate per mitigations as recommended in writing by the lead agency with native or non-invasive vegetation and mulched with natural or chemical stabilizers to aid in erosion control and ensure revegetation.

C. Long slopes will be minimized to increase infiltration and reduce water velocities down cut slopes by such techniques as soil roughing, serrated cuts, selective grading, shaping, benching, and berm construction.

D. Concentrated runoff will be controlled by the construction and continued maintenance of culverts, conduits, non-erodible channels, diversion dikes, interceptor ditches, slope drains, or appropriate mechanisms. Concentrated runoff will be carried to the nearest drainage course. Energy dissipaters may be installed to prevent erosion at the point of discharge, where discharge is to natural ground or channels.

E. Runoff shall be controlled to prevent erosion by on-site or off- site methods. On-site methods include, but are not limited to, the use of infiltration basins, percolation pits, or trenches. On-site methods are not suitable where high groundwater or slope stability problems would inhibit or be aggravated by on-site retention or where retention will provide no benefits for groundwater recharge or erosion control. Off-site methods include detention or dispersal of runoff over non-erodible vegetated surfaces where it would not contribute to downstream erosion or flooding.

F. Disposal of silt, organic, and earthen material from sediment basins and excess material from construction will be disposed of out of the Streamside Management Area to comply with California Department of Fish and Wildlife and the North Coast Regional Water Quality Control Board requirements.

G. Winter operations (generally October 15 thru April 15) shall employ the following special considerations:

1. Slopes will be temporarily stabilized by stage seeding and/or planting of fast germinating seeds, such as barley or rye grass, and mulched with protective coverings such as natural or chemical stabilizations, and
2. Runoff from the site will be temporarily detained or filtered by berms, vegetated filter strips, and/or catch basins to prevent the escape of sediment from the site. Drainage controls are to be maintained as long as necessary to prevent erosion throughout construction.

Wetlands and Other Wet Areas

BR-S10. **Development Standards for Wetlands.** Development standards for wetlands shall be consistent with the standards for Streamside Management Areas, as applicable except that the widths of the SMA for wetlands are as follows:

seasonal wetlands = 50 ft.

perennial wetlands = 150 ft.

and the setback begins at the edge of the delineated wetland. Buffers may be reduced based on site specific information and consultation with the California Department of Fish and Wildlife. No buffer shall be required for man-made wetlands except wetlands created for mitigation purposes.

BR-S11. **Wetlands Defined**. The County shall follow the US Army Corps of Engineers Wetland Delineation manual in the identification and classification of wetlands which considers wetlands as those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs and similar areas. ~~lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water. Wetlands must have all of the following three attributes: (1) at least periodically, the land supports hydrophytes, (2) the substrate is predominantly undrained hydric soil, and (3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year. An area is wetland if, under normal circumstances, (1) the area has continuous or recurrent saturation of the upper substrate caused by groundwater, or shallow surface water, or both; (2) the duration of such saturation is sufficient to cause anaerobic conditions in the upper substrate; and (3) the area's vegetation is dominated by hydrophytes or the area lacks vegetation.~~" [Mitigation Measure 3.11.3.2.]

Other Sensitive and Critical Habitats

Oak Woodlands

BR-S12. **Discretionary Review within Oak Woodlands.** Discretionary projects which may result in a significant effect on oak woodlands shall evaluate and mitigate any impacts, consistent with the provisions of CEQA, specifically Public Resources Code Section 21083.4.

Invasive Plant Species

BR-S13. **Principally Permitted Accessory Use.** Invasive plant species management and control measures shall be considered a principally permitted accessory use in all zones, except in the Coastal Zone.

10.3.5 Implementation Measures

BR-IM1. **Biological Resource Maps.** The County shall maintain the best available data in the form of GIS maps for the location and extent of wetlands, critical habitats, streamside management areas, Habitat Conservation Plan Areas, rookeries, and ranges of species identified in the California Natural Diversity Database. [Mitigation Measure 3.11.3.5.a]

BR-IM2. **State and Federal Agency Permitting Coordination.** The County shall maintain efficient and timely procedures for project referral to state and federal agencies for biological review and consultation.

BR-IM3. **Biological Review and Referral.** Building and Planning Division staff shall receive periodic training, and be encouraged to receive certification, related to the field identification of biological resources and mitigation of impacts.

BR-IMx2. **Wetlands Bank.** The County shall assist in the development of a wetlands bank that minimizes potential conversion of prime agriculture lands to wetlands.

BR-IMx3. **Oak Woodlands Conservation Program.** The County shall maintain an Oak Woodland Management Plan and attain eligibility for Oak Woodland Preservation Program funding (Fish and Game Code, Section 1360, Division 2, Chapter 4) to conserve and protect high-value oak woodlands.

BR-IMx4. **Modifications to the Streamside Management Area Ordinance.** The County shall modify the SMA Ordinance for consistency with BR-S5 and to allow reductions to SMA widths through ministerial review in consultation with California Department of Fish and Wildlife. The SMA Ordinance shall provide exemptions for minor additions of up to 500 square feet aggregate for buildings or structures existing on April 25, 1995.

Section 10.4 Mineral Resources

10.4.1 Purpose

This chapter is a subsection of the Conservation and Open Space Element. The purpose of this chapter is to identify the county's known mineral resources and support the conservation, development, and utilization of these resources. Energy production and conservation are discussed in the Energy Element.

10.4.2 Background

Humboldt County has a wealth of mineral resources. Over ninety extraction sites produce sand and gravel, hard rock, and metals essential for the economic well being of the county (see Figure 10.1).

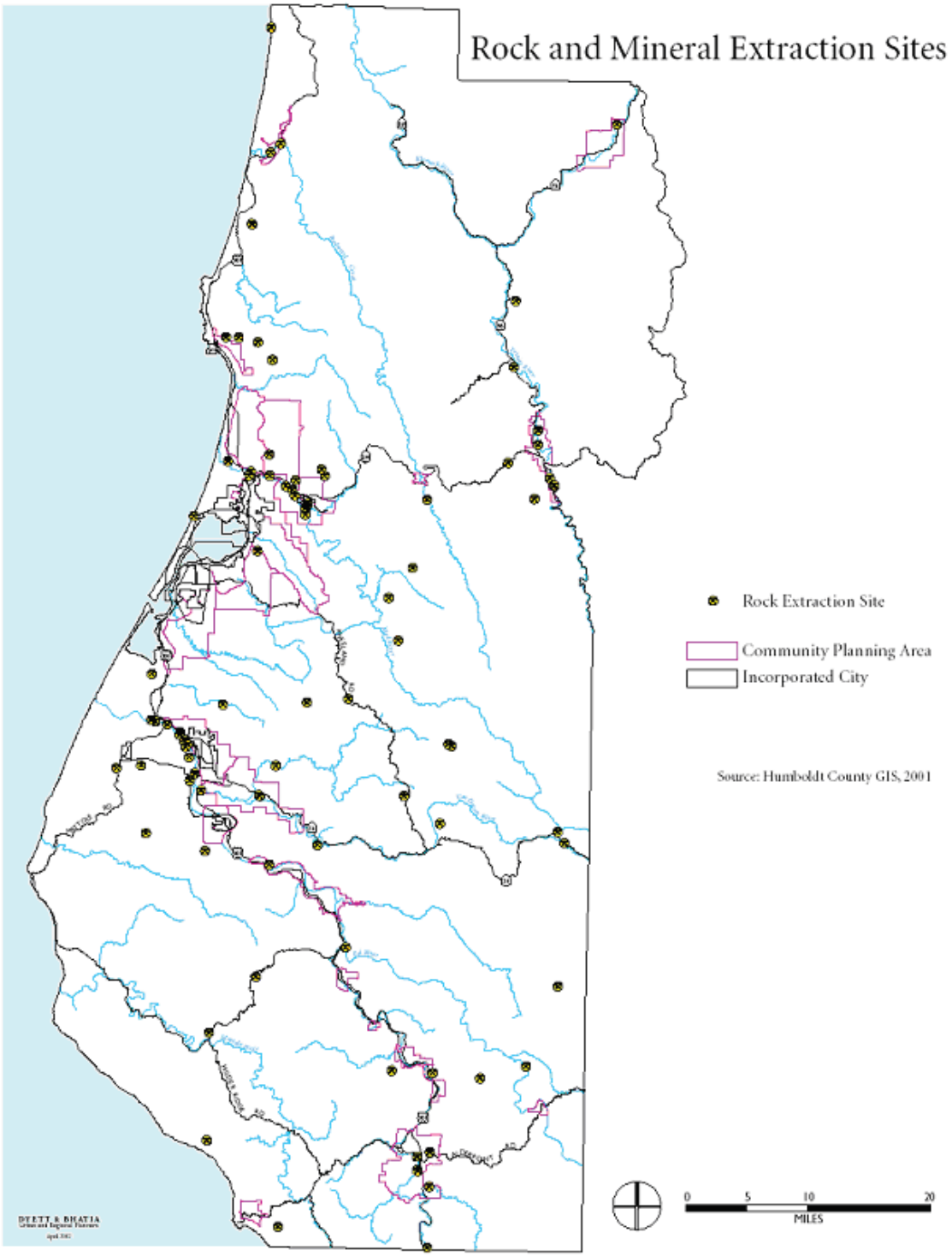
Mineral Resource Production

While gold was the first local mineral of interest. Current mineral resource production is primarily limited to sand, gravel, and rock. In-stream mining of gravel bars above low flow water levels, but within the active riverbed, supplies most of the area's sand and gravel needs. Gravel and sand extraction in 2007 was 612,000 cubic yards from mining along the Eel and Van Duzen Rivers (70 percent), Mad River (25 percent), and Trinity River (5 percent).

Mines and quarries in Humboldt County primarily produce shale and quarry stone used for base rock and other structural applications. There are over 30 active rock quarries permitted in the county, with a permitted annual potential yield of approximately 660,000 cubic yards per year. Actual extraction amounts are significantly less than this and vary depending on local demand. Rock quarries are an important augmentation of the in-stream sand and gravel mining operations. These quarries provide rock products of various sizes that are not obtainable from in-stream operations or are closer to the demand. Of particular importance are the rock quarries that mine blue schist, a hard rock used in construction and the rock quarries that provide road base for rural roads and timber operations.

Sand, gravel, and rock mining are essential to road construction, road maintenance, concrete, streambank protection, erosion control, and engineered fill and drainage systems. Mine closures raise costs and negatively impact development and maintenance projects within the county.

Figure 10.1 Rock and Mineral Extraction Sites



In-Stream Gravel Mining Regulatory Coordination

To address state, federal, and County permitting requirements in a coordinated way and to implement mitigation required in program environmental impact reports for in-stream gravel mining, the County established the County of Humboldt Extraction Review Team (CHERT).

CHERT serves as a vehicle for interagency cooperation and annually reviews in-stream mining operations for compliance with CEQA mitigations and the California Surface Mining and Reclamation Act of 1975 (SMARA). The CHERT review process involves extensive interagency coordination and on-site annual inspections. Through this process, the following agencies have input and can annually establish extraction quantities and permit restrictions, up to limits contained in pre-existing vested or permitted rights, for in-stream gravel mining operations:

- California Department of Fish and Game, through their Streambed Alteration Agreements.
- National Oceanographic Atmospheric Administration, National Marine Fisheries Service, through the Endangered Species Act, Section 7 consultation.
- U.S. Fish and Wildlife Service, through the Endangered Species Act, Section 7 consultation.
- U.S. Army Corps of Engineers, through Section 404 of the Clean Water Act authorization for gravel mining.
- California Coastal Commission, for operations requiring coastal development permits within Coastal Commission jurisdiction
- County of Humboldt, for oversight of conditional use permits, coastal development permits, reclamation plans, financial assurances, and monitoring of required CEQA mitigations.

Additionally, the California Department of Conservation is involved in the review and approval of reclamation plans and financial assurances.

Environmental Protection and Reclamation of Mined Lands

SMARA established state standards for mining activities and the reclamation of mined lands. These standards require that local governments obtain reclamation plans and set operational standards in granting permits for surface mining. Humboldt County is the local SMARA lead agency and administers the County's Surface Mining and Reclamation Act Ordinance (#1373 as amended) to comply with this state requirement.

It is a high priority of this Plan to protect fisheries habitat, riparian vegetation, and snowy plovers from in-stream mining impacts in order to maintain watershed health and the viability of in-stream mining. This goal will be accomplished primarily through the CHERT review process, interagency cooperation, and continued CEQA environmental review. The alternative to in-stream mining is mining off-river terrace deposits, which can be expensive and negatively impact agricultural lands or importation of sand and gravel, which is prohibitively expensive.

When naturally occurring asbestos is present at hard rock quarries, precautions are necessary to prevent exposure to employees and neighboring residents. This Plan relies on the site registration, sampling, and operational protocols of The North Coast Unified Air

Quality Management District Airborne Toxic Control Measures (ATCM) to mitigate the affects of naturally occurring asbestos.

The surface mining standards adopted within the County's Surface Mining Ordinance set environmental protection standards and prevent new mining operations from becoming nuisances to nearby communities or from creating problems of traffic, noise, water quality, or visual degradation.

Land Use Compatibility

In the 1980s and early 1990s, numerous surface mining conditional use permits were issued with a permit term of 15 years, subject to renewal. Furthermore, many vested mining operations in Humboldt County qualified and still qualify as legal non-conforming uses. A number of these permits have recently come up for renewal, and through the renewal notification and hearing process it has become apparent that there are currently a greater number of concerned neighboring property owners than there were when the permits were first being issued. In one instance, it was found that over 70% of parcels adjacent to an active extraction operation or haul route had changed ownership since the initial permit issuance. In order to ensure the continued production of essential mineral resources, all mining operations and haul routes need to be identified and recognized in land use decision making and disclosed during real estate transactions to promote land use compatibility.

10.4.3 Goals and Policies

Goals

MR-G1. **Long-Term Supply of Mineral Resources.** A geographically distributed inventory of mining sites protected from incompatible land uses, permitted and operated to prevent or minimize to the extent feasible significant environmental impacts and to satisfy long-term demand for mineral resources and construction materials. Mining permits may be issued for any term consistent with the resource and subject to ongoing regulatory review.

MR-G2. In-stream Sand and Gravel Extraction. Continued supplies of in-stream sand and gravel using extraction methods and rates that are consistent with state and federal endangered species regulations and will not adversely impact public infrastructure. Where possible, extraction should take place in a manner beneficial to endangered or threatened species.

Policies

MR-PX. **Scientific Review of In-stream Mining.** The County shall maintain the County of Humboldt Extraction Review Team (CHERT) to advise the County on in-stream mining methods, extraction volumes and environmental impacts.

MR-P1. **Production and Conservation.** Encourage the production and conservation of minerals, while preserving to the maximum extent feasible the values relating to recreation, watershed, wildlife, timber management and agriculture, science, and aesthetic enjoyment.

MR-P2. **Right to Mine.** Discretionary projects within 1000 feet of vested and permitted surface mining extraction sites or a minimum of 300 feet along existing haul routes shall be required to record a notice of the right to mine against the property for which a discretionary permit is sought. The notice shall advise owners and subsequent interests in ownership that the existing mining operation has a permitted right to continued mining operations.

MR-P3. **Identify Mineral Deposits.** The County shall maintain an inventory of the county's mineral deposits and permitted and/or vested mining sites.

MR-P4. **Sand and Gravel Extraction and Mean Annual Recruitment.** Annual in-stream gravel extraction prescriptions shall be based on maintaining long-term extraction at rates that do not exceed the best available scientific estimate of Mean Annual Recruitment for the affected river segment, while considering existing vested or permitted rights.

MR-P5. **New Permit Applications on over-subscribed River Segments.** New permit applications for in-stream mining shall not be approved on over-subscribed river segments where the total existing entitled permit extraction volumes, as stated in Conditional Use Permits or Reclamation Plans, exceeds the best available scientific estimate of Mean Annual Recruitment, unless it can be conclusively shown that the current estimate of Mean Annual Recruitment is inaccurate and the river segment is not over-subscribed. This policy does not apply to permit renewals.

MR-P7. **Reclamation**. Mined lands subject to SMARA shall be reclaimed consistent with the proposed and/or potential uses identified in an approved Reclamation Plan. End uses of reclaimed mining sites shall be consistent with the-uses allowed by the site's General Plan designation and zoning.

MR-P8. **Future Development Planning.** Plan future development such that it will not interfere with the utilization of identified mineral deposits.

MR-P9. **Location of Mineral Haul Routes.** Design mineral haul routes to avoid incompatible areas such as landslides, highly erodible soils, residential areas, and schools, when feasible.

MR-P10. **Maintenance of Mineral Haul Routes.** Permits for mining operations shall ensure that roads are maintained in a safe condition.

MR-P11. **Permit Conditions to Reduce Impacts.** Permit conditions for mineral extraction operations, subject to SMARA, shall address allowable dust and noise levels, hours of operation, fencing, traffic, access, setbacks, and other performance standards necessary to minimize significant environmental impacts and conflicts with adjacent land uses to the extent feasible.

MR-P12. **Off-Channel Terrace Mining.** Off-channel commercial terrace mining of sand and gravel deposits is prohibited where such mining would result in the loss or degradation of prime agricultural land.

MR-P13. **Protection of In-stream Water Collection and Transmission Facilities on the Mad River.** Prescribed sand and gravel extraction rates shall not cause channel bed degradation to levels that adversely impact public infrastructure, or the source-water classification of the drinking water for the regional water system.

10.4.4 Standards

MR-S1. **Surface Mining Standards.** Surface mining operations shall conform to standards contained in Surface Mining and Reclamation Act Ordinance, Title III, Division 9, County Ordinance #1373 as amended.

MR-S2. **Timberland Conversion.** Timberland conversion as a consequence of surface mining activities shall meet the requirements of the California Forest Practice Rules, and the Timberlands Productivity Act.

MR-S3. **Permitted Land Use Designations.** SMARA shall be conditionally permitted in all land use and zoning designations.

MR-S4. **Reclamation Plan Requirements.** Reclamation of mining operations may be ministerially approved if consistent with the Conditional Use Permit or Vested Rights Determination, CEQA evaluation, and approved Reclamation Plan.

MR-S5. **Forest and Agricultural Borrow Pits.** Borrow pits to support farming activities and timber road construction and maintenance operations shall be considered a principally permitted use when operated within SMARA exemption parameters, a grading permit is secured (if required by Humboldt County code) and the activity is otherwise consistent with this Chapter.

MR-S6. **Subdivision for Mineral Production.** Subdivisions shall be allowed to create parcels dedicated exclusively to the production of mineral resources.

MR-S7. **Hearing Notification.** For discretionary decisions associated with SMARA mining operations shown on maps in Appendix F - Map Book, public notice shall be provided to landowners within 1000 feet of the mining operation or 1,500 feet from any associated processing plant, and a minimum of 300 feet along proposed haul routes. Similarly, for discretionary projects within 1000 feet of mining operations, notice shall be provided to the mine owners.

10.4.5 Implementation Measures

MR-IM1. **Scientific Review of In-stream Mining.** The County shall contract with the County of Humboldt Extraction Review Team (CHERT) to advise the County on in-stream mining methods, extraction volumes and environmental impacts. CHERT and other related in-stream mining regulatory program cost shall be subject to full cost recovery billing procedures according to the County of Humboldt's adopted fee schedules.

MR-IM2. **Mapping of Mineral Deposits and Mine Sites.** The County shall maintain GIS maps of the county's known mineral deposits and SMARA mining sites.

MR-IM3. Development Consultant. The County has the right, after consulting with the applicant, to hire a consulting firm of the County's choosing qualified in mining and reclamation practices to advise the County when surface mineral deposits are proposed for development or when an environmental impact report (EIR) is required. This should include, but is not limited to, EIR preparation, mitigation measures, and reclamation plans. The consultant's fees should be paid via reimbursements from the mine developers.

MR-IM4. Combining Zone. Establish a mineral resources (MR) combining zone to facilitate implementation of the County's regulations for surface mining, conservation, and reclamation. The purpose of the MR combining zone is to ensure compatibility of adjacent uses. The MR combining zone shall be applied to parcels with permitted surface mining operations**.** Notification shall be provided to parcels within 1000 feet of permitted surface mining extraction sites and along existing haul routes.

MR-IM5. Coordination with the Air Quality Management District. The County shall defer to the North Coast Unified Air Quality Management District during discretionary review of proposed mining operations in ultramafic rock areas with naturally occurring asbestos to develop asbestos control plans for the duration of quarrying activities.

Section 10.5. Waste Management

10.5.1 Purpose

This section describes the County's approach to solid waste management and waste diversion. The policies are designed to help implement the Countywide Integrated Waste Management Plan (CIWMP) currently administered through individual city and County solid waste diversion programs and under certain circumstances, on a multi-jurisdictional basis by Humboldt Waste Management Authority (HWMA).

10.5.2 Background

Integrated Waste Management

The Countywide Integrated Waste Management Plan (CIWMP), jointly adopted by the County of Humboldt and the county's seven cities in 1995, provides an integrated approach to materials management and includes the following elements:

- Source Reduction and Recycling. Includes County and city program plans for source reduction, recycling, organics diversion, special wastes management, education, funding, and organization, and is updated annually.
- Household Hazardous Waste. Includes County and city program plans for the safe reduction, recycling, and disposal of household hazardous wastes, and is updated annually.
- Countywide Siting. Quantifies landfill capacity needs, identifying general areas of the county potentially suited for landfill development or landfill expansion, and demonstrating a strategy for long-term disposal capacity. With the adoption of the Countywide Siting Element in 1994, Section 4600 of the General Plan was amended to ensure consistency and solid waste facility siting exclusion area maps were added the Public Facilities map sheets. The Countywide Siting Element was last updated in 2006.
- Non-Disposal Facility. Identifies the disposal and diversion capacities of, transfer stations, and other facilities with solid waste facility permits located within the County and cities, and was last updated in 2006.
- Integration Summary Plan. Summarizes countywide goals and objectives for integrated waste management, administration of the plan, current waste management practices, future diversion and disposal strategies, education needs, and programs financing. The Integration Summary Plan serves as the introduction to the CIWMP.

The Countywide IWMP includes a process and schedule for future review and revision of each element. This approval and revision process may trigger amendments to the General Plan to ensure consistency between the documents. Revisions to the CIWMP require approval from the California Department of Resources, Recovery and Recycling (CalRecycle).

Waste Diversion Goals

In 2012, the county as a whole disposed of 84,145-tons of solid waste in landfills. Of the solid waste tonnage disposed in Humboldt County in 2012, approximately 43% came from the unincorporated area. In 2012, six of the eight reporting jurisdictions within Humboldt County, including the unincorporated area met or exceeded the waste diversion mandate of 50% set by the Integrated Waste Management Act of 1989 (AB 939). HWMA estimates that of the County's current 74% diversion rate, approximately half is due to wood ash diversion in the early 1990's. Future State legislation will likely require jurisdictions to increase diversion beyond the current 50% diversion target. In anticipation of state requirements and to reduce environmental impacts, the County is continuing to work toward achieving the higher diversion rates in municipal waste streams, including the establishment of curbside recycling collection in the unincorporated area. CalRecycle has set an overall statewide diversion rate target of 75% by 2020.

Solid Waste Facility Siting

California general plan law requires that the Land Use Element designate areas for solid and liquid waste disposal facilities. The location of these facilities must also be reflected in a Countywide Siting Element which is required to be consistent with the General Plan.

The County conducted an extensive municipal landfill siting study in the mid 1990's to locate a replacement site for the Cummings Road landfill, which was reaching initial design capacity. While the County identified some potentially feasible sites for further study and potential expansion opportunities at the Cummings Road site, it determined that it was more cost effective to export to a proven site. The County, through HWMA, has been trucking its solid waste approximately 175 miles to two out-of-county landfills. One third of this waste is shipped to Dry Creek landfill near Medford, Oregon under a long-term contract which expires in November, 2016. Beginning in June, 2014 the remaining two thirds of solid waste will be hauled by Solid Waste of Willits to the Potrero Hills landfill located in Solano County, California. Together, these two landfills will allow the County to meet its landfill disposal needs over the next 20 years. Consequently, no additional local municipal landfill capacity is expected to be required during the 20-year planning horizon of this General Plan. Approximately 6,000 tons of solid waste that is not subject to curbside franchise agreements is also self-hauled to landfills outside of the county directly by local garbage haulers and self-haulers. Other materials designated as Class 2 "Special Waste"; such as contaminated soil and large amounts of non-friable asbestos, is sometimes hauled to specially permitted landfills.

Additional facilities are needed for handling, transferring or recycling diverted materials**,** such as construction and demolition debris, organic materials (e.g., food, fats/oils/grease, food soiled paper**,** biodegradable foodware) and household hazardous waste. Such facilities can be accommodated in various general plan land use designations depending on the nature and scale, of the facility. While not expected, it may also be necessary to consider siting non-municipal solid waste facilities such as construction demolition debris disposal sites. Land use clearance standards are included to address that potential need to regulate these facilities.

Hazardous Waste

The Humboldt County Division of Environmental Health Hazardous Materials Program has been designated by the state as the Certified Unified Program Agency for Humboldt

County. The CUPA is responsible for conducting compliance inspections of over 800 facilities in Humboldt County. These facilities handle hazardous materials, generate or treat a hazardous waste and/or operate underground storage tanks. The CUPA uses education and enforcement programs to minimize the risk of chemical exposure to human health and the environment. The CUPA forwards important facility information to local fire prevention agencies that enables them to take appropriate protective actions in the event of an emergency at regulated facilities. The Humboldt County CUPA program elements include:

- Hazardous Materials Release Response Plans and Inventory (Business Plans)
- California Accidental Release Program (CalARP)
- Underground Storage Tanks (UST)
- Aboveground Petroleum Storage Spill Prevention Control and Countermeasures
- (SPCC)
- Hazardous Waste Generation and Onsite Treatment

Pursuant to AB 2948 (Tanner, 1986), Humboldt County prepared the Hazardous Waste Management Plan that was adopted as part of the Framework General Plan in 1989. The Hazardous Waste Management Plan identifies the type and quantity of hazardous waste that is generated in the County; projects future quantities; includes goals, policies, and standards for the management of hazardous waste; and establishes procedures for the siting of new hazardous treatment, storage, and disposal facilities. The Hazardous Waste Management Plan will remain a part of the General Plan and will be reviewed for consistency as amendments to the General Plan are proposed.

Litter and Illegal Waste Disposal

Litter and illegal waste disposal remains a countywide problem, particularly in remote areas. The County's Division of Environmental Health and Code Enforcement Unit handle complaints and share enforcement duties. In FY13/14, over $67,000 in funding has be allocated to illegal dumping management, including $35,400 in disposal costs and $32,000 in solid waste tip fee pass-throughs for code enforcement clean-up efforts. State, federal and tribal resources are also utilized in large-scale cleanup efforts. The illegal disposal of junk cars is a significant source of blight in remote rural areas. Maintaining car dismantling and recycling centers in populated and rural areas provides a legal and accessible alternative to illegal disposal. Motorhomes and travel trailers are another major issues, as unlike passenger cars and pickups, they do not have salvage value and can have a higher disposal cost To combat illegal disposal of wastes, the Plan promotes public education, maintaining easily accessed affordable disposal and recycling opportunities and code enforcement.

10.5.3 Goals and Policies

Goals

WM-G1. **Comprehensive System.** A flexible system for the management of solid wastes and waste resources on a countywide basis, which encompasses storage, collection, separation, processing, reduction, reuse and repair, recycling, recovery, marketing, and, when necessary, landfill disposal.

WM-G2. Environment, Health, and Safety. A solid waste management system that protects and improves the county's environment, public health, safety, and economy.

WM-G3. Reduce Waste Toxicity. A low toxicity waste stream that reduces risk of exposure to residents, solid waste and recycling industry workers, and the environment.

WM-G4. Management Strategy Hierarchy. An integrated waste management hierarchy that first emphasizes source reduction, followed by reuse and repair, recycling, composting, materials recovery, environmentally safe energy recovery, environmentally safe transformation, and, as a last resort, landfill disposal.

WM-G5. Maximize Achievement of Objectives. Successful achievement or exceedance of integrated waste management objectives through education, economic incentives, and increased participation in waste reduction programs.

WM-G6 Convenient, widespread participation. High participation rates of recycling and waste diversion programs by making options convenient and widely available, such as through curbside recycling collection.

WM-G7. Recovered Materials for Local Industry. Growth in local businesses using previously discarded materials as a resource for value added manufacturing.

WM-G8. Coordination. An integrated waste management strategy emphasizing cooperation and coordination among local jurisdictions, waste haulers, and recyclers consistent with state and federal regulations and programs.

WM-Gx1. Self-sufficient Disposal Practices. Disposal capacity within the county or a contingency plan to develop local disposal capacity in order to achieve self-sufficiency and to hedge against increasing transportation, or waste export costs, and deal with catastrophic events.

Policies

WM-P1. Implementation of Waste Reduction Programs. Waste reduction, re-use and recycling programs should be implemented countywide on a continuous basis to achieve the maximum possible waste diversion rate using the following criteria for program prioritization and selection:

A. Achieves the maximum feasible reduction in volume and/or weight of waste requiring landfill disposal;

B. Supports regional efforts that maximize the reduction and diversion of additional materials in a consistent fashion for affected parties; such as local bans on the use of plastic bags or mandatory recycling of construction and demolition debris;

C. Ensures the feasibility of expanding diversion programs by requiring that, in addition to solid waste collection bins, new commercial and multi-family land use plans include on-site space for diversion collection bins, such as recycling and organics;

D. Maximizes the economic value of materials heretofore discarded;

E. Benefits the environment and health and safety of county citizens;

F. Is able to be implemented on a timely, practical, and cooperative basis;

G. Is supported by and is sustainable over the long-term by residents, businesses, and jurisdictions; and

H. Allows cost-effective achievement of the above criteria.

WM-P2. **Support Successful Programs.** Support successful existing programs and diversion activities through increased promotion and technical assistance. Identify, develop, and fund new programs using selection and prioritization criteria identified in WM-P1.

WM-P3. **Joint Facility Planning.** Facilities that are intended to serve all county residents should be jointly planned and implemented by all affected stakeholders. Priority facilities recommended for joint planning are:

A. County disposal facility: local new landfill, expansion, or export;

B. Centralized composting facility: materials to be processed, size, location, design, and cost; and,

C. Household hazardous waste transfer facility: ownership, operation, funding, and liability issues.

D. Centralized organic waste processing facility: reliable feedstock sources, design, size and cost.

WM-P4. **Information Sharing.** The County shall support ongoing dialogue between HWMA, city or County waste management staff to reduce duplication of efforts and increase cooperative implementation of integrated waste management strategies.

WM-P5. **Administrative Structure.** The County supports unified administration and funding of countywide integrated waste management strategies and programs cooperatively sustained by HWMA, the County and cities.

WM-P6. **Illegal Waste Disposal.** The County shall work to reduce dumping and other illegal waste disposal items such as automobiles, e-wastes, and toxics through better code enforcement and increased fines, public education, maintaining affordable and geographically distributed opportunities for waste disposal and recycling, proactive prevention programs, and site cleanups.

WM-P7. **Countywide Integrated Waste Management Plan (IWMP).** The County shall abide by and participate in revisions to the CIWMP lead by the HWMA, per HMWA's current contract with the County, and consider the need to amend this General Plan to maintain consistency.

WM-Px. **Support for Waste Diversion and Recycling Operations.** The County shall recognize the importance of siting waste diversion and recycling operations within the County to attain state mandated waste reduction goals. Permitting processes and decisions should balance this public interest with the health, safety and welfare of those living in the vicinity of proposed facilities.

10.5.4 Standards

WM-S1. **Solid Waste Facility Permit.** When seeking approval for the construction or expansion of a solid waste facility in Humboldt County, project applicants must obtain a Solid Waste Facility Permit from the Department of Health and Human Services Division of Environmental Health with concurrence by the CalRecycle pursuant to the requirements of California Code of Regulations, Title 14, Division 7, or successor regulations.

Prior to submitting an application for a Solid Waste Facility Permit, a project applicant must obtain the clearances, approvals, or permits listed below:

A. Certification of compliance with the California Environmental Quality Act (CEQA) pursuant to the requirements of the California Code of Regulations Division 6.3.

B. Land use approval from the appropriate city or County land use authority.

C. Approval from the North Coast Unified Air Quality Management District.

D. Approval from the North Coast Regional Water Quality Control Board. Note: that NCRWQCB approval may require permits for stormwater discharges (NPDES) and/or waste discharge permits.

E. Other approvals and clearances such as streambed alteration agreements, Williamson Act cancellation, timberland conversion approval from the Board of Forestry, a Section 404 permit from the Army Corps of Engineer, if wetlands are involved, and any others which are required as a result of site design or facility location.

WM-S2. **Solid Waste Disposal Facility Conformance with Countywide Integrated Waste Management Plan (CIWMP).** Any proposed new or expanded solid waste facility must be in conformance with the IWMP and included in the adopted Countywide Siting Element or the Non-Disposal Facility Element prior to issuance of a Solid Waste Facility Permit.

WM-S3. **Solid Waste Facility Consistency with State and Federal Laws.** Proposed solid waste facilities shall meet any applicable requirements of the Resources Conservation and Recovery Act's Subtitle D, CalRecycle regulations (Title 14, Division 7), and requirements of the State Water Resources Control Board regulations (Title 23, Division 3), or successor regulations.

WM-S4. **Land Use Permits for Solid Waste Facilities.** Solid waste facilities are allowed by Conditional Use Permit in most non-residential land use and zoning designations and where otherwise consistent with this Chapter. To ensure consistency with the IWMP at the time of issuance of applicable land use permits for solid waste management facilities, the applicant shall submit the following supplemental information with the land use permit application:

A. Assessment of conformance with the adopted Countywide Siting Element or Non-Disposal Facility Siting Element.

B. Projections of the quantity of waste to be managed in weight and volumetric measures and the area required for disposal or processing on an annual basis for the life of the facility.

C. Operational plans in compliance Solid Waste Facility Permit requirements.

D. Analysis of a minimum of three alternative sites with a summary description of the operational characteristics and environmental impacts associated with each alternative.

E. Relationship of the solid waste facility to existing solid waste facilities in terms of waste streams, end products, operational capacity, and compatibility.

F. A site post closure plan consistent with applicable state and federal regulations and a description of any land use limitations after project completion.

G. Assessment of conformance with the policies and provisions of the (CIWMP).

10.5.5 Implementation

WM-IM1. **Local Enforcement Agency.** The Division of Environmental Health will continue to function as the designated local enforcement agency.

WM-IM2. **Solid Waste Management Authority.** Continue the County's participation in the Humboldt Waste Management Authority, including contracting and advocacy for the Countywide Integrated Waste Management Plan and Source Reduction and Recycling Element.

WM-IM3. **Code Compliance.** Maintain a code compliance program to respond to complaints of illegal waste disposal.

WM-IM4. **Support for Waste Diversion and Recycling Operations**. Provide technical and permitting assistance to waste diversion activities, particularly those that reduce illegal disposal activities; for example, junk yards and car dismantling and other recycling operations.

Section 10.6 Cultural Resources

10.6.1 Purpose

This is the Cultural Resources subsection of the Conservation and Open Space Element. It includes policies to protect cultural heritage, including historic, prehistoric, and architectural resources.

10.6.2 Background

Cultural resources are elements of cultural heritage. From a land use perspective, important cultural resources include archaeological sites, historic architecture, industrial relics, artifacts, cultural landscapes, spiritual places, and historic districts. These elements provide traces of Humboldt County's rich history and add to the unique character and identity of the county.

The importance of history to local residents can be seen in the many celebrations and expressions of Native American cultural heritage, the architectural preservation efforts of numerous local home and business owners, and the high level of support for local museums and historical societies. The educational, social, and economic benefits of historic preservation to the county are tremendous; protecting outstanding cultural resources and the legacy they represent is a priority of this Plan.

Resource Inventories

Over one thousand sites of cultural significance have been surveyed and officially designated as cultural resources in Humboldt County. The participation of state and federal historic registration programs include 13 sites as California Historical Landmarks, 16 sites included on the National Register of Historic Places, 58 sites as California Historical Resources, and nearly 700 sites as historical and prehistoric archeological sites. Many of these sites, as well as numerous unlisted sites, are of cultural and religious significance for Native American populations. Any scientific archeological interest in such sites must be respectful of the cultural and religious significance they may hold.

Site Preservation

Protection of significant cultural resources has become recognized as a vital part of planning and environmental assessment. The passage of the National Historic Preservation Act of 1966 (NHPA), the National Environmental Policy Act of 1969 (NEPA), the California Environmental Quality Act (CEQA), the California Public Resources Code (commencing with §5097.5), and passage in 2014 of Assembly Bill (AB) 52 relating to Native Americans and CEQA, among others) all speak to the importance of protecting and preserving these essential resources.

The NHPA, NEPA and CEQA provide environmental policy guidance to preserve important aspects of our cultural legacy. Section 101(b)(4) of NEPA stresses the preservation of important historic, cultural, and natural aspects of our national heritage. Similarly, §21001(b) of CEQA states that it is a California policy to "take all action necessary to provide the people of this state with . . . enjoyment of aesthetic, natural, scenic, and historic environmental qualities."

The protection of the cultural environment in general and heritage resources in particular is also given priority in the California Public Resources Code. Sections 5097.9 et seq. provide protection from damage to Native American historic, cultural, or sacred sites and features, artifacts, and objects. Moreover, California Government Code §65351 et seq. provide for public involvement and required consultation with Native American tribes (Senate Bill 18, 2004) during the preparation of a general plan for purposes of preserving or mitigating impacts to California Native American cultural places.

The County's Board of Supervisors established a policy in 1971 to evaluate archeological sites not only for their scientific value, but also for their importance to the Native American community (Resolution No. 71-14.1). The County currently maintains an agreement with the Northwest Information Center of the California Historical Resources Information System (NWIC) to review development proposals to assess any potential impact to culturally sensitive areas. The County also refers development proposals to local tribes within their defined area of interest for review and recommendation. These practices are consistent with the new requirements for Native American consultation under CEQA codified by passage of AB 52 (2014).

In addition to numerous sites of archeological significance in the county, there are many other sites of historic worth. For example, sites may be significant for their architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural value. Judgment of significance and the need for protection is straightforward if a site is eligible for, or listed in, state or federal historic registration programs. Determining significance and the need for protection of uncatalogued sites must be assessed on a case-by-case basis to avoid adverse change in the significance of a historical resource. Determination can require cultural resource studies prepared by qualified professionals to inform the judgment of decision makers.

10.6.3 Goals and Policies

Goal

CU-G1 **Protection and Enhancement of Significant Cultural Resources.** Protected and enhanced significant cultural resources, providing heritage, historic, scientific, educational, social and economic values to benefit present and future generations.

Policies

CU-P1. **Identification and Protection.** The potential for impacts to significant cultural resources shall be identified during ministerial permit and discretionary project review, impacts assessed as to significance, and if found to be significant, protected from substantial adverse change per California Public Resources Code (PRC) §5020.1.

CU-P2. **Native American Tribal Consultation.** Native American Tribes (as defined below in CU-S3) shall be consulted during discretionary project review for the identification, protection and mitigation of adverse impacts to significant cultural resources. Consultation on ministerial permits shall be initiated if it has been determined the project may create a substantial adverse change to a significant cultural resource. At their request, Tribes shall be afforded the opportunity to review and provide comments to the County early in project

review and planning (screening) about known or potential Tribal cultural resources located in project areas within their respective tribal geographical area of concern.

CU-P2x. Consultation with Other Historic Preservation Agencies and Organizations. Historic preservation agencies and organizations shall be consulted during discretionary project review for the identification, protection and mitigation of adverse impacts to significant cultural resources. These include, but may not be limited to, the County's Cultural Resources Advisory Committee, Humboldt County Public Works Department and the Planning and Building Divisions, the Northwest Information Center of the California Historical Resources Information System (NWIC), the California Office of Historic Preservation, the Native American Heritage Commission, local historical societies, museums, colleges and universities, and incorporated cities historic preservation commissions or committees for their respective LAFCO sphere of influence, and local historians, cultural resources consultants and historic preservation staff affiliated with various state and federal agencies.

CU-P3. Avoid Loss or Degradation. Projects located in areas known, or suspected to be archeological sites or Native American burial sites shall be conditioned and designed to avoid significant impacts to significant sites, or disturbance or destruction to Indian burial grounds. Preserving Native American remains undisturbed and in place shall be selected as the preferred alternative unless substantial factual evidence is presented demonstrating that no alternative(s) are feasible. Conditions of approval shall include standard provisions for post-review inadvertent archaeological discoveries and discovery and respectful treatment and disposition of Native American remains with or without funerary objects in accordance with state law (Health and Safety Code (HSC) §7050.5 and PRC §5097.98).

CU-P4. Findings Necessary for Loss or Destruction. Substantial adverse changes to significant cultural resources shall not be allowed through a ministerial or discretionary action unless:

a. The cultural resource has been found not to be significant based on consultation with culturally affiliated Native American Tribe(s) and other historic preservation agencies and organizations as required by CU-P2 and CU-P2x; or

b. There is an overriding public benefit from the project, and compensating mitigation to offset the loss is made part of the project.

CU-P5. Mitigation. Mitigation measures shall be required for any permitted project or County action that would adversely impact significant cultural resources.

10.6.4 Standards

CU-S1. Significant Cultural Resources Defined. Significant cultural resources include, but are not limited to, any object, building, structure, site, district, area, or place that is culturally, historically, or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of Humboldt County, the State of California or the Nation. Sites, resources, or structures listed in

federal, state, or local registration programs, or formally determined eligible for listing, or that meet the criteria for listing in the California Register of Historical Resources as well as those cultural resources determined to be significant by a lead agency shall also be recognized as significant cultural resources. Significant cultural resources also include Tribal Cultural Resources defined by the 2014 Assembly Bill 52 (Native Americans: CEQA), Native American Sacred Sites such as sanctified cemeteries, places of worship, religious or ceremonial sites, or sacred shrines and Native American Historic Resources such as any historic, cultural, or sacred site that is listed or may be eligible for listing in the California Register, including any "historic or prehistoric ruins, any burial grounds, and any archeological or historic sites" (PRC §5097.9 and §5097.993).

CU-S2. Confidentiality. As prescribed by California Public Records Act, Government Code § 6250 et seq., and the Information Practices Act of 1977, Civil Code §1798 et seq, the exact location of Native American grave sites, burial grounds, sacred sites, sensitive cultural places, and prehistoric and historic archaeological sites shall not be publicly disclosed in order to prevent the possibility of theft or vandalism.

CU-S3. Cultural Resources Community. The cultural resources community includes:

A. Native American Tribes, defined as federally recognized and non-recognized tribes and tribal organizations that have ancestral lands in Humboldt County that are on the contact list maintained by the Native American Heritage Commission; and, the appointed Tribal Historic Preservation Officers (THPOs) of such tribes.

B. Historic preservation agencies and organizations referenced in CU-P2x.

C. Other interested parties who have requested in writing to be notified of such matters.

CU-S4. Conditioning, Designing, or Mitigating Projects to Avoid Loss or Reduce Impacts to Archaeological Resources. Conditioning, designing, and/or mitigating projects to avoid or reduce impacts to archaeological resources, significant for their cultural value to descendent communities and/or scientific value shall consider the following options:

A. **Avoidance.** Design projects involving any ground disturbance to avoid known archaeological sites, or

B. **Capping.** Provide protective cover (e.g. cap with geotextile material and/or other barrier and cover with imported fill soil using light-weight rubber tired equipment) and confine development to the protective cover for all or portions of known sites that cannot be feasibly avoided, after the site has been adequately characterized (depth, area, constituents) and reported on using appropriate scientific excavation techniques, or

C. **Data Recovery.** Where site avoidance or capping is infeasible, design and implement a research design guided mitigation excavation program, in consultation with culturally affiliated Tribe(s) or other descendant groups, as appropriate, under the direction of a professional archaeologist knowledgeable about regional archaeology, to recover

and document significant scientific information that would otherwise be lost by project implementation. Preserving Native American remains undisturbed in place shall be selected as the preferred alternative unless substantial factual evidence is presented demonstrating that no alternative(s) is (are) feasible.

D. **Conservation Easements.** Voluntary deeding of the site into a permanent conservation easement.

E. **Standard Conditions and Notations for Inadvertent Archaeological or Native American Remains Discoveries.** In addition, for discretionary projects and ministerial permits that involve ground disturbing activities, the following measures shall be included as standard conditions of approval or as notations to be placed on development plans:

"The project site is not located within an area where known archaeological sites have been identified. However, as there exists the possibility that undiscovered archaeological resources may be encountered during construction activities, the following post-review, inadvertent archaeological discovery measures are required under state and federal laws:

If archaeological resources are encountered, all ground disturbing work at the find location plus a reasonable buffer zone must be immediately suspended, the approving County department contacted, and a qualified professional archaeologist retained to analyze the significance of the find and formulate further mitigation (e.g., project relocation, excavation plan, and protective cover) in consultation with culturally affiliated tribes or other descendant groups, where applicable.

Pursuant to California Health and Safety Code §7050.5, if known or suspected Native American or other human remains are encountered, all ground-disturbing work must cease in the vicinity of the discovery, and the County Coroner contacted. The respectful treatment and disposition of remains and associated grave offerings shall be in accordance with PRC §5097.98.

The applicant and successors in interest are ultimately responsible for ensuring compliance with this condition."

CU-S4x. Professional Archaeologist Qualification Standards and Practices. For the purpose of this chapter, a professional archaeologist meets the Secretary of the Interior's Professional Qualification standards for Archaeology Principal Investigator and the explicit education and experience qualification standards adopted by the Society for California Archaeology in 2012. The professional archaeologist shall make a good faith effort to inform and include the descendant community in all aspects of their work, as applicable, to respect sensitive or confidential information, and to integrate the community's policies and practices in respectful handling of archaeological material.

CU-S5. Assessment and Treatment of Impacts to Significant Historic Structures, Buildings and Districts.

A. **Ministerial Permit Review.** For ministerial permits, a records check will be conducted by staff. If the project site and/or structures are listed on the local, State, or federal register, or has been surveyed and determined to be eligible for listing on the local, State, or federal register, it will be considered a significant cultural resource. The project will either be modified as may be necessary to ensure continued protection of the significant historic structures, buildings or districts, or the project will be subjected to the discretionary review process described below.

B. **Discretionary Project Review.** For discretionary projects, a records check will be conducted by staff, and if no listing or survey for eligibility has been done, an initial screening will be conducted to determine whether there is a potential for significant historic structures, buildings or districts to be significantly impacted by the project. Where it is found that there is a potential for significant adverse impacts, an historic architectural resources report meeting the Secretary of the Interior's Standards for Historic Preservation prepared by a qualified professional shall be required. The report shall assess the presence, extent, ~~and~~ condition, and explicit significance values of all extant cultural resources and the likely impact upon such resources found to qualify as significant historical resources under CEQA. The report shall include recommendations for avoiding and/or mitigating identified significant adverse impacts.

C. **Areas of Historic Concern.** To assist in protecting potential historical structures yet to be surveyed, the Board of Supervisors may designate areas of historical concern, in which all structures 45 years or older would be assessed as outlined for discretionary projects above. Designating an "area of historic concern" shall require providing written notice to all the affected property owners and at least one public hearing by the Board of Supervisors prior to approving the designation.

D. **Encouraging Nomination to the California Register.** To assist in identifying historical resources of significance, the County encourages the cultural resources community to utilize the nomination process for the California Register of Historical Resources, which provides notice and comment opportunities for local government and the property owner, in determining eligibility for register listing.

CU-Sxx. Cultural Resource Advisory Committee Recommendations and Mitigation. The conclusions, findings and recommendations of the Historic Architectural Report and other types of cultural resources reports shall be evaluated during the project review process including referral for comments from the advisory Cultural Resources Committee. The Cultural Resources Committee will make recommendations on cultural resources to County staff and the Planning Commission. Applicants shall be encouraged to plan projects to avoid substantial adverse change to significant cultural resources, otherwise**,** mitigation measures shall be required to lessen the impacts to a less than significant level**.**

10.6.5 Implementation Measures

CU-IM1 **Cultural Resources Ordinance and Advisory Committee**. Review existing ordinances and guidelines and make necessary amendments to assure the protection of cultural resources, resulting in the adoption of a comprehensive Cultural Resources Ordinance and establishment of (an) advisory Cultural Resources Committee(s). The purpose of the Ordinance is to implement the goals, policies and standards of this section (10.6- Cultural Resources), including a clearly prescribed process for the identification, evaluation, assessment and treatment (mitigation) of cultural resource impacts for County permitted projects or actions that could result in significant adverse impacts. The Ordinance shall include establishing a Cultural Resources Committee composed of local historic preservation professionals that are knowledgeable and experienced in CEQA and historical resources, and in the fields of regional prehistoric and historic archaeology, historic architecture, and cultural landscapes, plus County tribal representatives (THPOs), which shall advise County staff and the Planning Commission about the adequacy, findings and recommendations of CEQA review and reporting in accordance with applicable laws and best practices in historic preservation. In addition the Committee will advise and educate the public about historic preservation, tribal cultural resources, and the field of cultural resources management.

CU-IM3 **Cultural Resources Designation.** Develop a process to encourage and actively support nominations with the owner's consent to the federal, state, and local cultural resource registration programs.

CU-IM4. **Historic Building Code.** Promote the use of the Historic Building Code of the State of California for historical sites.

CU-IM5. **Historic Building Identification.** Establish and maintain a process for identifying significant historic buildings and structures (individually or as part of districts or landscapes).

CU-IMx. **Map Resource Areas**. In consultation with the cultural resources community (as defined), and the Cultural Resources Committee, the Planning Division shall (1) map Overlay Zones for culturally sensitive areas (including potentially significant cultural landscapes) especially in rural, inland areas outside the Coastal Zone to expand the County's review of projects that may affect known & unknown cultural resources to facilitate Initial Project Screening (CU-P1), (2) develop a confidential database that identifies locations of archaeological or cultural heritage sensitivity, and (3) compile and maintain a listing of listed, eligible or potentially eligible cultural resources including but not necessarily limited to architectural sites, districts and cultural landscapes, within the County's jurisdiction. Continue to contract with the NWIC to provide rapid-response, reduced fee initial review of project locations for purposes of determining if known cultural resources are recorded on or near project areas, and for opinions on cultural resources sensitivity with appropriate recommendations.

Section 10.7 Scenic Resources

10.7.1 Purpose

This is the Scenic Resources Section of the Conservation and Open Space Element. It includes policies to protect outstanding scenic resources that may be adversely affected by land use and development. Signs and billboards are addressed in this chapter as well as in the Land Use Element. Protection programs and the identification of high-value visual resources are also addressed in this section.

10.7.2 Background

Scenic beauty is perhaps the most notable characteristic of Humboldt County for visitors and one of the most appreciated attributes among residents. Forested hillsides, working agricultural land, river corridors, and the coast provide a range of stunning scenic areas. Certain of these are exemplary and warrant protections to maintain the county's characteristic scenic beauty and unique sense of place.

Forests

Forestland is a prominent component of the visual landscape of Humboldt County, covering more than 80% of the total land area. Redwood National Park, Six Rivers National Forest, Redwoods State Park, and King Range National Conservation Area are all significant, protected forests. However, these and other public forested lands total only 26% of the 1.9 million acres of forested land in the county. Forestland in private ownership constitutes the remainder. The scenic value of these natural resources is important to residents, and there is strong public support for protecting working forests and other productive resource lands from conversion to other uses.

Policies in this Plan for protecting scenic qualities of forestlands are limited to supporting the continued timber production uses of these lands, and discouraging their conversion to residential, commercial, or industrial use. State laws governing timber harvest regulations significantly narrow the scope of scenic protection measures the County may apply to forest lands. The Forest Resources Section of this Plan provides more comprehensive discussion of this and other forestry-related issues.

Open Space and Agricultural Lands

Agricultural land vistas are to many a quintessential characteristic of Humboldt County; agriculture and grazing land uses comprise 15% of unincorporated lands. Scenic protection of agricultural lands is, for the most part, accomplished by policies in the Land Use Element, by encouraging continued agricultural production and discouraging conversion to residential, commercial, or industrial uses. The State Coastal Act and Williamson Act also protect agricultural lands. This Plan provides recognition of "heritage landscapes," which are lands with combined historical, cultural, and scenic values, such as the Arcata and Ferndale Bottoms areas.

Scenic Roads

The following Scenic Highway Element goals outlined in the County's 1984 Framework Plan remain relevant for local scenic roadways:

- To establish a system of scenic routes.
- To conserve scenic views observable from the routes.
- To provide multiple recreational uses on publicly owned lands adjacent to the routes.
- To recognize the dual scenic and economic value of lands planned for the growing and harvesting of timber, and agricultural products.

Several highways in the county have unique scenic qualities owing to their natural setting. A scenic highway is defined as a highway that, in addition to its transportation function, provides opportunities for the enjoyment of natural and scenic resources. Scenic highways direct views to areas of exceptional beauty, natural resources or landmarks, or historic and cultural interest.

Although no highways in the county are "officially designated" as California State Scenic Highways, several state highways could be eligible for official designation:

- Route 36 from Route 101 near Fortuna to the Trinity County line
- Route 96 from Route 299 at Willow Creek north to Siskiyou County
- Route 101 for its entire length in Humboldt County
- Route 254 in the Avenue of the Giants Community Plan Area
- Route 299 from Arcata to Willow Creek

Wild and Scenic Rivers

Portions of several rivers in the county are designated as part of the National and/or California Wild and Scenic River Systems. Sections of the Eel, Klamath, Trinity, and Van Duzen rivers are designated "wild," "scenic," or "recreational." Policies relating to protection of water resources are found in the Water Resources Element.

Other Scenic Areas

Coastal Scenic and Coastal View Areas

Humboldt County's varied and extensive coastline allows for a wide range of scenic vistas from roads and highways, and from beaches, state parks, and coastal access points. Considerable work has been done to assess scenic resources in developing the County's Local Coastal Program (LCP). This program relies on a technical study and a detailed inventory of visual resources along the coastline. The scenic qualities of these areas are protected by land use designations that encourage open space, permit review under the LCP, and design review requirements that minimize visual impacts of new development.

Inland Scenic Areas

Many scenic natural features outside of the coastal zone are protected by virtue of being within public lands, provisions of various county timber production, agricultural land use designations, and California Environmental Quality Act (CEQA) review. There are also areas in Shelter Cove and along the Avenue of the Giants that have design review requirements intended to protect natural features.

The policies and standards presented in this Plan support protections already in place, including timber production and agricultural land use designations, design review, and CEQA review.

Community Separators

Maintaining a visible separation between communities enhances a sense of community identity. Open space areas can serve as community separators, helping to avoid the look of continuous corridor-style urbanization. These areas are frequently subject to pressure for development because they are close to developed areas and major roads. A set of goals, policies, and programs to retain community separators is presented in this section.

Off Premise Billboards

Billboards along scenic roadways and other scenic areas impact the scenic quality by blocking views and introducing a source of outdoor lighting. Policies and standards in the Land Use Element minimize these impacts by limiting placement of new billboards to commercial and industrial areas. This section includes a standard which establishes a 15-year limit to the lifespan of new billboards.

There are numerous existing billboards in areas not zoned for commercial or industrial use. These billboards are considered "non-conforming." State law prohibits local jurisdictions from requiring removal of existing non-conforming billboards without compensation. New policies support efforts of the North Coast Railroad Authority to remove billboards from the railroad right-of-way, and to prioritize enforcement of Humboldt County's existing regulations requiring removal of illegal billboards.

10.7.3 Goals and Policies

Goals

SR-G1. **Conservation of Scenic Resources.** Protect high-value Sscenic forest, agriculture, river, and coastal areas that contribute to the enjoyment of Humboldt County's beauty and abundant natural resources.

SR-Gx. **Support for a Designated Scenic Highway System.** A system of scenic highways that increase the enjoyment of, and opportunities for, recreational and cultural pursuits and tourism in the County without detracting from allowed uses.

Policies

SR-PX **Working Landscapes.** Recognize the scenic value of resource production lands.

SR-P1. **Development in Mapped Scenic Areas.** In mapped scenic areas, new discretionary and ministerial development shall be consistent with and subordinate to natural contours, hilltops, tree lines, bluffs and rock outcroppings. Visible disturbance and interruption of natural features shall be minimized to the extent feasible.

SR-P3. **Scenic Highway Protection.** Protect the scenic quality of designated Scenic Highways for the enjoyment of natural and scenic resources, coastal views, landmarks, or points of historic and cultural interest.

SR-P6. **Term of Off-Premise Billboards and Prohibition.** Limit the term of new and existing off-premise billboards by ordinance to provide for removal consistent with the Outdoor Advertising Act. Prohibit the construction of new off-premise billboards along mapped Scenic Highways and coastal views.

SR-P7. **Billboards in Sensitive Habitat Areas.** Prohibit construction of billboards in mapped sensitive, habitat areas.

SR-P8. **Removal or Relocation of Billboards on Public Lands and Right-of-Ways in the Northwestern Pacific Railroad Right-of-Way.** Support efforts of public agencies; such as the North Coast Railroad Authority and the U.S. Fish and Wildlife Service to remove or relocate billboards from their right-of-way between Fields Landing and Arcata on lands under their control.

SR-P9. **Removal of Illegal Billboards.** Illegal billboards on property within County jurisdiction shall be removed through code enforcement. The County shall advocate for removal of illegal billboards in areas outside of County jurisdiction, including petitioning Caltrans' Outdoor Advertising Office to remove illegal billboards along highways.

SR-PXX **Vandalism of billboards.** If vandalism of legal nonconforming billboards requires repair or reconstruction, the billboard shall not lose its legal, nonconforming status, consistent with Humboldt County Zoning Code.

10.7.4 Standards

SR-S1. **Development in Mapped Scenic Areas.** Discretionary and ministerial development shall avoid visual disturbance of natural contours, hilltops, tree lines, forest landscapes, bluffs and rock outcroppings, to the maximum extent feasible. Roads and public utility corridors shall be as narrow as feasible and follow natural contours. Natural features disturbed for construction purposes shall be restored to as close to natural condition as feasible. The construction of new off-premise billboards is prohibited.

SR-S3. Scenic Highway Standards. The following standards apply to mapped Scenic Highways:

A. **Visual Buffer Width.** The width of the visual buffer along the road shall not exceed 200 feet from the edge of the traveled roadway.

B. **Permitted Uses.** Permitted uses shall be allowed except the construction of new off premise billboards is prohibited. Permitted uses that are within the visual buffer area measures may be required to protect scenic qualities of the site.

C. **Site Development.** Buildings and landscaping within the visual buffer shall be designed and located on the site to create a harmonious visual relationship with surrounding development and the natural terrain and vegetation.

1. Existing topography, vegetation, and scenic features of the site shall be retained to the maximum extent possible and incorporated into the proposed development.

2. Structures and signs shall be limited in height, bulk, and siting to be visually compatible with, and subordinate to, the character of surrounding areas.

D. **Consideration of Views**. Structures, signs, and plant materials within the visual buffer shall be constructed, installed, and planted to complement, enhance, and retain scenic views. Vegetative screening shall be used where needed to prevent significant intrusion or degradation of public views.

E. **Location and Screening of Unsightly Features.** Potentially unsightly features within the visual buffer area, such as parking lots etc., shall be located in areas not visible from the scenic highway. Where it is not feasible to locate such features out of view, features shall be screened from view by planting and/or fences, walls, or berms. Screening shall utilize primarily natural materials rather than solid fencing, preferably vegetation, in conjunction with low-earth berms.

F. **Site Grading**. Grading or earth-moving operations within the visual buffer area shall be planned and executed in such a manner that final contours appear to be consistent with the existing terrain both on, and adjacent to, the site.

1. Vegetative cover shall be provided within a reasonable time after grading is completed to prevent visible scars remaining on the land from such operations.

2. Contours altered by grading shall be restored by means of land sculpturing and a cover of topsoil in such a manner as to minimize runoff and erosion and prevent ponding of water.

3. Finished contours shall be planted with native vegetation, so as to require minimum care and to be visually compatible with the existing landscaping.

G. **Access Roads**. The location and design of access roads within the visual buffer area shall not detract from the scenic quality of the road.

H. **Utilities**. New, relocated, or existing utility distribution lines within the visual buffer area shall be placed underground whenever feasible. When it is not feasible to place lines underground, they shall be located so as to be inconspicuous from the scenic route wherever feasible. Combined or adjacent rights-of-way and common poles shall be used wherever feasible.

I. **Railroads and Public Facilities**. Visual buffers shall exclude railroad rights-of-way and public facilities.

SR-S6. **New Off-Premise Billboards.** New off-premise billboards shall be restricted to a maximum term of 15 years and limited to areas designated as Commercial Services or Industrial General. Off-premise billboards shall not include animation or electronic messaging unless for public service purposes and be restricted to a size of 300 square feet.

SR-SX. **Light and Glare**. New outdoor lighting shall be compatible with the existing setting. Exterior lighting fixtures and street standards (both for residential and commercial areas) shall be fully shielded, and designed and installed to minimize off-site lighting and direct light within the property boundaries.

SR-SXX. **Permits for Billboards.** Require Conditional Use Permits and conformance to building, zoning and other local codes for construction of new billboards, as well as the expansion of existing billboards. These requirements shall not apply to Customary Maintenance of billboards, as defined in the Outdoor Advertising Act.

SR-SXXX. **Scenic Highway Map.** Until such time as a General Plan Scenic Highway Roadway Map is prepared and adopted, Humboldt County Highways listed in Sections 263.1 through 263.8 of the California Streets and Highways Code shall be considered to be Scenic Highways pursuant to Policy SR-P3, Scenic Highway Protection, and the County shall address the potential for significant impacts to scenic resources during ministerial and discretionary permit review. [Mitigation Measure 3.16.3.1.a]

10.7.5 Implementation Measures

SR-IM1. **Mapping of Scenic Areas and Scenic Highways.** Initiate a public process to identify, map, and designate Scenic Areas and Scenic Highways, including specific ordinance standards for scenic protections and design review.

SR-IM4. **Sign Ordinance Revision.** Amend the sign ordinance to implement adopted policies for off-premise billboards and to consider other revisions to ensure community compatibility.

SR-IM5. **Removal of Illegal Billboards.** Identify billboards that may have been placed without permits or have expired permits and, with the help of Caltrans' Outdoor Advertising Office, pursue removal of billboards found to be illegally placed as defined by the California Outdoor Advertising Act.

SR-IM6. **Wayfarers Signage.** Establish a local scenic byways network designed to direct travelers to areas of scenic, cultural, and historic interest.

SR-IMX **Lighting Design Guidelines.** Amend the Zoning Regulations to include lighting design guidelines for discretionary projects. Require new development and projects that would make significant parking lot improvements or add new exterior lighting to submit a lighting plan consistent with these guidelines. Lighting design guidelines should address:

A. Intensity – Acceptable standards shall be defined for various land uses and development types specifying the maximum allowable total lumens per acre.
B. Directional Control – Standards shall be developed to minimize the upward transmission and intensity of light at various distances from its source through the use of full-cutoff lighting, downward casting, shielding, visors etc.
C. Signage – Standards with respect to illuminated signs shall be developed that prohibit or limit the size, spacing, design, upward transmission of light, and hours of operation. In addition, signs should be white or light colored lettering on dark backgrounds.
D. Night Lighting – Hours of operation for various uses shall be specified in order to prohibit all night lighting except when warranted for public safety reasons. On demand lighting shall be encouraged.
E. Incentives – The County shall develop incentives for residents and businesses encouraging the conversion of existing lighting sources to compliant ones.
F. Enforcement – These standards shall be incorporated into the County Development Code and design review process for new development. [Mitigation Measure 3.16.3.3.a]

Chapter 11. Water Resources Element

11.1 Purpose

This Element addresses water planning issues including river and stream water quality, stormwater runoff, groundwater management, water needs of fish and wildlife, water consumption, conservation and re-use methods, and state and federal regulations.

11.2 Relationship to Other Elements

These and other water-related topics can be found throughout the General Plan. Water availability for development is addressed in the Land Use Element. The Conservation and Open Space elements address riparian corridors, wetlands, wildlife protection, fishery resources, other biotic resources, water-oriented recreation, and soil erosion. The Community Infrastructure and Services Element addresses public water and wastewater systems.

11.3 Background

Surface and Groundwater

Large rivers and biologically rich watersheds are defining characteristics of Humboldt County. These resources provide local water supply, spawning habitat for fisheries, recreation opportunities, and local wealth for the fishing and tourism industries. The Eel, Trinity, and Klamath rivers extend well beyond county borders linking Humboldt to the complex regional, state, and interstate water resource and habitat management issues affecting their respective watersheds. The average annual runoff of the rivers running through the county reflects almost 30% of the state's total runoff. Significant sections of these rivers and the Van Duzen River have been designated by the California legislature as wild, scenic, or recreational under the California Wild and Scenic River System. North Coast watersheds retain some of the last viable salmon and steelhead populations in the state and are a focal point for regional, state, federal, and tribal habitat recovery efforts. Managing these water resources will be a significant challenge in the years ahead as competition between statewide water demand, habitat requirements, and local water supply intensifies.

While mean annual runoff in Humboldt County from the major rivers and streams is approximately 23 million acre feet, over 80% of this flow occurs during November through March, and the total potential annual groundwater yield of the entire county is only approximately 100,000 acre feet. Ground water has been developed for individual domestic requirements, the agricultural demands of the Eel and Mad River delta areas, and to provide supplements to municipal water supply. Potential concerns are saltwater intrusion in coastal areas and the effects of groundwater withdrawal on streams that rely on groundwater recharge to sustain flows during the dry season.

State law passed in 2014 (AB 1739) requires counties or other local agencies to develop and implement "groundwater sustainability plans" by 2020 for groundwater basins that

have been assigned a priority rating of 'high" or "medium" by the State Department of Water Resources (DWR). The Eel River Valley groundwater basin has been assigned an initial priority of "medium," requiring a groundwater sustainability plan. The other 13 mapped groundwater basins in the County have been given a "very low" priority, although the groundwater basin boundaries and prioritizations could change in the future based on local habitat considerations, stream flows and improved hydrologic and geologic information.

Groundwater sustainability plans are required to take into account the most recent planning assumptions stated in local general plans of jurisdictions overlying the basin. The Eel River Valley basin underlies coastal and inland portions of the unincorporated area as well as the cities of Ferndale, Fortuna, and Rio Dell. In addition, any substantial amendment to a general plan will be required to consider comments from any agency that manages groundwater, and from the State Water Resources Control Board if it has adopted an interim plan for the planning area.

Water Resources and Land Use

The General Plan can help to sustain and enhance water resources. Through its policies and standards, it is an effective tool to ensure that new development occurs without damaging water resources on an individual and cumulative basis. The Plan also serves to guide the County in its interaction with neighboring counties, state, and federal agencies and lawmakers. It also directs the County's activities and commitment of resources.

State and federal agencies through the California Water Code and Clean Water Act typically have primary jurisdiction over water resource issues, and in those cases their roles do not have to be duplicated by the County. In the event of overlapping jurisdiction or in instances where the County has interests that are distinct from the interests of state and federal agencies, the County will make independent judgments consistent with the policies of this Plan.

North Coast Basin Plan and Beneficial Uses

California's comprehensive water quality control law, the Porter-Cologne Water Quality Control Act of 1969, requires the adoption of water quality control plans (basin plans) by the state's nine Regional Water Quality Control Boards to protect water quality and beneficial uses in watersheds within their regions. Basin plans are reviewed every three years and updated as necessary. The Water Quality Control Plan for the North Coast Region, or the North Coast Basin Plan, covers Humboldt, Del Norte, Trinity, Siskiyou, Mendocino, and portions of several other counties.

An essential part of the Basin Plan is an assessment of the beneficial uses that are designated and are to be protected for each hydrologic area in the region. Beneficial uses include the use of water for public water supplies; protection and propagation of fish, shellfish, and wildlife; recreation in and on the water; agriculture; industrial; and other purposes, including navigation. Beneficial uses can either be existing or potential and are enumerated on a uniform list prepared by the State Water Board and are applied throughout all basins of the state.

Watershed Planning

Humboldt County is part of the State Water Resources Control Board's Klamath-North Coast Hydrologic Basin Planning Area 1, which includes all basins draining into the Pacific Ocean from the Oregon border southerly through the Russian River Basin. The County's 12 planning watersheds (see Table 11-A) are displayed in Figure 11-1. For water resource planning purposes and to improve coordination with state and federal agencies, the County uses watersheds as logical planning areas to consider all the activities in a watershed in relation to their affect on water supply, quality, and biological resources.

Controlling sedimentation, preventing further increases in water temperature, preserving flow rates, and monitoring water quality are the chief watershed management challenges in Humboldt County. As of 2008, Humboldt County has 19 river segments or water bodies that require Total Maximum Daily Load (TMDL) pollution prevention plans because of their "impaired" designation under Section 303(d) of the federal Clean Water Act (see text box for a description of the TMDL rules). Major soil-disturbing activities include road building, logging, vegetation clearing, over-grazing, mining, and certain agricultural practices. Accelerated erosion and sedimentation can increase flooding and damage riparian habitat. Temperature is an important habitat requirement for salmon and steelhead. High water temperatures result from reduced flows, degraded stream channels and removal of riparian vegetation along watercourses.

Table 11-A: Humboldt County Planning Watershed Areas

Watershed	Basin	Total Acres within County	Total Acres
Lower Klamath	Klamath-Trinity	332,787	493,453
Lower Trinity	Klamath-Trinity	192,286	654,967
South Fork Trinity	Klamath-Trinity	73,205	596,497
Redwood Creek	Mad-Redwood	187,788	187,819
Trinidad	Mad-Redwood	83,684	83,684
Mad River	Mad-Redwood	221,337	322,143
Eureka Plain	Mad-Redwood	124,617	124,617
Van Duzen	Eel	234,899	274,083
Lower Eel	Eel	191,052	191,052
Middle Main Eel	Eel	138,509	333,345
South Fork Eel	Eel	200,395	441,213
Cape Mendocino	Mattole	311,774	319,628
	Total	**2,292,332**	**4,039,132**

Humboldt County's watersheds typically flow with an abundance of water in the winter and spring but limited water in the summer and fall, making both flooding and low-flow shortages significant water management issues. For example, the Mattole River has a maximum-recorded winter discharge in excess of 90,000 cubic feet per second and a typical summer flow of less than 20 cubic feet per second.

Figure 11.1: Humboldt County Planning Watershed Areas

Humboldt County watersheds are within the National Marine Fisheries' Southern Oregon/Northern California Coast Salmon and Steelhead Recovery Domain and are a part of Five Counties Salmonid Conservation Program (5C's Program). Recovery of Coho and Chinook salmon, and steelhead populations is a priority of numerous governmental agencies, local tribes and private businesses and organizations from forest product companies to local watershed groups. The 5C's Program has implemented programs to replace culverts, reduce soil loss and erosion, and define best management practices for road maintenance. The County has replaced approximately one-third of the significant barriers to fish migration so far.

Total Maximum Daily Load (TMDL)

The federal Clean Water Act (CWA) requires states to develop a list of their impaired waterbodies. Impaired waterbodies are those that do not meet water quality standards even after pollution controls for point sources of pollution are in place, such as wastewater treatment plants and industrial facilities. The CWA also requires states to establish priority rankings for waters on the 303(d) list and develop Total Maximum Daily Loads (TMDLs) for these waters based on their individual priority ranking.

A TMDL is a pollution budget for a specific waterbody (river, stream, lake, etc) that identifies the maximum amount of a pollutant (sum of allowable pollutant loads from point and nonpoint sources) that can be released without causing the waterbody to become impaired. A TMDL also must include a margin of safety to allow for any uncertainties in the scientific methods used to derive the TMDL (water quality modeling assumptions, etc.)

Humboldt County is also a participating member of the North Coast Integrated Regional Water Management Plan (NCIRWMP). The NCIRWMP covers a seven county area corresponding to the Regional Water Quality Control Board Region 1 boundary. This collaborative planning framework was selected because impacts to fisheries and other beneficial uses may occur from local land use decisions and actions, but the effects can be cumulative across large geographic areas, with effective solutions often requiring a watershed approach and ultimately a regional approach that can be adopted and implemented by many stakeholders. The NCIRWMP provides an organized framework for identifying local and regional issues, evaluating water management planning objectives and strategies, and implementing the most promising approaches and projects across the region. Many polices and principles of the NCIRWMP have been integrated into this Water Resources Element.

Public Water Supply

Municipal water supplies are provided primarily from surface water sources by four water service districts, along with several cities and numerous community service districts.

The Humboldt Bay Municipal Water District provides the majority of drinking water within the County. It supplies treated drinking water to seven municipal agencies, who in turn serve all communities in the greater Humboldt Bay region. The District also delivered large volumes of water to two pulp mills for industrial purposes; however both pulp mills have ceased operation. The District currently has 40 - 45 million gallons per day (MGD) of water available beyond which is needed for its municipal customers. If this water is not used, the District will eventually lose a substantial portion of its water rights which have been granted by the State, and those rights would be available to any other interested party. This additional supply is an asset for the area and could support new agricultural, commercial and industrial development. If such uses do not materialize within Humboldt County, the District could transport available water to another public agency for an

authorized public use, thereby maintaining local control of its water rights, and generating additional revenue for the benefit of its municipal customers and local ratepayers. The District could also allocate a portion of the available water for an instream flow dedication in the Mad River for the purpose of preserving or enhancing habitat or fish and wildlife resources.

Protection of water quality in the watersheds that are sources for municipal water is important to maintaining these supplies. Threats include discharge from sewage treatment plants, failing septic systems, non-point source urban pollution, and turbidity from sediment discharge.

Rural water supplies are provided by private water associations or from on-site surface and groundwater sources. Some rural parcels have been created that cannot support residential usage based on on-site water availability, so availability must be determined on a case-by- case basis. Another concern is the cumulative effects of surface and groundwater withdrawals in rural areas where allowed land uses, if fully developed, would require more water than what is locally available during low-flow periods.

Water storage and water conservation techniques can be solutions to the extremes of water availability. Increased municipal storage in urbanized areas and off-channel water storage in rural areas can increase water security and maintain essential flows for habitat purposes.

Water Exports

The amount of water exported from North Coast watersheds is perhaps the county's most significant water resource policy issue. Diversions of water on the Trinity, Klamath, and Eel rivers have significantly affected water quality, quantity, and beneficial uses within Humboldt County. As a County of origin, the County of Humboldt has certain rights pursuant to state water law. Water Code Section 10505 provides that no water right will be released or assigned for any application that would deprive the County of origin of any water necessary for the development of the County. Section 11460 provides that state water projects must meet standards that protect existing beneficial needs of the watershed. Because of the importance of river flows to the county's economy and environment, the General Plan includes policies that actively pursue reductions in water exports from the Klamath, Trinity and Eel rivers and provide standards for the protection of water quality, fisheries, and habitat for any proposed new water export projects. The Humboldt Bay Municipal Water District is evaluating the feasibility of transferring a portion of its available water from the Mad River using the District's existing water rights and infrastructure to another municipal agency. Such a transfer would not constitute an export in the same manner that other water diversions do. There would be no upstream out-of-basin transfer from one watershed to another. Water available for a transfer would come from the natural discharge of the Mad River and releases from Ruth Lake which flow down the Mad River to the District's existing point-of-diversion at Essex. This option could preserve local control of water rights and bring water revenue into the County.

Stormwater

Communities with County stormwater infrastructure include McKinleyville; the areas surrounding Eureka, including Cutten, Ridgewood, Pine Hill, and Humboldt Hill; and Shelter Cove. Other areas with minor amounts of drainage infrastructure include Redway, Manila, King Salmon, Loleta, Garberville, and Willow Creek.

The State Water Resources Control Board regulates storm water discharges from certain small municipal separate storm sewer systems (MS4s) in accordance with the Phase II storm water program authorized by the federal Clean Water Act. The purpose of the Phase II small MS4 General Permit is to control the discharge of pollutants to storm sewer systems which ultimately drain to natural waterways.

The Phase II Small MS4 General Permit applied to McKinleyville starting in 2006. In February 2013, the State Water Board made significant revisions to the permit requirements and expanded the coverage areas to include the unincorporated Eureka area and Shelter Cove. The revised Phase II Small MS4 General Permit requires a variety of program elements which are phased in over the five-year term of the permit. Compliance dates range from June 30, 2014, to June 30, 2018.

In addition to controlling storm water runoff from construction sites, the County will need to develop a new "post-construction" storm water management program to ensure compliance with source control measures, low impact development (LID) design standards, and hydromodification standards specified in the Phase II Small MS4 General Permit. Other requirements include illicit discharge detection and elimination; water quality monitoring; pollution prevention at County operations; public education and outreach; and program effectiveness evaluation.

Public Works will continue to administer the County's overall implementation efforts for compliance with the Phase II Small MS4 General Permit. The construction site storm water runoff program and post-construction storm water management program will be implemented in conjunction with the Building and Planning Department. New requirements will be adopted by ordinance.

11.4 Goals and Policies

Goals

WR-G1. **Water Supply, Quality, and Beneficial Uses.** High quality and abundant surface and groundwater water resources that satisfy the water quality objectives and beneficial uses identified in the Water Quality Control Basin Plan for the North Coast Region.

WR-G2. **Water Resource Habitat.** River and stream habitat supporting the recovery and continued viability of wild, native salmonid and other abundant coldwater fish populations supporting a thriving commercial, sport and tribal fishery.

WR-G3. **Planning, Coordination, and Advocacy.** A system of local coordination and intra-regional cooperation to advance local, regional, and state water management priorities and objectives.

WR-G4. **Watershed Planning Framework.** Land use decision making that makes use of watersheds as a planning, management, and coordinating framework to cooperatively manage water and natural resources with local communities, neighboring counties, and state and federal agencies.

WR-G5. **Watershed Management.** A system of water resource management that recognizes watersheds as natural systems producing multiple economic,

social, and environmental benefits that can be sustained in perpetuity and optimized with education, sound data, cooperative public processes, adaptive management, and science based leadership.

WR-G6. **Public Water Supply.** Public water systems able to provide adequate water supply to meet existing and long-term community needs in a manner that protects other beneficial uses and the natural environment.

WR-G7. **Effective Conservation Strategies.** Effective application of conservation, water re-use, and low impact storage strategies such as rainwater catchment in meeting year-round water supply needs.

WR-G8. **Restoration of Impacted River Flows.** Restoration of water flow regimes in the Trinity, Klamath, Eel, and other rivers systems impacted by out of basin water diversions to meet all beneficial uses, including salmon and steelhead recovery plans, recreational activities, and the economic needs of river dependent communities with no additional watershed exports from rivers flowing through the County that are detrimental to beneficial uses.

WR-G8x1. **Restored Water Quality and Watersheds.** All water bodies de-listed and watersheds restored, providing high quality habitat and a full range of beneficial uses and ecosystem services.

WR-G9. **Storm Drainage.** Storm drainage utilizing onsite infiltration and natural drainage channels and watercourses, while minimizing erosion, peak runoff, and interference with surface and groundwater flows and storm water pollution.

WR-GX. **Wastewater Management.** Individual wastewater systems that do not contaminate surface and ground water.

Policies

Water Resources and Land Use

WR-P1. **Sustainable Management**. Ensure that land use decisions conserve, enhance, and manage water resources on a sustainable basis to assure sufficient clean water for beneficial uses and future generations.

WR-P2. **Protection for Surface and Groundwater Uses.** Impacts on Basin Plan beneficial water uses shall be considered and mitigated during discretionary review of land use permits that are not served by municipal water supplies.

WR-P3. **Proactive Protections.** Focus regulatory attention and educational efforts in specified watersheds where limited water supply or threats to water quality have potentially significant cumulative effects on the availability of water for municipal or residential water uses or the aquatic environment.

WR-P4. **Critical Municipal Water Supply Areas.** The Board of Supervisors shall designate all or portions of watersheds as "Critical Water Supply Areas" if cumulative impacts from land uses within the area have the potential to significantly impact the quality or quantity of municipal water supplies. Water

resources within Critical Water Supply Areas shall be protected by the application of specific standards for such areas.

WR-P5. **Critical Watershed Areas.** The Board of Supervisors shall designate all or portions of watersheds as "Critical Watersheds" if cumulative impacts from existing or planned land and water resource uses within the area have the potential to create significant environmental impacts to threatened or endangered species; including Chinook salmon, coho salmon or steelhead. Land and water resources within Critical Watersheds shall be protected by the application of specific standards for such areas to avoid the take of threatened or endangered species.

WR-P6. **Subdivisions Water Supply.** Any subdivision of land shall be conditioned to require evidence of sufficient water supply during normal and drought conditions to meet the projected demand associated with the proposed subdivision. Sufficient water supply shall include the requirements of the proposed subdivision and existing and planned future uses. Written service letters from a public water system written in conformance with this policy is sufficient evidence. Subdivisions to be served through on-site water supplies or private water systems must provide evidence of sufficient water supply to the County Department of Environmental Health.

WR-Pxx. **Funding.** Coordinate with local, state and federal agencies, and conservation and watershed restoration related organizations, to identify and obtain sources of funding for water quality enhancement, fish passage projects, stormwater pollution management, and water conservation efforts.

WR-Px1. **Requirements for Water Storage in Flow Impaired Watersheds.** New development not served by a public water system that seeks to rely upon surface water shall install water storage capable of providing 100 percent of the necessary water storage volume for the summer low-flow season (e.g. July-August-September). A forbearance agreement prohibiting water withdrawals during low-flow season shall be included as a performance standard for the project.

WR-Px2. **Mitigate Controllable Sediment Discharge Sites** **Proposed** ~~Discretionary~~ development applications involving a site identified as part of the TMDL Controllable Sediment Discharge Inventory shall be conditioned to reduce sediment discharge. [Mitigation Measure 3.10.3.1.b]

WR-P8. **Erosion and Sediment Discharge.** Ministerial and discretionary projects requiring a grading permit shall comply with performance standards adopted by ordinance and/or conditioned to minimize erosion and discharge of sediments into surface runoff, drainage systems, and water bodies consistent with best management practices, adopted Total Maximum Daily Loads (TMDLs), and non-point source regulatory standards.

WR-P9. **County Facilities Management.** Design, construct, and maintain County buildings, roads, bridges, drainages, and other facilities to minimize erosion and the volume of sediment in stormwater flows.

WR-P10. **Project Design.** Development should be designed to compliment and not detract from the function of rivers, streams, ponds, wetlands, and their setback areas.

WR-P11. **Small and Micro Hydroelectric.** Encourage small and micro hydroelectric development when impacts to surface water flows, aquatic species, and habitat have been adequately mitigated and are in conformance with state and federal permits and standards.

WR-P12. **Groundwater Quality Protection**. Commercial and industrial discretionary uses shall be evaluated for their potential to contaminate groundwater resources, and mitigated as necessary.

WR-P13. **Saltwater Intrusion.** Discretionary projects involving groundwater withdrawals in proximity to coastal areas with a potential to create saltwater intrusion shall demonstrate that groundwater supplies will not be adversely affected by saltwater intrusion.

WR-P14. **Pathogen and Nutrient Discharge from Septic Systems.** Support programs that reduce coliform bacteria and nitrate discharges from septic systems.

WR-P15. **Nutrient Discharge from Agricultural Operations.** Support programs that reduce nutrient discharge from agricultural operations, such as the voluntary manure management programs used by local dairies.

WR-P16. **State and Federal Regulation.** Encourage state and federal agencies to maintain responsibility for water resources supply and water quality management. The County shall not accept administrative responsibility for state or federal regulatory programs unless sustainable funding sources are secured.

WR-Px6. **Alternative Disposal Systems.** Support programs and ordinance revisions that modify the permit process for alternative disposal systems to make such systems more accessible to individual households under conditions that do not threaten the public health.

WR-Px7. **Rain Catchment Systems.** Encourage the installation of rain catchment systems to support domestic and outdoor water needs during low-flow summer months.

WR-Px. **Enhance Groundwater Recharge Capacity.** Encourage watershed management practices that enhance infiltration of rainfall into the groundwater. [Mitigation Measure 3.10.3.2.a]

Watershed Planning

WR-P17. **Watershed Planning.** Use watersheds as the geographic planning framework for water resource planning and coordination with other regional, state, and federal planning, implementation, and funding efforts. Maintain relevant land use data on watershed basis to support watershed based management and decision-making processes. Encourage and support continued research, investigation, and analysis of the County's water resources by federal and state water resource agencies, and local watershed restoration groups.

Encourage compilation of data, such as the State Water Resources Control Board's water allocation data, the National Marine Fisheries Services and Department of Fish and Wildlife coho recovery plans, on a watershed basis.

WR-P18. Watershed and Community Based Efforts. Support the efforts of local community watershed groups to protect, restore, and monitor water resources and work with local groups to ensure decisions and programs take into account local priorities and needs.

WR-P19. Regional Water Management Planning. Work on a regional basis through the North Coast Resource Partnership (NCRP) to ensure coordination and adaptive management between statewide water resource planning efforts, regional priorities, and local needs. The goals and objectives identified in the North Coast Integrated Regional Water Management Plan shall be considered in establishing County water resource priorities and policy positions.

WR-P20. State and Federal Watershed Initiatives. Support implementation of state and federal watershed initiatives such as the Total Maximum Daily Loads (TMDLs), the North Coast Regional Water Quality Control Board's (NCRWQCB) Watershed Management Initiative, the National Marine Fisheries Services and Department of Fish and Game coho recovery plans and the California Non-Point Source Program Plan.

Public Water Supply

WR-P21. Sufficient Water Supply. Support the actions and facilities needed by public water systems to supply the water demands projected in this Plan.

WR-P22. Critical Water Supply Areas. Coordinate with public water systems in the designation and regulation of water resources in Critical Water Supply areas.

WR-P23. Conservation and Re-use Strategy. Promote the use of water conservation and re-use as a strategy to lower the cost, minimize energy consumption, and maximize the overall efficiency and capacity of public and private water systems. Encourage the installation of water storage, rain catchment and graywater systems to support domestic and outdoor water needs. Encourage and support conservation for agricultural activities that increase the efficiency of water use for crop irrigation and livestock. Support the use of treated water for irrigation, landscaping, parks, public facilities, and other appropriate uses and coordinate with cities and other wastewater treatment entities in planning uses and minimizing impacts for treated water in unincorporated areas. Avoid water reuse that could adversely affect the quality of groundwater or surface water.

Water Exports

WR-P24. Restoration of Flow Rates. The County shall advocate for reductions in water exports and improved flow release from existing reservoirs on the Trinity, Klamath and Eel rivers to restore and enhance fisheries, natural sediment transport, water quality, recreational opportunities, and other beneficial uses as identified in the Basin Plan.

WR-P25. **New Water Diversion Projects.** Review and make recommendations on significant new water diversion projects to ensure that they do not reduce the replenishment rate of in-stream gravel, taking into account the impact the projects would have on local mineral supplies in Humboldt County.

WR-P26. **Impact Analysis.** All new export proposals and renewal of licenses for existing water exports shall include a full assessment of impacts on the environment, economy, and water supply needs of the county.

WR-P27. **County Needs.** Any consideration of exporting additional water resources shall place primary priority upon the benefit of and need for the water resources in the county and shall ensure that water needed by water users and natural resources will not be exported outside the county.

WR-P28. **Public Trust Resources and Interests.** The County shall advocate that dam relicensing projects redress the historical over-emphasis on development values (electric power, flood control, and water supply) at the expense of non-developmental values (environmental resource protection, habitat restoration, and water quality).

WR-P29. **Public Input.** The County shall advocate for the relicensing applicant to sponsor a participatory process involving all affected stakeholders prior to the submittal of a final relicensing application to the Federal Energy Regulatory Commission.

WR-P29x **Implementation of NPDES Permit.** Implement and comply with the National Pollutant Discharge Elimination Systems (NPDES) Permit issued by the State Water Resources Control Board to the designated portions of the County.

Stormwater Drainage

WR-P30. **Natural Stormwater Drainage Courses.** Natural drainage courses, including ephemeral streams, shall be retained and protected from development impacts which would alter the natural drainage courses, increase erosion or sedimentation, or have a significant adverse effect on flow rates or water quality. Natural vegetation within riparian and wetland protection zones shall be maintained to preserve natural drainage characteristics consistent with the Biological Resource policies. Stormwater discharges from outfalls, culverts, gutters, and other drainage control facilities that discharge into natural drainage courses shall be dissipated so that they make no significant contribution to additional erosion and, where feasible, are filtered and cleaned of pollutants.

WR-P31. **Downstream Stormwater Peak Flows.** Peak downstream stormwater discharge shall not exceed the capacity limits of off-site drainage systems or cause downstream erosion, flooding, habitat destruction, or impacts to wetlands and riparian areas. New development shall demonstrate that post-development peak flow discharges will mimic natural flows to watercourses and avoid impacts to Beneficial Uses of Water.

WR-P32. **New Drainage Facilities.** Where it is necessary to develop additional drainage facilities, they shall be designed to be as natural in appearance and function as is feasible. All drainage facilities shall be designed to maintain maximum

natural habitat of streams and their streamside management areas and buffers. Detention/retention facilities shall be managed in such a manner as to avoid reducing streamflows during critical low-flow periods.

WR-P33. **Restoration Projects.** The County shall encourage restoration projects aimed at reducing erosion and improving habitat values in Streamside Management Areas and wetlands.

WR-P34. **Commercial and Industrial Activities.** Commercial and industrial activities shall minimize, and eliminate to the extent feasible, facility-related discharges to the stormwater system. As required by state codes and local ordinances, commercial and industrial stormwater discharge must be routed to a wastewater collection system; for example, minimizing runoff from vehicle maintenance yards, car washes, restaurants cleaning grease, contaminated mats/carts into storm drains, and other wash practices that result in materials other than plain water entering the storm drain system.

WR-P35. **Oil/Water Separation.** Parking lot storm drainage shall include facilities to separate oils from stormwater in accordance with Public Works requirements and the recommendations of the Stormwater Quality Association's California Stormwater Best Management Practices Handbooks or their equivalent.

WR-P36. **Erosion and Sediment Control Measures**. Incorporate appropriate erosion and sediment control measures into development design and improvements.

WR-P37. **Storm Drainage Design Standards**. Drainage design standards for new development shall be adopted by ordinance. The design standards shall ensure that storms of specified intensity, frequency, and duration can be accommodated by engineered drainage systems and natural drainage courses.

WR-P38. **Storm Drainage Impact Reduction.** Develop and require the use of Low-Impact Development (LID) standards consistent with Regional Water Board requirements to reduce the quantity and increase the quality of stormwater runoff from new development and redevelopment projects in areas within the County's MS4 boundary or as triggered under other Regional Water Board permits. For all other watersheds, develop storm drainage development guidelines with incentives to encourage LID standards to reduce the quantity and increase the quality of stormwater runoff from new developments.

WR-P39. **Reduce Toxic Runoff.** Minimize chemical pollutants in stormwater runoff such as pesticides, fertilizers, household hazardous wastes, and road oil by supporting education programs, household hazardous waste and used oil collection, street and parking lot cleaning and maintenance, use of bio-swales and other stormwater best management practices described in the California Stormwater Best Management Practices Handbooks or their equivalent.

WR-P40. **Fish Passage Designs.** Work with federal and state agencies and local watershed restoration groups to retrofit existing drainage and flood control structures and design new structures to facilitate fish and other wildlife passage in partnership with federal and state agencies.

11.5 Standards

Water Resources and Land Use

WR-S1. **Designation of Critical Water Supply and Watershed Areas**. The designation by the Board of Supervisors of Critical Water Supply and Watershed Areas shall be a public process, involving a recommendation from the Planning Commission and input from the public, affected water providers, and state and federal agencies.

WR-S2. **Development within Critical Water Supply Areas.** Ministerial land use development proposed within Critical Water Supply areas shall comply with performance standards adopted by ordinance. Discretionary development within the Critical Water Supply Areas shall comply with performance standards and supplemental permit conditions. Standards and permit conditions shall require: 1) demonstrating that risk of contamination to the water supply as a result of the development activity is minimized by providing mitigation to avoid significant adverse effects; and 2) avoiding degradation of municipal water supplies by reducing cumulative impacts to surface water quality and water quantity during low-flow periods to below levels of significance.

WR-S3. **Development within Critical Watershed Areas.** Ministerial land use development proposed within Critical Watershed Areas shall comply with performance standards adopted by ordinance. Discretionary development shall comply with performance standards and supplemental permit conditions. Standards and permit conditions shall avoid take of endangered or threatened species by reducing cumulative impacts to aquatic habitat to below levels of significance.

WR-S5. **Water Withdrawal Permitting.** Ministerial and discretionary permits for land use development that include development of new in-stream water sources or other streambed alterations subject to California Fish and Game Code Section 1602 shall provide evidence of, or be conditioned to obtain a Streambed Alteration Agreement from the Department of Fish and Game as well as a Water Right Permit or a small scale domestic use registration from the State Water Board.

WR-S6. **Subdivisions Demonstration of Sufficient Water Supply.** Demonstration of sufficient water supply shall include the requirements of the proposed subdivision, existing uses, and planned future uses. Subdivisions for residential development subject to state requirements of SB 610 and SB221 shall make the appropriate demonstrations consistent with regulations (as amended) established by these acts. Written service letters from a public water system written in conformance with this policy is sufficient evidence. Subdivisions to be served through on-site water supplies or private water systems must provide evidence of sufficient water supply to the County Department of Environmental Health.

WR-S7. **Total Maximum Daily Loads (TMDLs) Implementation.** Discretionary development within watersheds containing impaired water bodies as defined under Section 303(d) of the federal Clean Water Act and governed by TMDL

implementation plans shall be conditioned to reduce or prevent further impairment consistent with applicable TMDLs.

WR-S8. **Erosion and Sediment Discharge.** Ministerial and discretionary projects shall conform to grading ordinance standards for erosion and sediment control.

WR-S9. **County Facilities Management.** The design, construction, and maintenance of County roads, bridges, drainages, and other facilities shall minimize stormwater runoff erosion and discharge of sediments and other pollution by following best management practices in accordance with the Five County Water Quality and Stream Habitat Protection Manual for County Road Maintenance in Northwestern California Watersheds (5C's Manual) or its equivalent.

WR-S10. **Projects in Proximity to Wild and Scenic Rivers**. Projects located within state designated wild, scenic, or recreational river basins shall be consistent with the guidelines in the State Wild and Scenic Rivers Act as amended.

WR-S11. **Micro Hydroelectric.** Development of run-of-the-river micro_hydroelectric projects on privately owned lands are considered accessory to allowed uses if they are sized to meet the electrical demands of the subject property only and designed to avoid impacts to streamflow and fisheries.

Water Exports

WR-S12. **Water Export Projects on Humboldt County Rivers.** The Humboldt County Board of Supervisors will require the following information to demonstrate the export project's adherence to the requirements of California Water Code Section 10505 protecting development rights and Section 11460 protecting beneficial needs of the watersheds. The analysis of the export project shall include:

A. Effects on in-stream flows including flood events.

B. Assessment of the environmental impact of the proposed project using appropriate ecological studies by a team of independent experts, qualified to conduct such studies, funded by the project sponsor and completed before project authorization.

C. Effects on fisheries and native wildlife habitat and restoration efforts. Analysis of the sustainability of any proposed fisheries and wildlife habitat mitigations.

D. Impacts to Native American communities, including cultural and archaeological resources, economies, fisheries, and water supplies.

E. Water supplies necessary to meet the ultimate future development needs of residential, agricultural, municipal, industrial, and recreational users and to promote environmental protection and fisheries habitat restoration.

F. Cost and benefits to recreation.

G. Water quality impacts and provisions for enhancement of any impaired water bodies (Section 303(d) of the federal Clean Water Act.

H. Property tax and other fiscal or economic losses to local entities.

I. Public infrastructure and service demands and costs including roads and recreation facilities.

J. Public cost and benefits on statewide, regional, county, and local scales including the monetized value of impacted ecological services.

WR-S13. Minimizing Effects of Water Exports. The County shall prevent water exports from damaging the county's environmental and economic setting by ensuring that "no unreasonable effect" occurs in the transfer and withdrawal of water resources pursuant to Section 1810 of the State Water Code.

County standards for defining "no unreasonable effect" include actions that will not:

A. Contribute to a decline in, or interfere with the recovery of, the population of any sensitive or protected plant, fish, or wildlife species.

B. Reduce water levels in any existing public or private groundwater wells to levels that preclude withdrawal by existing users or would substantially increase the costs or such withdrawal.

C. Contribute to any impacts on water quality that reduces water quality below health standards or federal or state water quality standards.

D. Contribute to effects on water quality that would result in a deficiency by the water treatment agency's ability to treat water to appropriate standards.

E. Reduce available groundwater or surface water resources to levels that would make access and/or use of these waters uneconomical for development planned in accordance with this General Plan.

F. Directly or indirectly discharge contaminants into surface or groundwater resources.

Stormwater Drainage

WR-S14. Storm Water Management. All commercial, industrial, multi-family, quasi-public, and public parking facilities shall, whenever possible, provide stormwater treatment for parking lot runoff using bio-retention areas, filter strips, and/or other practices that be integrated into required landscaping areas and traffic islands. In all other cases, oil/water separators shall be required. A maintenance plan for oil/water separators shall be required. During construction**,** the following erosion and sediment control measures shall be incorporated into development design and improvements:

A. Minimize soil exposure during the rainy season by proper timing of grading and construction;

B. Retain natural vegetation where feasible;

C. Vegetate and mulch denuded areas to protect them from winter rains;

D. Divert runoff from steep denuded slopes and critical areas with barriers or ditches;

E. Minimize length and steepness of slopes by benching, terracing, or constructing diversion structures;

F. Trap sediment-ladened runoff in basins to allow soil particles to settle out before flows are released to receiving waters; and

G. Inspect sites prior to significant rain events to ensure control measures are working properly and correct problems as needed.

11.6 Implementation Measures

Water Resources and Land Use

WR-IM1. Critical Water Supply and Watershed Area Ordinance. Prepare and adopt an ordinance to implement Critical Water Supply and Watershed Area policies.

WR-IM2. Critical Water Supply and Watershed Area Designation. Identify and designate Critical Water Supply and Watershed Areas through a zoning overlay process using best available scientific data, consultation with municipal water suppliers and resource agencies, and public outreach and input.

WR-IM3. Require Restoration of Degraded Areas. Require replanting of vegetation and remediation of erosion conditions in conjunction with related discretionary land use approvals, especially those including roads and grading on steep slopes.

WR-IM4. County Facilities. The Department of Public Works shall manage and conduct internal reviews of County construction and maintenance activities to ensure conformance with adopted best management practices for erosion and sediment control.

WR-IM5. Septic Systems. Actively pursue the abatement of failing septic systems that have been demonstrated to represent a health and safety hazard.

WR-IM6. Permitting Coordination. The County shall maintain efficient and timely procedures for project referral to the North Coast Regional Water Quality Control Board for review and consultation.

WR-IM7. Basin Plan Septic Requirements. Update and amend existing County septic regulations to reflect the latest Basin Plan standards for design and maintenance of on-site wastewater systems.

WR-IMx. Graywater Re-use Standards. Update and amend the existing County Code to implement the revisions to the State California Plumbing Code, Title 24, Part 5, Chapter 16A regarding Graywater Standards, as reflected in SB1258.

WR-IMx1. Update Water Quality Regulations. Amend the Grading, Excavation, Erosion, and Sedimentation Control Regulations and Division 1, Planning Zoning Regulations Chapter 6 - General Provisions and Exceptions Section 314-61.1 Streamside Management Area Ordinance to reflect the new erosion, sediment control, vegetation, restoration, and stormwater drainage policies and standards contained in the Water Resources Element, and the Biological Resources Chapter of the Conservation and Open Space Elements and evaluate as part of the five-year Housing Element Update to determine if additional measures are needed to protect water quality.

WR-IMx2. Unpermitted Development Ordinance for Critical Watersheds. Prepare an ordinance to provide enforcement capabilities for un-permitted

development within critical watershed areas if the development impacts water resources. Work with the State Departments of Water Resources and California Department of Fish and Wildlife to address illegal water diversions and over-subscribed water right allocations.

WR-IMx. Water Supply Evaluation and Monitoring. Conduct watershed level evaluations within two years after the adoption of the General Plan Update to determine the ensure sufficient long term surface and groundwater supply, including seasonal, average, dry year, and multiple dry year supplies, and beneficial uses of water to determine an estimate of the quantity of water will be available for the level of future development described in the Revised Draft EIR for the GPU. Work with water and wastewater related special districts, regulators, and other appropriate organizations to monitor watershed conditions.

Watershed Planning

WR-IM8. Watershed Planning. The County shall maintain relevant land use data on a watershed basis to support watershed based management and decision-making processes.

WR-IM9. North Coast Integrated Regional Water Management Planning. The County shall participate in the continued update and implementation of the North Coast Integrated Regional Water Management Plan.

WR-IM10. TMDL Controllable Sediment Discharge Inventory and Reduction Program. Map impaired water bodies as defined under Section 303(d) of the federal Clean Water Act with associated impairment parameters, water quality objectives, and pollution budgets contained in TMDL implementation plans. Seek funding to identify controllable sediment discharge sites and establish a program to prioritize, treat, monitor, and subsequently reevaluate such sites.

WR-IM11. Watershed Data. Seek and secure funding to evaluate the quality and quantity of water resources in each of the watershed basins. Support studies that correlate the quality and quantity of water captured, stored, and contained within watersheds to the needs of beneficial water uses by residents, local industry, agriculture, and the natural environment. Identify and map important groundwater recharge areas.

WR-IM12. Sustainable Groundwater Plans. Support the development of Sustainable Groundwater Plans consistent with California Water Code.

WR-IM13. Water Planning and Coordination. Actively encourage and participate in local and state water resource planning efforts that have the potential to achieve Water Resource Element goals.

WR-IM14. Watershed Planning with Public Land Managers. Participate in the planning activities of federal and state land management agencies to advocate for watershed-based planning and management approaches and policies and projects that are consistent with Water Resource Element policies.

WR-IM15. Coordinate and Support Watershed Efforts. Seek funding and work with land and water management agencies, community-based watershed restoration

groups, and private property owners to implement programs for maintaining and improving watershed conditions that contribute to improved water quality and supply.

WR-IM16. Basin Plan. Work cooperatively with the North Coast Regional Water Quality Control Board and other interested parties in the update and implementation of Basin Plan policies and programs.

WR-IM17. Water Resources Funding. Work with public water suppliers, utility districts, stakeholder groups, and interested parties to seek and secure outside funding sources to implement this Element.

WR-IM18. Facility Construction. Coordinate with public water suppliers in the planning, development, and construction of the storage and transmission facilities needed to supply water pursuant to this Plan's policies, urban water management plans, water supply agreements, municipal service reviews, and programs to mitigate identified water quantity conditions, where applicable.

Public Water Supply

WR-IM19. Water Facilities Consistency with the General Plan. Pursuant to the requirements of California Government Code, Sections 65400-65402, require public water suppliers—including cities, county-dependent districts, special districts, and other local public agencies—to consult with the County prior to acquiring a site or developing any well or facilities for public water supplies in the unincorporated area, by requesting a determination of the proposal's consistency with the General Plan.

WR-IM20. Technical Assistance Water Supply and Quality. Assist public water suppliers in the assessment of available water supplies and protection of water quality.

WR-IM21. Long-term Water Supply Planning. Work with Humboldt Bay Municipal Water District and other public water suppliers in the development and implementation of long-term plans for water supply, storage, and delivery necessary to first meet existing water demands and, secondly, to meet planned growth within the designated service areas, consistent with the sustainable yield of water resources.

WR-IM22. Promoting Water Conservation and Re-use. Encourage water conservation and re-use practices by providing information resources for permit applicants on:

A. Water-conserving design and equipment in new construction.
B. Water conserving landscaping and other land management practices.
C. Water conserving retrofit options for existing buildings.
D. Residential water re-use options including graywater systems.
E. Off-stream water storage systems including tanks and ponds.

WR-IM23. Urban Water Management Plans. Review and comment on Urban Water Management plans (California Water Code Sections 10610–10656) prepared by urban water suppliers.

Importing and Exporting

WR-P24. Restoration of Flow Rates. The County shall actively participate in decision-making processes that affect water flows in the Trinity, Klamath, Eel, Mad and Van Duzen rivers to advocate for the goals and policies of this Plan.

Storm Drainage

WR-IM25. Drainage Ordinance. The County shall develop and maintain an ordinance that regulates stormwater drainage consistent with the policies and standards of the Element.

WR-IM26. Low Impact Development Methods. Require projects to utilize best management practices for Low Impact Development to meet surface water run-off standards.

WR-IM27. Nutrient Discharge from Agricultural Operations. Seek funding and support voluntary manure management programs.

Chapter 12. Energy Element

12.1 Purpose

The purpose of this chapter is to present policies and programs to address energy needs, use, and conservation. This chapter provides goals, policies, standards, and implementation measures that strive for sustainable renewable energy and self-sufficiency.

12.2 Relationship to Other Elements

Energy conservation is reflected in the Land Use and Circulation elements' policies, promoting in-fill development supported by transit, bike, and pedestrian transportation options; and in Housing Element policies promoting construction of energy efficient homes. Policies that facilitate energy production are located in the Land Use Element and Water Resources Element.

12.3 Background

Energy and Land Use

There is a close link between energy consumption and production and the physical development of land. Land use development policies strongly impact how much energy is consumed, and zoning and development strategies can affect the ability to develop and transport future energy resources.

Humboldt County has a number of unique features with respect to energy. It is isolated at the end of electricity and natural gas transmission lines, and the capacity of these lines is not great enough to import all of the county's required energy. Related to these capacity constraints is the fact that the county currently produces a large portion of its electricity locally and also supplies some of its own natural gas needs. The county also has a tremendous amount of potential local energy resources, in the form of wind, wave, biomass, hydroelectric, and solar power. Conservation is also viewed as an energy resource and is considered in the Housing and Circulation elements of this Plan. And finally, there is much local interest and expertise and a strong desire to develop long-term energy self-sufficiency for the region.

Local Energy Resources

The majority of primary energy used in Humboldt County is imported, with the exception of biomass energy. Local biomass resources are used to provide about 25% to 30% of the county's electricity needs. The biomass resource is primarily derived from lumber mill wood residue. There is significant growth potential in biomass energy through the use of logging slash, forest thinning and fuel-load reduction materials.

Roughly half of the electricity serving Humboldt County is generated at the Pacific Gas and Electric Company Humboldt Bay Generating Station. This new 163-megawatt natural gas-fired power plant is 35% more efficient than its predecessor and is well suited to meeting rapidly changing power demands on the grid. Although the majority of electricity consumed is generated in the county, a large portion is generated using imported natural gas. The county imports about 90% of its natural gas; the rest is obtained locally from fields in the Eel River valley. Total gas production in the county in 2010 was 785 MMCF (million cubic feet). Active gas wells are concentrated in the Tompkins Hill gas field and additional fields are being developed in the Grizzly Bluff area near Alton.

Energy Use and Cost

It is estimated that in 2010 Humboldt County spent $460 million to meet local energy demands, the majority of which left the county. Approximately half of the energy was used as a transportation fuel (gasoline and diesel), with large amounts also used to meet end use electrical demands and end use natural gas heating demands. It is estimated the county's end use energy consumption totaled about 18.5 trillion BTUs. Humboldt County electricity use totaled 1000 GWh. Natural gas was 87 million therms, with about half of this being used to generate electricity at both the Pacific Gas and Electric Company (PG&E) Humboldt Bay Power Plant.

Growth in electricity and natural gas demand over the next 20 years is expected to range from 0.5% per year to 2.5% per year. Gasoline and diesel consumption for light duty vehicles in Humboldt County in 2010 was about 76 million gallons. Historically, petroleum distillate consumption has increased at a rate of 1.5% per year. Future consumption rates will depend primarily on changes in vehicle miles traveled (VMT) and fleet fuel efficiency.

It is projected that local renewable resources could provide the majority of our local electricity needs and a substantial portion of our heating and transportation energy demands. Meeting heating and transportation demand with local resources would likely include the use of electric heat pumps and electric vehicles. Key renewable energy resources include biomass, wind, wave, and small run-of-river hydroelectric. However, there are many potential barriers that could impede development, including high costs, regulatory hurdles, lack of financing, siting, and transmission access issues, and lack of public support. Nonetheless, the potential of these local resources is large and offers significant economic development potential. Using local resources to meet local energy needs would keep energy dollars circulating in the local economy, and exporting local energy resources to surrounding communities could bring in a new source of income to the county. In addition, use of local renewable energy resources can help the County meet its greenhouse gas reduction goals.

Opportunities to Reduce Energy Use

The results of statewide energy efficiency potential studies were used to estimate the efficiency potential in Humboldt County. It is estimated that in ten years, electricity savings in Humboldt County could total 9% of the county's projected total electricity use, and natural gas savings could total 1.5% of the county's projected retail natural gas use. This represents a total retail value for electricity cost savings of $16 million per year and for natural gas of $1.4 million per year.

Efforts to reduce energy consumption in the transportation sector are also critical to the establishment of a secure energy future for the county, and decreasing the number of vehicle miles traveled is probably the most effective measure for reducing transportation energy use. Implementing land use planning that locates housing, jobs, and shopping in close proximity to one another and provides bicycle, pedestrian, and public transit access will encourage alternative transportation modes and result in reduced vehicle

travel. Replacing the importation of goods and exportation of waste with increased production and consumption of local goods (such as locally grown food) and local waste processing (through recycling, reusing, and composting) can also help reduce vehicle miles traveled.

Strategic Energy Planning

Formed in 2003, the Redwood Coast Energy Authority (RCEA) is a joint powers authority (JPA) representing seven cities (Arcata, Blue Lake, Eureka, Ferndale, Fortuna, Trinidad, and Rio Dell), the Humboldt Bay Municipal Water District, and Humboldt County. As a JPA, RCEA is governed by a board composed of a representative from each jurisdiction. RCEA's mission statement is:

> *The Redwood Coast Energy Authority's purpose is to develop and implement sustainable energy initiatives that reduce energy demand, increase energy efficiency, and advance the use of clean, efficient, and renewable resources available in the region.*

As the regional energy authority, the Board of Supervisors has designated RCEA to implement Energy Element strategies on a regional basis through a Comprehensive Action Plan for Energy. This action plan will be maintained by the RCEA Board and periodically presented to the Humboldt County Board of Supervisors for review. The County will also implement Energy Element strategies through policies, implementation measures, and standards contained in this Plan.

This Energy Element promotes self-sufficiency, independence, and local control in energy management and supports diversity and creativity in energy resource development, conservation, and efficiency. This strategy can reduce the drain on the county's economy for energy, stimulate local businesses and the economy, and help the county meet greenhouse gas emission reduction targets.

12.4 Goals and Policies

Goals

E-G1. **Countywide Strategic Energy Planning**. An effective energy strategy based on self-sufficiency, development of renewable energy resources and energy conservation that is actively implemented countywide through Climate Action Plans, General Plans and the Redwood Coast Energy Authority's Comprehensive Energy Action Plan.

E-G2. **Increase Energy Efficiency and Conservation**. Decrease energy consumption through increased energy conservation and efficiency in building, transportation, business, industry, government, water and waste management.

E-G3. **Supply of Energy from Local Renewable Sources**. Increased local energy supply from a distributed and diverse array of renewable energy sources and providers available for local purchases and export.

Policies

E-P1. **Energy Conservation Standards and Incentives.** Develop incentives to encourage residential and commercial building plans that exceed California Building Standards Code requirements for energy.

E-P2. **Oil and Gas Development.** Oil and gas development shall be permitted consistent with the following:

A. The development is performed safely and is consistent with the geologic conditions of the well site.

B. New or expanded facilities related to such development are consolidated, to the maximum extent feasible and legally permissible, unless consolidation will have adverse environmental consequences and will not significantly reduce the number of producing wells, support facilities, or sites required to produce the reservoir economically and with minimal environmental impacts.

C. Such development will not cause or contribute to subsidence hazards unless it is determined that adequate measures will be undertaken to prevent damage from such subsidence.

D. Hydraulic fracturing for release and recovery of hydrocarbons is prohibited.

E-P3. **Local Renewable Energy Supply.** The County shall support renewable energy development projects including biomass, wind, solar, "run of the river" hydro-electric, and ocean energy, consistent with this Plan that increases local energy supply.

E-P4. **Transportation Energy Conservation and Alternative Fuels Substitution.** Support revitalization and infill projects within Urban Development Areas as a means to reduce long-term vehicle miles traveled as an energy conservation strategy. Support the development and implementation of Electric Vehicle (EV) charging stations and other alternative fueling infrastructure.

E-P5. **Regional Energy Authority.** Recognize the Redwood Coast Energy Authority (RCEA) as the regional energy authority, which will foster, coordinate, and facilitate countywide strategic energy planning, implementation and education through a Comprehensive Action Plan for Energy.

E-P7. **County Government Energy Consumption.** The County government shall reduce building and transportation energy consumption by implementing energy conservation measures and purchasing renewable energy and energy efficient equipment and vehicles whenever cost-effective. Conservation and renewable energy investments should be planned and implemented in accordance with performance-based action plans and County Greenhouse Gas Emission Reduction goals.

E-P8. **County Building Design Standards**. Design, construct and operate all new and renovated County-owned facilities to U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED)"Silver" or better energy efficiency standards consistent with State Executive Order S-20-04, or to similar

California Green Building Standards.

E-P9. **Electrical Transmission.** Promote PG&E funded capacity upgrades to electric distribution lines to facilitate distributed renewable energy production and electricity export from the county.

E-P9x. **Electricity Buyback.** Support revisions to the electricity buyback program that encourages more distributed local generation and more equitably compensates such generation.

E-P10. **Transportation Management Plans.** Major commercial, business, or industrial, facility developments shall be required to submit a transportation management plan that addresses energy conservation measures such as connectivity to alternative transportation modes; preferential parking for carpools, vanpools, motorcycles, mopeds, and bicycles; shuttle services; alternative fueling stations; transit passes; bike lockers; and locker-room facilities. Develop incentives for projects not deemed as major that incorporate such energy conservation measures.

E-P11. **Energy-efficient Landscape Design.** Encourage and incentivize energy-efficient landscape design in development projects, subdivisions, and in new and existing streets and parking areas in order to reduce impervious surfaces, minimize heat and glare, control soil erosion, and conserve water.

E-P13. **Water Efficiency.** Promote the efficient use of water in residences, businesses, industries, and agriculture.

E-P14. **Incentives for Using Alternative Energy.** Encourage the use of renewable energy and environmentally preferable distributed energy generation systems in the county.

E-P15. **Renewable Energy Overlay Zones.** Develop renewable energy overlay zones based on community input to protect the unique value of sites that are identified as having substantial renewable energy potential and/or will be critical for renewable energy infrastructure while still allowing uses permitted in the underlying zone.

E-PX. **Land Use Planning and Compatibility.** Coordinate with local agencies, communities, and landowners to assess potential wind and offshore renewable energy development. Such an assessment shall consider site suitability, energy potential, and potential impacts to biological and cultural resources.

E-PX2. **Sustainable Biomass Energy Production.** Coordinate with local agencies, communities, and landowners to develop biomass energy plans that are consistent with forest management, hazardous fuels reduction, and restoration needs and priorities.

E-PX3 **Residential Design.** Proposed single-family residential structures should be designed to maximize solar access, energy conservation and passive solar energy generation. Solar access potential should be evaluated based on each climate zone within the County as established by the National Weather Forecast Center in Eureka.

12.5 Standards

E-S1. Oil and Gas.

A. Development associated with onshore oil and gas wells shall be conditionally permitted by a conditional use permit in agricultural, timber, rural lands, industrial general, and resource-related industrial land use classifications.

B. A permit will be required for each drill site and a separate permit will be required for production facilities. Additional wells proposed for an approved drill site may be administratively approved provided that they can be accomplished within the limitations and conditions of the original use permit for the drill site.

E-S2. Application Requirements and Standards for Oil and Gas Energy Exploration or Extraction Projects.

A. Applications for oil and gas energy exploration or extraction projects shall include:

1. A plot plan for the entire area under lease or ownership, showing the relationship of the proposed facilities to ultimate potential development, and a map showing the relationship of contours, buildings, structures, and/or natural features.
2. A description of the relationship of the proposed facilities to existing facilities.
3. Procedures for the transport and disposal of all solid and liquid wastes to meet discharge requirements of the North Coast Regional Water Quality Control Board (NCRWQCB).
4. Grading plans and procedures for minimizing erosion.
5. Where public views are affected by production facilities, landscaping plans and measures for minimizing visual impacts.
6. Fire prevention procedures.
7. Air emission control measures.
8. Oil spill contingency procedures.
9. For production facilities, a phasing plan for the staging of development, indicating an approximate anticipated timetable and production levels for the project.
10. Procedures for the abandonment and restoration of the site, which provide for removal of all equipment; disposal of wastes; and re-contouring, reseeding, and planting to conform to surrounding topography and vegetation.

B. Drill sites should generally not be established at a density greater than one per 80 acres.

C. All solid and liquid wastes shall meet the discharge requirements of the NCRWQCB.

D. Projects shall meet all applicable air quality regulations.

E. All earthen sumps or other depressions shall be regraded to restore the area to its original condition.

F. Hydraulic fracturing for release and recovery of hydrocarbons is prohibited.

G. Financial assurance requirements may be imposed on the property owner at the discretion of the Planning Commission to ensure site restoration consistent with 1.J. above.

E-S3. Wind Generating Facilities.

A. Unless allowed by right pursuant to California Government Code, Section 65892.13(f) as amended, wind generating facilities shall be a conditionally permitted use in all land use designations except "resource dependent" (MR).

B. The following shall be considered in reviewing proposed wind generating facilities: parcel size, relationship to other structures, effect on potential down-wind sites, compliance with Uniform Building Code and national Electrical Code, rotor and tower safety, noise, electromagnetic interference, utility notification, height, liability insurance, and appearance and design.

C. Findings necessary for project approval shall be:

1. The proposed use is not detrimental to the public health, convenience, safety, and welfare.

2. That the use of the property for such purposes will not result in material damage or prejudice to other property in the vicinity.

3. Within the Coastal Zone, the project will not have a significant adverse effect on coastal resources, including wildlife qualities.

E-S4. Oil and Gas Pipelines. For pipelines serving oil and gas facilities, the following shall apply:

A. Pipelines should, where feasible, avoid sensitive habitat areas and archaeological sites and follow existing utility corridors where they are present. Active faults or other geologically unstable areas should be avoided, where feasible, or pipelines should be designed to mitigate ~~against~~ such hazards.

B. When avoidance of a sensitive habitat area is not feasible, effective mitigation measures shall be employed to minimize adverse impacts. Directional drilling shall be employed to avoid wetlands and riparian habitats, unless an independent engineering contractor selected by the County determines that to do so would not be feasible.

C. All right-of-ways shall be regraded and revegetated to their original state. When a responsible agency identifies a degraded habitat along the proposed right-of-way, when it might be preferable to restore it to a condition other than its present state, said agency shall recommend plans to the lead agency for restoration of the habitat. The lead agency shall require restoration of the habitat as a condition of approval, unless a review of the public record indicates it would be more appropriate to do otherwise.

D. All compressor, metering, or odorizing stations shall be visually and acoustically buffered with vegetation and other means as necessary.

E. Above-ground pipelines should be sited to minimize visual impacts, when feasible. When an aboveground pipeline must be sited in a highly scenic area, it shall be visually buffered with vegetation and other means as necessary.

F. For liquid carrying pipelines passing through important coastal resource areas including recreation, habitat, and archaeological sites and geologically unstable areas, segments shall be isolated by automatic shutoff valves. The County may determine whether spacing of automatic shutoff valves is required at intervals less than the maximum set by the U.S. Department of Transportation to protect sensitive coastal resources.

E-S5. Electrical Transmission Lines.

A. Transmission line rights-of-way shall be routed to minimize impacts on the viewshed in the coastal zone, especially in highly scenic areas, and to avoid locations that are on or near habitat, recreational, or archaeological resources, whenever feasible. Scarring, grading, or other vegetative removal shall be minimized and revegetated with plants similar to those in the area.

B. Where above-ground transmission line placement would unavoidably affect views, underground placement shall be required where it is technically and economically feasible, unless it can be shown that other alternatives are less environmentally damaging. When above-ground facilities are necessary, design of the support towers shall be compatible with the surroundings to the extent safety and economic considerations allow.

C. Above-ground transmission lines should be sited so as to minimize visual impacts.

D. Siting of transmission lines should avoid the crests of roadways to minimize their visibility on distant views. Where visual impacts would be minimized, lines should cross the roadway at a downhill low elevation site or a curve in the road.

E. New major steel tower electrical transmission facilities should be consolidated with existing electrical steel-tower transmission facilities unless there are social, aesthetic, or significant economic concerns.

F. Existing rights-of-way should be utilized for other related utilities to provide consolidated corridors wherever such uses are compatible or feasible.

G. Access and construction roads should be located to minimize landform alterations. Road grades and alignments should follow the contour of the land with smooth, gradual curves where possible.

E-S7. Solar Access Protection. Proposed structures and landscaping associated with planned unit developments and/or subdivisions that create five (5) or more new parcels should be designed and located to avoid blocking views and solar access from other properties to the maximum extent feasible. The lot size, configuration, and proposed building envelope in a subdivision or planned development shall be oriented to ensure that no additional shadows

will be cast on the south side of an existing building between the hours of 10:00 a.m. and 2:00 p.m. on December 21. A shade projection map shall be required showing the height and orientation of existing and proposed buildings and the slope of land and that identifies the length of shadows projected.

12.6 Implementation Measures

E-IM1. **Alternative Energy Use**. Develop or modify regulations that eliminate obstacles to alternative energy use. Regulations may include, but are not limited to:

A. Allowing height exceptions for solar equipment.

B. Allowing alternative heating and cooling systems components such as collectors, shading louvers, or reflectors to project into yards in a manner similar to cornices and canopies.

C. Defining solar heating systems and cogeneration facilities as accessory uses.

D. Preventing planned development covenants, conditions, and restrictions (CC&Rs) from unreasonably restricting alternative energy systems.

E-IM2. **Comprehensive Action Plan for Energy.** Support efforts to implement the Redwood Coast Energy Authority (RCEA) Comprehensive Action Plan for Energy.

E-IM3. **County Energy Consumption Reduction**. Develop a comprehensive program to reduce the County's energy consumption in operations including: public buildings and facilities, street lighting, vehicle fleet management, equipment procurement, and employee energy awareness program.

E-IM4. **Install County Systems**. Pursue the installation of cost-effective conservation measures, renewable energy systems, cogeneration systems, and distributed energy systems in County owned/operated facilities.

E-IM5. **Wind Energy Development**. Develop wind-permitting guidelines for residential and small commercial-scale wind energy systems. Adopt and modify, as appropriate, the guidelines established in California State Law AB 1207. Educate the public about the benefits of small-scale wind energy systems.

E-IM6. **Energy-conserving Landscaping**. Consider the use of natural and drought-resistant planting materials, efficient irrigation systems, utilizing pervious surfaces and the siting of trees to reduce energy demand in the preparation of the County landscaping ordinance.

E-IM7. **Small Hydroelectric Development**. Support development of cost-effective, environmentally sensitive, small-scale, run-of-the-river hydroelectric facilities in the County.

E-IM8. **Energy Efficiency Standards**. Develop and implement energy-efficiency standards for subdivision, mixed use, infill, and planned unit development that shall incorporate cost effective measures.

E-IM9. **Develop Incentives for Private Sector**. Develop incentives to encourage the installation of cost-effective energy efficiency measures, distributed generation, and solar electric and solar heating systems in all new construction and building retrofits. Develop incentives that support the development and implementation of Electric Vehicle (EV) charging stations and heat pumps in new commercial developments and retrofits. Incentives may include: density bonuses, fast-track permitting, fee reductions, expedited low-cost approval of standardized designs, property tax exemptions, sales tax rebates, and award programs that recognize builders and developers for well-designed systems.

E-IM-10. **County Energy Efficiency and Renewable Energy Improvements Plan.** The County shall develop and maintain a performance-based action plan to guide the implementation of energy efficiency and renewable energy improvements in county operations.

E-IM12. **Existing Regulations**. Assess and revise, as necessary, the existing subdivision, zoning, and building code implications associated with the potential development of renewable energy and distributed energy generation facilities and related electrical transmission lines.

E-IM13. **Renewable Energy Permitting Process**. Develop a clear permit process to provide for the installation of renewable energy and distributed energy generation systems. Identify zones where renewable energy and distributed energy generation facilities will be allowed as a permitted use. Identify small-scale systems that meet annual onsite energy needs, and that would not require a use permit. Zoning regulations should address the following types of renewable energy and distributed energy generation facilities: commercial wind farms, wave and tidal energy facilities, biomass energy facilities, biogas energy facilities, small-scale hydroelectric facilities, cogeneration and distributed generation facilities, and solar electric and solar heating facilities.

E-IM14 **Energy Conservation Ordinance.** The County shall adopt a residential and commercial energy conservation ordinance for building construction and retrofit that establishes energy conservation incentives and performance standards for projects exceeding state building codes.

Part 4 – Health & Safety

Overview

Part 4 includes policies and programs to protect people, property, and the environment from risks associated with seismic, geologic, noise, flood, air quality, and wildfire hazards. This part of the Plan contains the state required Noise and Safety elements, as well as the Air Quality Element.

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Chapter 13. Noise Element

13.1 Purpose

This Element identifies the County's approach to managing noise levels to minimize the exposure of community residents to excessive noise. The analysis follows the guidelines adopted by the Office of Noise Control of the California Department of Health Services.

13.2 Relationship to Other Elements

Noise levels are considered in the Land Use Element to avoid direct conflicts between neighboring uses and to establish patterns of land uses that minimize noise exposure. Policies in the Circulation Element related to road location, design, and non-motorized transportation can affect traffic noise levels. Policies of the Housing Element and Open Space Element also reflect noise considerations.

13.3 Background

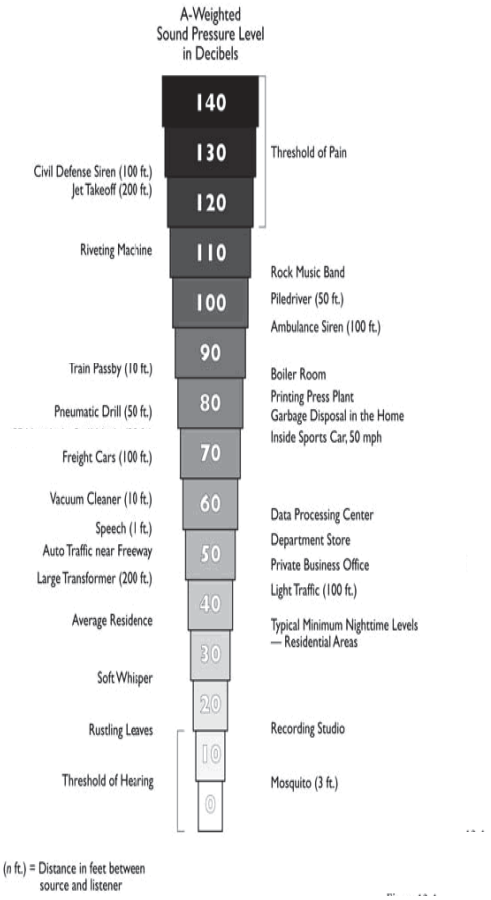
Figure 13.1: Sound Level Comparison Chart

Measuring and Characterizing Noise

Assessing the community noise environment involves measuring three aspects of sound: level, frequency, and variation. Sound level is the magnitude or loudness of a sound, expressed in decibels (see Figure 13-1 and the glossary). Frequency is a measure of the pitch of the sound, and variation is the change in noise exposure over time. When sound is disagreeable or unwanted, it is considered noise.

Most community noise is produced by many distant sources, which rise and fall gradually throughout the day creating a relatively steady background sound having no identifiable source. The Community Noise Equivalent Level (CNEL) is a measure that describes average noise exposure over a period of time.

Because communities are more sensitive to impacts from nighttime noise, noise descriptors must specifically take this time period into account. Common measures include the CNEL and the Day-Night Average Level (Ldn). Both reflect noise exposure over an average day, with greater weight given to noise occurring during the evening and night. The two descriptors are roughly equivalent but CNEL is used in this Plan for regulating cumulative noise exposure over a 24-hour period.



Noise levels of short duration, such as aircraft flyovers or concerts, are not well characterized by average noise level measurements yet are often the source of complaints. Maximum Noise Level (Lmax) is used in this Plan for the purposes of regulating short-term noise levels.

Principal Noise Sources

Table 13-A lists prominent noise sources within unincorporated areas of the county. Table 13-B provides results of community noise surveys by Charles Salter Associates conducted in April 2002 for selected areas, and Table 13-C is a survey of noise measurements along U.S. 101 from existing General Plans for Arcata, Eureka and McKinleyville.

The Map Book Appendix contains noise level contours for state highways, selected county roads, county airports, and other prominent sources. Other noise sources not included in the inventory include noises from persons, pets and livestock, industrial equipment, and construction sites.

Table 13-A. Inventory of Prominent Sources of Noise within Communities of Humboldt County

	SOURCE OF NOISE			
COMMUNITY	**ROADS**	**AIRPORTS**	**RAILROAD***	**STATIONARY SOURCES**
ALTON	U.S. 101, State Highway 36	Rohnerville	Northwestern Pacific	NONE
ARCATA	U.S. 101, State Highways 299 & 255	NONE	Northwestern Pacific	NONE
BLOCKSBURG	NONE	NONE	NONE	Gravel operations
BLUE LAKE	State Highway 299	NONE	NONE	Gravel operations
BRIDGEVILLE	NONE	NONE	NONE	Gravel operations
CAPETOWN	NONE	NONE	NONE	Gravel operations
CARLOTTA	State Highway 36	NONE	NONE	Gravel operations
DINSMORE	State Highway 36	Dinsmore Airport	NONE	NONE
DYERVILLE	NONE	NONE	NONE	Gravel operations
EUREKA	U.S. 101, Myrtle Ave. Harris, Henderson & "H" St	Murray Field	Northwestern Pacific	Redwood Acres
FAIRHAVEN	New Navy Base Rd.	City of Eureka Airport	NONE	Racetrack
FERNDALE	State Highway 211	NONE	NONE	Fairgrounds, Gravel operations
FIELDBROOK	NONE	NONE	NONE	NONE

Table 13-A. Inventory of Prominent Sources of Noise within Communities of Humboldt County (Continued)

	SOURCE OF NOISE			
COMMUNITY	**ROADS**	**AIRPORTS**	**RAILROAD***	**STATIONARY SOURCES**
FIELDS LANDING	U.S. 101	NONE	Northwestern Pacific	Shipping operations
FORTUNA	U.S. 101, Main St.	Rohnerville Airport	Northwestern Pacific	Gravel operations
FRESHWATER	Freshwater Rd.	NONE	NONE	NONE
GARBERVILLE	U.S. 101	Airport	NONE	Gravel operations
HOOPA	State Highway 96	Former County Airport	NONE	Gravel operations
HYDESVILLE	State Highway 36, Rohnerville Rd.	Rohnerville	NONE	NONE
KNEELAND	NONE	Kneeland Airport	NONE	NONE
LOLETA	NONE	NONE	Northwestern Pacific	NONE
MANILA	State Highway 255 (New Navy Base Rd.)	NONE	NONE	NONE
MAPLE CREEK	NONE	NONE	NONE	Gravel operations
MARTIN'S FERRY/ WEITCHPEC	NONE	NONE	NONE	Gravel operations
McKINLEYVILLE	U.S. 101, Central Ave.	Eureka/Arcata Airport	NONE	Gun Club
MOONSTONE/ WESTHAVEN	U.S. 101	NONE	NONE	NONE
ORLEANS	NONE	NONE	NONE	Gravel operations
ORICK	U.S. 101	NONE	NONE	NONE
PETROLIA	NONE	NONE	NONE	Gravel operations
REDWAY	Redwood Dr.	NONE	NONE	NONE
RIO DELL	U.S. 101, Wildwood Ave.	NONE	Northwestern Pacific	NONE
ROHNERVILLE (See Fortuna)				
SAMOA	New Navy Base Rd.	NONE	NONE	Pulp mill, cogeneration plant, shipping operations

Table 13-A. Inventory of Prominent Sources of Noise within Communities of Humboldt County (Continued)				
	SOURCE OF NOISE			
COMMUNITY	ROADS	AIRPORTS	RAILROAD*	STATIONARY SOURCES
SCOTIA	U.S. 101	NONE	Northwestern Pacific	Mill, gravel operations
TRINIDAD	U.S. 101	NONE	NONE	NONE
SHELTER COVE	Shelter Cove Rd.	Shelter Cove	NONE	NONE
WEOTT	U.S. 101	NONE	NONE	NONE
WILLOW CREEK	State Highways 299 & 96	NONE	NONE	Gravel operations
* Note: The former Northwestern Pacific Railroad is now under the direction of the North Coast Railroad Authority. While local rail lines have not operated on a regular basis for several years, future rail usage should continue to be considered in land use planning decisions, unless the railroad right-of-ways are abandoned.				

Traffic Noise

Traffic noise depends primarily on the speed of traffic and the percentage of truck traffic. The primary source of noise from automobiles is high-frequency tire noise, which increases with vehicle speed. In addition, trucks and older automobiles produce engine and exhaust noise, and trucks generate wind noise.

As illustrated in Table 13-B, Humboldt County is primarily subject to noise impacts from U.S. Highway 101, which creates noise in areas up to 500 feet away. Differences in elevation can amplify or dampen noise levels; for example, noise from a thoroughfare in a trough or valley between residential areas will be reflected upward and focused while noise from an elevated thoroughfare may dissipate. On flat ground, a buffer, such as a sound wall or dense vegetation, will greatly reduce noise escaping to surrounding areas. The California Department of Transportation (Caltrans) sometimes installs sound walls along state roads when new construction or widening is proposed. In Humboldt County, Caltrans has not pursued sound wall construction along existing highways.

Table 13-B. Traffic Noise Levels in Humboldt County on U.S. Highway 101, April 10-11, 2002					
Location	**Post Mile**	**Measurement Distance (ft.)**	**CNEL**	**Distance to 65 CNEL (ft.)**	**Distance to 60 CNEL (ft.)**
Richardson Grove	1.6	11	76	56	121
North of Rio Dell	55.0	23	79	186	400
Singley Rd.	64.4	30	78	323	500
Indianola cutoff	82.6	19	80	179	385
School Rd.	91.4	23	77	147	318
Westhaven Dr.	98.7	20	78	149	322
North of Orick city limits	122.0	20	73	69	149
Source: Charles Salter Associates, 2002.					

Noise surveys were conducted at various locations along U.S. 101 over a 24-hour period in April, 2002. Monitored sites included urban and rural areas of the county. The study shows distances from the center of the highway's outer lane to the 60-dB CNEL contour ranged from 121 feet at Richardson Grove, near the county's southern border, to 500 feet at Singley Road (south of the Eureka Community Planning Area).

Table 13-C lists the three sections of roadway in Arcata, McKinleyville, and Eureka with the widest 65-dB and 60-dB CNEL contours. All of these areas represent segments of U.S. 101. It is notable that in Arcata the highway is separated from surface roads in a designated right-of-way, while in Eureka the highway is part of the city's street grid.

Table 13-C. Highest-Noise Roadways in Humboldt County Communities			
Community	Roadway	Distance to 65 dB CNEL (ft.)	Distance to 60 dB CNEL (ft.)
Arcata	U.S. 101, Sunset Ave. to SH 299	382	823
	U.S. 101, Samoa Blvd. to Sunset Ave.	379	816
	U.S. 101, Bayside Rd. to Samoa Blvd.	361	778
McKinleyville	U.S. 101, SR 200 to School Rd.	185	400
	U.S. 101, School Rd. to Murray Rd.	185	400
	U.S. 101, Murray Rd. to Airport Rd.	150	350
Eureka	U.S. 101, end of 5th St. to Murray Field	141	305
	U.S. 101, Harris St. to Wabash St.	125	270
Sources: City of Arcata General Plan EIR, 1998; City of Eureka General Plan Background Report, 1997; McKinleyville CPA EIR, 1999.			

Airport Noise

Airport noise caused by aircraft depends on the type of aircraft and the frequency and direction of flights. Noise from aircraft warming up early in the morning can also be a significant source of noise from airports. Diagrams showing existing and projected noise levels associated with airport noise are contained in the County's Airport Land Use Compatibility Plans. The most current diagrams are shown in the Map Book Appendix.

Noise Compatibility

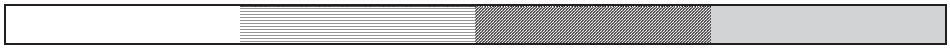
Evaluating new development projects for noise impacts should be based on a comparison of the noise compatibility standards in Table 13-D with noise contours and other available information. Fences, landscaping, and noise insulation can be used to mitigate the hazards of excessive noise levels.

A standard construction wood frame house reduces noise transmission by 15dBA. Since interior noise levels for residences are not to exceed 45dBA, the maximum exterior noise level for residences is 60dBA without requiring additional insulation. In areas where CNEL noise levels exceed 60dBA, the need for additional noise insulation will vary depending on the land use designation; adjacent uses; distance-to-noise source; and intervening topography, vegetation, and other buffers. The building code provides standards for meeting noise insulation requirements.

Appropriate standards for short-term noise levels measured by Lmax varies with the type of land use and time of day. Acceptable daytime levels in industrial and commercial areas are typically based on a combination of health and nuisance considerations and typically do not exceed 85 dBA. In residential areas, standards are typically set to avoid the perception of nuisance, such as noise levels that block normal conversation. Noise level above 66 dBA requires raised voices to be heard at a distance of three feet. Indoor noise levels between 50 and 60 dBA can disturb sleep.

The perception of nuisance will vary based upon sound level, frequency, and fluctuation. It also depends upon the character of the sound, number of noise events, familiarity and predictability, and the attitude of the listener. CNEL and Lmax are typically the basis for making nuisance determinations but other factors may be considered. For example, an annual high school parade may exceed residential noise levels but might not be deemed a nuisance.

Table 13-D Land Use / Noise Compatibility Standards



CLEARLY ACCEPTABLE | NORMALLY ACCEPTABLE | NORMALLY UNACCEPTABLE | CLEARLY UNACCEPTABLE

LAND USE INTERPRETATION FOR CNEL (or Ldn) VALUE

LAND USE CATEGORY	Maximum Interior Noise Levels*	50 – 60	61 - 70	71 - 80	81 - 90	91+
Residential Single Family, Duplex, Mobile Homes	45					
Residential Multiple Family, Dormitories, etc.	45					
Transient Lodging	45					
School Classrooms, Libraries, Churches	45					
Hospitals, Nursing Homes	45					
Auditoriums, Concert Halls, Music Shells	35					
Sports Arenas, Outdoor Spectator Sports						
Playgounds, Neighborhood Parks						
Golf Courses, Riding Stables, Water Rec., Cemeteries						
Office Buildings, Personal, Business & Professional	50					
Commercial: Retail, Movie Theaters, Restaurants	50					

LAND USE CATEGORY	Maximum Interior Noise Levels*	50 – 60	61 - 70	71 - 80	81 - 90	91+
Commercial: Wholesale, Some Retail, Ind., Mfg., Util.						
Manufacturing, Communications(Noise Sensitive)						
Livestock Farming, Animal Breeding						
Agriculture (except Livestock), Mining, Fishing						
Public Right-of-Way						
Extensive Natural Recreation Areas						

*Due to exterior sources

(Source: Bolt, Beranek, and Newman, Inc., 1974)

CLEARLY ACCEPTABLE: The noise exposure is such that the activities associated with the land use may be carried out with essentially no interference. (Residential areas: both indoor and outdoor noise environments are pleasant.)

NORMALLY ACCEPTABLE: The noise exposure is great enough to be of some concern, but common constructions will make the indoor environment acceptable, even for sleeping quarters. (Residential areas: the outdoor environment will be reasonably pleasant for recreation and play at the quiet end and will be tolerable at the noisy end.)

NORMALLY UNACCEPTABLE: The noise exposure is significantly more severe so that unusual and costly building constructions are necessary to ensure adequate performance of activities. (Residential areas: barriers must be erected between the site and prominent noise sources to make the outdoor environment tolerable.)

CLEARLY UNACCEPTABLE: The noise exposure at the site is so severe that construction costs to make the indoor environment acceptable for performance of activities would be prohibitive. (Residential areas: the outdoor environment would be intolerable for normal residential use.)

13.4 Goals and Policies

Goals

N-G1. **Excessive Noise.** A quiet and healthful environment with limited disagreeable noise.

N-G2. **Incompatible Land Uses.** Land uses arranged to reduce annoyance and complaints and minimize the exposure of community residents to excessive noise.

Policies

N-P1. **Minimize Noise from Stationary and Mobile Sources.** Minimize stationary noise sources and noise emanating from temporary activities by applying appropriate standards for average and short-term noise levels during permit review and subsequent monitoring.

N-P2. **Guide to Land Use Planning.** Evaluate current noise levels and mitigate projected noise levels when making community planning and zoning decisions to minimize the exposure of community residents to nuisance noise levels. Minimize vehicular and aircraft noise exposure by planning land uses compatible with transportation corridors and airports, and applying noise attenuation designs and construction standards. Avoid zoning patterns that

permit people to "move to the nuisance" unless mitigated through project conditions or recorded notice.

N-P3. **Noise from U.S. Highway 101 (U.S. 101) and State Highway 299.** The County shall support efforts to reduce noise levels on U.S. 101 and State Highway 299 along sections in proximity to concentrated residential development through prioritized roadway surface maintenance, use of noise-reducing surface treatments, traffic-safe tree or shrub plantings, or, in cases of significant noise exposure, use of lower speed limits and construction of sound walls.

N-P4. **Protection from Excessive Noise.** Protect persons from existing or future excessive levels of noise which interfere with sleep, communication, relaxation, health or legally permitted use of property.

13.5 Standards

N-S1. **Land Use/Noise Compatibility Matrix.** The Land Use/Noise Compatibility Standards (Table 13-D) shall be used as a guide to ensure compatibility of land uses. Development may occur in areas identified as "normally unacceptable" if mitigation measures can reduce indoor noise levels to "Maximum Interior Noise Levels" and outdoor noise levels to the maximum "Normally Acceptable" value for the given Land Use Category.

N-S2. **Noise Impact Combining Zones.** The 20-year projected noise contours in the Map Book Appendix and the most current Airport Land Use Compatibility Plans shall be used to identify noise impact combining zone areas to indicate where special sound insulation measures may apply.

N-S3. **Environmental Review Process.** For noise sensitive locations where noise contours do not exist, the environmental review process required by the California Environmental Quality Act shall be utilized to generate the required analysis and determine the appropriate mitigation per Plan and state standards. Future noise levels shall be predicted for a period of at least 10 years from the time of building permit application.

N-S4. **Noise Study Requirements.** When a discretionary project has the potential to generate noise levels in excess of Plan standards, a noise study together with acceptable plans to assure compliance with the standards shall be required. The noise study shall measure or model as appropriate, Community Noise Equivalent Level (CNEL) and Maximum Noise Level (Lmax) levels at property lines and, if feasible, receptor locations. Noise studies shall be prepared by qualified individuals using calibrated equipment under currently accepted professional standards and include an analysis of the characteristics of the project in relation to noise levels, all feasible mitigations, and projected noise impacts. *The Noise Guidebook* published by the U.S. Department of Housing and Urban Development, or its equivalent, shall be used to guide analysis and mitigation recommendations.

~~**N-S5.** **Uniform Building Code.** Use the Uniform Building Code as adopted for California (California Code of Regulations, Title 24, Appendix Chapter 12) for determining required noise separation requirements for buildings.~~

N-S6. Noise Standards for Habitable Rooms. Noise reduction shall be required as necessary in new development to achieve a maximum of 45 CNEL (Community Noise Equivalent Level) interior noise levels in all habitable rooms per California building standards. .

N-S7. Noise Reduction Requirements for Exterior Areas in Residential Zones. Newly created single family residential lots of 5,000 square feet or more, should contain a usable outdoor area at least 200 square feet in size per dwelling unit that meets the 60 CNEL (Community Noise Equivalent Level) standard.

N-S8. Short-term Noise Performance Standards (Lmax). The following noise standards, unless otherwise specifically indicated, shall apply to all property within their assigned noise zones and such standards shall constitute the maximum permissible noise level within the respective zones.

SHORT-TERM NOISE STANDARDS (Lmax)		
Zoning Designation	Day (maximum) 6:00 a.m. to 10:00 p.m. dBA	Night (maximum) 10:00 p.m. to 6:00 a.m. dBA
MG, MC, AE, TPZ,TC, AG, FP, FR, MH	80	70
CN, MB, ML, RRA, CG, CR C-1, C-2. C-3,	75	65
RM, R-3, R-4	65	60
RS, R-1, R-2, NR	65	60

Exceptions. The Short Term Noise levels shown in the above table shall not apply to uses such as, but not limited to:

1. Portable generator use in areas served by public electricity when electrical service is interrupted during emergencies as determined by the Planning Director.
2. Temporary events in conformance with an approved Conditional Use Permit.
3. Use of chainsaws for cutting firewood and power equipment used for landscape maintenance when accessory to permitted on-site uses.
4. Heavy equipment and power tools used during construction of permitted structures when conforming to the terms of the approved permit.
5. Emergency vehicles.

Protocol for measuring exceedances:

1. Calibrate and establish reference for sound meter:

   Decibel measurement made shall be based on a reference sound pressure of 0.0002 microbars as measured with a sound level meter using the "A" weighted network.

2. Determine ambient background noise levels:

   Ambient noise without the noise source in operation shall be observed at 15 second intervals for a period of 15 minutes, measured along the property line in a direct line between the noise source and the nearest

receptor**.** The lowest reading is interpreted as the ambient noise level of that sampling point. If this reading is above the standard set for the noise zone, steps must be taken to determine the source or sources of the intruding high-level noise followed by appropriate control action before continuing the survey. If the reading is equal to or below the standard, the survey can proceed.

3. Measure for exceedences:

   With the noise source in operation, record the instantaneous response at 15 second intervals for a 15 minute period. Or, for a noise source of less than 15 minutes, record the instantaneous response at 15 second intervals for the time the noise source is in operation. The lowest response level recorded while the noise source is in operation is interpreted as the intruding noise level. Compare the intruding noise levels with the standard. If the noise level generated from the noise source exceeds the standard, the noise source is generating noise levels in excess of the allowable standards set for the noise zone.

13.6 Implementation Measures

N-IM1. **Noise Impact Combining Zone.** Utilize Noise Impact Combining Zone designations to identify areas where noise impact mitigations are required.

N-IM2. **Periodic Review of Combining Zones.** Periodically identify and evaluate potential noise problem areas for mitigation or as candidates for noise impact combining zones, particularly during Airport Land Use Compatibility Plan updates.

N-IM3. **Compliance Program.** The County shall investigate complaints of excessive noise and control noise sources consistent with the standards established by the Plan. Nuisance determinations shall be based on noise levels, duration, and number of noise events.

N-IM4. **Noise from U.S. Highway 101 (U.S. 101) and State Highway 299.** Working through its representation on Humboldt County Association of Governments (HCAOG), the County shall work with other affected jurisdictions and request California Department of Transportation (Caltrans) to consider implementing noise reduction measures on U.S. 101 and State Highway 299 along sections in proximity to concentrated residential development.

N-IM5. **Adoption of Performance Standards.** Adopt Industrial Performance Standards Countywide.

N-IM7x. **Noise Control Ordinance.** Prepare and consider a noise control ordinance to regulate noise and vibration sources in order to protect persons from existing or future excessive levels of noise and/or vibration which interfere with sleep, communication, relaxation, health or legally permitted use of property. The ordinance shall define excessive levels of noise for construction activities to be incorporated as permit requirements and other noise sources and may exempt or modify noise requirements for agricultural uses, ~~construction activities,~~ school functions, property maintenance, waste collection and other

sources. The ordinance shall include responsibilities and procedures for enforcement, abatement and variances. [Mitigation Measure 3.6.3.2.a]

N-IMx. **Highways Noise Contours.** Request Caltrans to update current and projected noise contours for highways.

N-IMx1. **Airport Noise Contours.** Incorporate into the Noise Impact Maps in Appendix F the new noise contour data for airports and surrounding areas from Airport Master Plans, and from new ALUPs within six months of adoption of a new ALUP.

N-IMx. **Garberville Airport Noise Impact Combining Zone.** Add a Noise Impact (N) Combining Zone to the areas surrounding the Garberville Airport that are subject to noise levels equal to or above 60 CNEL according to Figure 5B of the 2007 Garberville Airport Master Plan Report, or the most recent Garberville Airport Master Plan Report. [Mitigation Measure 3.6.3.3.a]

Chapter 14. Safety Element

14.1 Purpose

The purpose of the Safety Element is to reduce the risk of death, injuries, property damage, and economic and social dislocation resulting from earthquake, fire, flood, and other hazards. The components of this element include:

- Geologic/Seismic Hazards
- Flooding and Drainage
- Fire Hazards
- Airport Safety
- Industrial Hazards
- Emergency Management

This Element identifies hazards and hazard abatement provisions to guide local decisions related to zoning, subdivisions, and entitlement permits. Hazard and risk reduction policies supporting hazard mitigation implementation measures are contained in this Element.

14.2 Relationship to Other Elements

The hazards discussed in The Safety Element are considered in applying the policies and land use designations of the Land Use Element. For instance, lands subject to recurring flooding are planned for open space uses such as agriculture wherever practical. The Conservation and Open Space, Circulation, Community Infrastructure and Services and Water Resources Elements share common related subject matter.

14.3 Background

Hazard and Risk Reduction

Land development is subject to a number of hazards to life and property, including seismic and non-seismic land instability, flooding, fire, and dangers from airport operations.

The degree of risk associated with these hazards can only be measured in relative terms. What constitutes "acceptable risk" varies with the type of development involved. For instance, a hospital should meet very strict earthquake standards in order to ensure that it is able to function in the event of a serious earthquake. A warehouse, on the other hand, would not need to be designed to the same rigorous standards because its functions during an earthquake would not be critical to the community's response to the emergency, nor would it pose serious risk to large numbers of people should it fail.

This General Plan manages risk through the use of land use designations to limit exposure to hazardous areas and through policies tailored to specific hazardous conditions. The

implementation measures of this Element are designed to proactively improve overall safety conditions within the county.

Geologic/Seismic Hazards

Humboldt County is a relatively hazardous area in terms of land sliding and soil erosion, and an extremely hazardous area in terms of groundshaking and fault rupture. The following sections briefly describe the seismic setting, bedrock geology, and soils of the county.

Seismicity

Humboldt County is located within two of the highest of five seismic risk zones specified by the Uniform Building Code. The area near Cape Mendocino is a complex, seismically active region, where three crustal plates intersect to form the Mendocino Triple Junction. The area offshore Cape Mendocino has the highest concentration of earthquake events anywhere in the continental United States.

The subducting Gorda and Juan de Fuca Plates form the "Cascadia Subduction Zone," which runs north offshore of Humboldt, Del Norte, Oregon, and Washington. Research shows that this system produced a series of great earthquakes (magnitude 8 to 9) over the last 20,000 years at intervals of 300–500 years. The last great earthquake occurred about 300 years ago.

The above described seismic setting has the potential to cause significant groundshaking, leading to: (1) a serious liquefaction and subsidence hazard, particularly around the muds and sands of Humboldt Bay; (2) a nearshore tsunami striking the coast within 15 minutes of groundshaking; (3) a significant landslide hazard countywide; and, (4) surface fault rupture along the San Andreas, and possibly along the Little Salmon and Mad River fault zones, and other active or potentially active faults in the county. This scenario is Humboldt County's most significant risk. Planning proactively for this risk to protect life, minimize damage to critical infrastructure, and respond in the event of this emergency are high priorities of this Plan.

Surface Fault Rupture

Surface fault rupture is a particular type of seismic hazard that is specifically addressed by state legislation, the Alquist-Priolo Earthquake Fault Zoning Act. This act generally requires disclosure and avoidance. Humboldt County has a number of fault zones mapped under this law. The County utilizes a combining zone designation ("G") to flag these areas where special geologic study is required to identify the precise location of active fault traces to ensure structures for human occupancy are not placed astride them.

Liquefaction and Landsliding

Groundshaking gives rise to two secondary natural hazards, liquefaction and landsliding. Liquefaction involves a sudden loss in strength of a water-saturated soil, and results in temporary transformation of the soil into a fluid mass. Recent alluvial flood plain soils and coastal sand deposits exhibit the highest liquefaction hazard. To mitigate this hazard soils engineering investigations can assess the potential for liquefaction and specify appropriate foundation and building design.

Groundshaking can induce landslides, especially under saturated conditions. Again, soils engineering investigations can evaluate the seismic stability of slopes and prescribe appropriate setbacks.

Active Fault Near-Source Zones

Since 1997, the UBC (Uniform Building Code) requires that in Seismic Zone 4 (most of Humboldt is in this zone) each listed ground motion fault shall be assigned a near-source seismic factor to be used in building design. Applying these factors to building construction substantially increases building strength and, for large multi-story buildings, cost. In Humboldt County, there are "A" and "B" designated fault zones, with "A" zones (including the San Andreas and Little Salmon faults) having more stringent design requirements.

Bedrock Geology

The bedrock geology of the county is divided generally into two provinces: the Klamath Mountains province in the northeast and the Coast Ranges province in the central and southwest portion of the county. The dividing line between the two provinces is the South Fork Mountain Ridge, which separates the Trinity River basin from the Mad River and Redwood Creek drainages.

The Klamath Mountains province is an area of high alpine peaks east of the Humboldt County line. The province is drained by the Klamath and Trinity Rivers and, farther north, by the Smith River. Rocks in the Klamath Mountains province are generally older than those in the Coast Ranges. Rocks of sedimentary origin such as sandstone, chert, slate, and schist occur abundantly, with occasional granite intrusions.

The Coast Ranges province is the dominant geologic province in the county, trending northwest and drained by the Mad, Eel, and Mattole River drainages. The Franciscan and Yager complexes dominate inland, with sand and other alluvial deposits characterizing the lower reaches of the river basins and the area surrounding Humboldt Bay.

The Franciscan complex can be divided into two distinct units: Franciscan sandstone and Franciscan mélange. Franciscan sandstone consists mainly of sandstone and siltstone. Although this sandstone unit is frequently sheared, there is little evidence of massive rock deformation. Slopes are fairly stable, but subject to debris sliding along steep river banks and in steep headwater drainages.

Franciscan mélange consists of sheared sandstone and siltstone along with blocks of volcanic rock, chert, and schist. Mélange terrain is generally unstable and characterized by rolling hummocky slopes that are highly susceptible to mass movement.

The Yager formation is predominantly shale and sandstone. Local shearing occurs but, in general, the formation is much less deformed and more stable than the Franciscan. However, it is subject to debris slides on steep slopes and river banks.

Alluvial sediments dominate the lower reaches of the river basins and in the area surrounding Humboldt Bay. These unconsolidated to partially consolidated sediments have been mildly folded and faulted but, when forested or gently sloped, are generally stable.

Recent advances have been made but the bedrock geology is still poorly mapped in much of the county. In most cases, lack of detailed mapping precludes determining stability without a site investigation. However, it may be valid to conclude varying degrees of relative risk based on general mapping of rock units when averaged over time.

Soils

There are many varied soils in Humboldt County. Some of the more abundant agricultural and lowland soils found in the county are the Ferndale series, a deep, well drained soil formed on recent flood plains; the Bayside and the Loleta series, both deep, poorly drained soils found in depressed areas or on nearly level alluvial fans; and the Rohnerville, Carlotta, and Hookton soils series, all moderately well-drained soils.

Rohnerville soils are found on relatively flat, high marine terraces. The Hookton soils are on sloping, dissected marine terraces and the Carlotta soils are found on flat, low-lying terraces. Most of these agricultural soils are rated 80-100 in the Storie Index of agricultural productivity (good to excellent productivity) except the Bayside soils where drainage problems may reduce agricultural potential.

Forest Soils

In general, the forest soils of the county are medium textured, acid in reaction, and generally increasing in acidity with depth. They are permeable and well drained.

In the lowlands forest soils are formed on alluvial flood plains or low-lying terraces. Here they are either unclassified or of the Carlotta and Ferndale groups. The most superlative old growth redwood groves are found on these soils.

Grassland Soils

The general characteristics of grassland soils vary widely. They range from shallow loamy soils to deep clay soils. Their permeability ranges from moderate to slow. The general nutrient level of these grassland soils is higher than that of the adjacent forest soils. The major portion of these soils is intermingled with other soils in the Douglas fir zone beyond the fog belt. Some of these soils are formed on Franciscan parent material. Many of these are found in the shear zone or fault gouge material or on the mélange material of the Franciscan. This parent material weathers rapidly, forming a grey-blue clay subsoil (commonly called "blue goo") that tends to slip when wet. Thus, because of the parent material, these soils are found in landslide topography.

Woodland Soils

Most of the woodland soils are inland beyond the cool, foggy belt. They are intermingled with the conifer forest soils of the Douglas fir belt and the adjacent grassland soils. These are shallow soils, usually well drained, but permeability may be slow in some locations. The natural nutrient level of these soils tends to be somewhat higher than for the neighboring forest soils. Because the parent material is predominantly Franciscan mélange, these soils can be relatively unstable.

In contrast to the information on the county's bedrock geology, the available soils information is quite detailed. Soil-vegetation maps prepared by the California State Cooperative Soil-Vegetation Survey are available for the county at the 7-1/2 minute

scale. These maps describe vegetation and soils, including information of parent rock materials, soil depth, erosion, and slope.

Slope Stability

Slope stability refers to the landslide susceptibility of slopes composed of natural rock, soils, artificial fill, or combinations thereof. Landslides move along surfaces of separation by falling, sliding, and flowing, giving rise to many characteristic features. The features range in appearance from being clearly discernible, largely unweathered and uneroded, to highly weathered and eroded, recognized only by topographic configurations.

Landslides are characteristically abundant in areas of high seismicity, steep slope, and high rainfall, but may be triggered by any, or a combination, of the following: (1) type and structure of earth materials, (2) steepness of slope, (3) water, (4) vegetation, (5) erosion, and (6) earthquake-generated groundshaking.

The prediction of slope failure at a specific site, therefore, requires an analysis of all possible factors. As part of the County General Plan, relative slope stability maps have been prepared to show areas susceptible to sliding.

Flooding and Drainage Management

This section examines four aspects of flood-related hazards: river flooding, dam failure, coastal high water, and drainage management.

River Flooding

The 1955 and 1964 floods caused extensive damage along the Eel, Mad, and Trinity Rivers. Damages from the 1964 flood alone totaled $100 million. Flood prone areas have been mapped by the Federal Emergency Management Agency (FEMA). The maps provide the basis for regulating flood plains in conformance with the National Flood Insurance Program. The County has adopted flood plain regulations in order to continue participation in the federal flood insurance program.

Dam Failure

While providing some degree of flood control, dams also present a possible hazard in the event of failure. Trinity Dam and Ruth Dam pose the most substantial risk, with their large volumes and, in the event of a failure, short downstream warning times.

Hazards from dam failure are those associated with the downstream inundation that would occur given a major structural failure of a nearby impoundment. Such failures would most likely be caused by geologic phenomena, including seismic events and slope stability problems.

Five dams are located in adjacent counties on rivers that drain into Humboldt County and the failure of any one of these structures could significantly impact this county. The County maintains emergency response plans for the Trinity, Ruth (Matthews), Scott, Copco, and Iron Gate dams.

Coastal High Water Hazards

Tsunamis and storm surges are coastal flooding concerns. Damaging tsunamis are rare but potentially catastrophic events. Over the past 150 years, California has had 12 tsunamis which have caused damage, the worst occurring in 1964 when 12 people died from a tsunami generated by an Alaskan earthquake. Local earthquakes can produce damaging tsunamis that will provide very little warning time. The geologic record indicates that the Cascadia Subduction Zone has been a near-shore source for a number of significant tsunami events affecting Humboldt County, the most recent occurring about 300 years ago. Tsunami run-up elevations in excess of 30 feet above mean sea level have been estimated for the north and south spit of Humboldt Bay. The Plan addresses this risk through mapping of high risk areas, standards for new development located in run-up zones, and tsunami preparedness efforts in low-lying coastal communities.

Storm surges occur when coastal storms produce large ocean waves that sweep across coastlines inundating low lying areas and causing flooding. If a storm surge occurs at the same time as high tide, flooding is more extensive.

Drainage Management

Drainage management becomes increasingly important as new development converts additional areas in a watershed to hard surfaces. Impervious surfaces reduce infiltration and increase peak flows during storms. Increased peak flows can accelerate erosion and the loss of fish habitat and riparian areas or require the conversion of natural drainage ways into higher capacity conveyances that can more rapidly transport stormwater. The loss of natural stream and riparian systems in urban areas may cause water quality problems downstream by concentrating runoff, which may contain pollutants such as sediment, oil and greases, pesticides, fertilizers, metals, and bacterial and viral contaminants. Higher capacity conveyances are problematic for Humboldt's flood basins because moving water faster to these areas only prolongs flooding of the low-lying areas.

Drainage problems and associated flooding are reduced through this Plan by use of various measures to decrease runoff. These measures include upstream retention and detention basins, improved watershed management and stream protection, reduction of impervious surfaces, proper siting of development projects, and other similar measures.

Fire Hazard

Fire Hazard Severity Mapping

The wildfire hazard in the county has been analyzed using the methodology of CAL FIRE's Fire and Resource Assessment Program (FRAP) (2007). This method takes into account fuels, terrain, weather, and other relevant factors. The potential for destructive fires in Humboldt County ranges from moderate to very high in severity classification.

CAL FIRE's severity classifications for SRA areas within Humboldt County are shown on the CAL FIRE Fire Hazard Severity Zone Map. The Map generally reflects a moderate to high rating on the western portions of the county where the fuel potential is high but the climate is damp. The very high ratings are generally in the drier eastern portions of the county or in very steep terrain.

The Fire Hazard Severity Zone Map is used to apply mitigation strategies in proportion to wildland fire risk. The mitigation strategies and standards in SRA are a locally adopted version of the State's SRA Fire Safe Regulations (Humboldt County Code, Division 11 of Title III). These regulations constitute local alternative standards, as authorized by California Public Resources Code, Section 4290, and have been approved by CAL FIRE as meeting or exceeding the state regulations.

Fire Service Providers

Fire hazards fall into two general categories: wildland fires, which emanate from forest, grassland, or open chaparral; and structural fires, which damage homes and workplaces and may spread to other areas. In general, structural fire protection is the responsibility of local agencies, such as fire protection districts and volunteer fire companies; wildland fire protection is the responsibility of federal and state agencies.

Due to the highly diverse range of community characteristics and emergency service needs throughout Humboldt County, each local fire department strives to develop an emergency response and deployment system that reflects its constituents' expectations, community needs, and local risks, while staying within the organization's revenue and support constraints. Most local fire departments are multi-service providers, responding to structure fires, wildland fires, vehicle accidents, medical aid calls, and more. In response to such a diverse range of service demands, the County receives fire protection and related emergency services from a variety of fire organizations.

A majority of the local fire departments are associated with a special district formed to provide services within a specific jurisdictional boundary. However, there are many areas throughout the county where homeowners live outside the boundaries of an established district. District resources often respond to these "good will" service areas even though they are under no obligation to do so and receive no dependable compensation for their service. Redwood Valley, Maple Creek, upper Jacoby Creek, and other remote areas currently fall into this category. There are other areas outside of local district boundaries where volunteer fire companies have assumed responsibility for community fire service. These companies have no government affiliation and do not receive a reliable source of funding to support services.

The California Department of Forestry and Fire Protection (CAL FIRE) is responsible for wildland fires on State Responsibility Areas (SRA), which includes most of the rural privately owned lands within the county. When staffed, CAL FIRE provides emergency response for wildland fires, structure fires, vehicle accidents and medical aid calls, and support for local fire agencies as needed. CAL FIRE and the Forest Service are at peak staffing from July through October. During the off-peak part of the year, CAL FIRE responds as available. As cooperators, local agencies frequently assist the federal and State agencies with vegetation fires.

CAL FIRE also provides structural fire protection through an annually renewable contract with the County for County Service Area No. 4 (CSA No. 4). CSA No. 4 covers an area along U.S. Highway 101 (U.S. 101) from the southern boundary of the Orick Community Service District (CSD) to the northern boundary of the Arcata Fire Protection District. CAL FIRE is also under contract with the County and Arcata Fire Protection District to provide local fire dispatch services, which includes the majority of the county fire agencies.

The U.S. Forest Service is primarily concerned with wildfires in national forests. The Forest Service participates in mutual aid agreements with other fire agencies when crews and

equipment are available. The National Park Service provides wildland fire protection within the boundaries of Redwood National park. The Hoopa tribe has responsibility for wildland protection within the Hoopa Square through a federal agreement.

Community Wildfire Protection Plan ~~Master Fire Protection Plan~~

In 2006, the Humboldt County Board of Supervisors approved the Master Fire Protection Plan ~~(MFPP)~~, as a resource to assist in the development of appropriate policies in this General Plan, **and was updated in 2013 as the Humboldt County Community Wildfire Protection Plan (CWPP).** The ~~MFPP~~ **CWPP** ~~was developed for~~ **serves** ~~use~~ as a framework for fire coordination, prevention, and protection throughout the county. The ~~MFPP~~ **CWPP** also ~~makes~~ **contains** significant findings and recommendations relating to fire protection capability, fire safe education, fire risk and hazard assessment, fire risk reduction and management, community preparedness and response, and fiscal issues relating to fire protection.

Some of the key findings of the ~~MFPP~~ **CWPP** are ~~listed~~ **summarized** below. Addressing these issues is a priority of this Plan.

- Volunteers for both non-district fire companies and fire protection districts with varying degrees of experience are primarily responsible for delivering emergency response services in some areas of the county;
- Many developed areas of the county are located outside jurisdictions responsible for year-round structural fire protection and receive services on a "good will" basis;
- Most local fire organizations report having insufficient funding to adequately respond to the demands placed on their service; and,
- Hazardous wildland fuel loading is increasing within and adjacent to local communities at a faster rate than it can be managed.

Airport Safety

The County Public Works Department operates six county airports: Arcata-Eureka (McKinleyville) Airport, Murray Field, Dinsmore Airport, Garberville Airport, Kneeland Airport and Rohnerville Airport. The Board of Supervisors has adopted Airport Master Plans for each of the County maintained airports. In addition, the Board of Supervisors adopted the Airport Land Use Compatibility Plan, which outlines policies for land uses surrounding the airports.

In addition to the airport facilities, the Department of the Navy operates Military Training Routes (MTR) or Military Operating Areas (MOA) that traverse the central parts of the County. The Military Training Routes are comprised of a three dimensional airspace designated for military training and transport activities that have a defined floor (minimum altitude) and ceiling (maximum altitude). The MTR boundaries and minimum altitudes are identified in the Military Operation Area Figure 14-1. Within the MOA, the County needs to consider the impact of new development on military readiness activities and provide notice to the military of new discretionary development within MOA's.

Table 14-A. Airport/Land Use Safety Compatibility Criteria

Zone	Location	Impact Elements	Maximum Densities		Required Open Land[3]
			Residential du/ac)[1]	Other Uses (people/ac)[2]	
A	Runway Protection Zone or within Building Restriction Line	• High risk • High noise levels	0	10	All remaining
B1	Approach/Departure Zone and Adjacent to Runway	• Substantial risk - aircraft commonly below 400 ft. AGL or within 1,000 ft. of runway • Substantial noise	0.1	60	30%
B2	Extended Approach / Departure Zone	• Significant risk - aircraft commonly below 800 ft. AGL • Significant noise	0.5	60	30%
B3	Extended Approach / Departure Zone	• Significant risk - aircraft commonly below 800 ft. AGL • Significant noise	4	60	30%
C	Common Traffic Pattern	• Limited risk - aircraft at or below 1,000 ft. AGL • Frequent noise intrusion	4	150	15%
C*	Common Traffic Pattern	• Limited risk - aircraft at or below 1,000 ft. AGL • Frequent noise intrusion	8	150	15%
C1	Common Traffic Pattern	• Limited risk - aircraft at or below 1,000 ft. AGL • Frequent noise intrusion	2	150	15%
C1*	Common Traffic Pattern	• Limited risk - aircraft at or below 1,000 ft. AGL • Frequent noise intrusion	2.4	150	15%
D	Other Airport Environs	• Negligible risk • Potential for annoyance from overflights	No limit	No limit	No requirements

Zone	Additional Criteria		Examples	
	Prohibited Uses	Other Development Conditions	Normally Acceptable Uses[4]	Uses Not Normally Acceptable[5]
A	• All structures except ones with location set by aeronautical function • Assemblages of people • Objects exceeding FAR Part 77 height limits • Hazards to flight[6]	• Dedication of aviation easement	• Aircraft tiedown apron • Pastures, field crops, vineyards • Automobile parking	• Heavy poles, signs, large trees, etc.
B1 B2 and B3	• Schools, day care centers, libraries • Hospitals, nursing homes • Highly noise-sensitive uses • Storage of highly flammable materials • Hazards to flight[6]	• Locate structures maximum distance from extended runway center-line • Minimum NLR[7] of 25 dBA in residential and office buildings • Dedication of aviation easement	• Uses in Zone A • Any agricultural use except ones attracting bird flocks • Warehousing, truck terminals • Single-story offices	• Residential subdivisions • Intensive retail uses • Intensive manufacturing or food processing uses • Multiple story offices • Hotels and motels
C C* C1 and C1*	• Schools • Hospitals, nursing homes • Hazards to flight[6]	• Dedication of overflight easement for residential uses	• Uses in Zone B • Parks, playgrounds • Low-intensity retail offices, etc. • Low-intensity manufacturing, food processing • Two-story motels	• Large shopping malls • Theaters, auditoriums • Large sports stadiums • Hi-rise office buildings
D	• Hazards to flight[6]	• Deed notice required for residential development	• All except ones hazardous to flight	

Source: Airport Land Use Compatibility Plan - Humboldt County Airports (Hodges & Shutt, 1993, amended 1/27/98)

The Airport Land Use Commission (presently embodied as the Board of Supervisors) coordinates with applicable agencies in ensuring compatible land uses for areas surrounding County airports.

The principal airport/airspace/land use compatibility issues at most airports are:

Noise: Often the most significant of the adverse impacts of airport activities.

Airspace: The height of structures, trees, and other objects in the MOA or in the vicinity of an airport greatly affects the use of that airport.

Safety: Controls on land uses near airports can reduce potential risks both to people on the ground and to the occupants of aircraft.

The key policy guidance is given by an Airport Land Use Compatibility Matrix (included here as Figure 14-1).

The Airport Master Plans (www.co.humboldt.ca.us/aviation/) provide more information about onsite airport land use issues and policies.

This Plan requires close coordination between County Planning and Public Works when making land use and zoning decisions around the airports. Specific attention to this issue is given in the community plans, most importantly the McKinleyville Community Plan.

Figure 14-1 Military Training Routes and Operating Areas

Industrial Hazards

Several specific industrial activities have been identified as having the potential to cause significant damage to the surrounding area in the event of an accident. These activities include the use of chlorine at the regional sewage treatment plants, shipping and receiving of hazardous materials other than chlorine, and the nuclear materials at the PG&E Humboldt Bay Power Plant. Each of these activities/facilities has a contingency plan that directs the appropriate disaster responses. In addition, policy is provided here to address the siting of new hazardous industrial facilities.

Emergency Management

Humboldt County Ordinance 2203 established the Humboldt Operational Area (OA) and identified the Sheriff as Director of Emergency Services for the County. The Humboldt OA is composed of the County of Humboldt, serving as the lead agency, and all political subdivisions (cities and special districts). The Office of Emergency Services (OES) assists the Sheriff in controlling and directing the effort of the emergency organization of the County and is part of the Special Operations Division within the Sheriff's Department.

The OES is responsible for maintaining the Humboldt County Emergency Operations Plan, which serves to address the planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies in, or affecting, Humboldt County. OES also maintains specific hazard response plans for earthquake, flooding, tsunamis, coastal storms, and other events. These response plans are used to determine the most appropriate evacuation routes based on the nature and extent of hazard. Pre-disaster evacuation route planning is addressed through a variety of efforts including the FEMA local hazard mitigation plan program, the seismic retrofit program for state bridges and overpasses, tsunami response planning, and the application of the CAL FIRE SRA standards for emergency access.

14.4 Goals and Policies

Goals

S-G1. **Minimize Loss.** Communities designed and built to minimize the potential for loss of life and property resulting from natural and manmade hazards.

S-G2. **Prevent Unnecessary Exposure.** Areas of geologic instability, floodplains, tsunami run-up areas, high risk wildland fire areas, and airport areas planned and conditioned to prevent unnecessary exposure of people and property to risks of damage or injury.

S-G3. **Natural Drainage and Watershed Protection.** Natural drainage channels and watersheds that are managed to minimize peak flows in order to reduce the severity and frequency of flooding.

S-G4. **Fire Risk and Loss.** Development designed to reduce the risk of structural and wildland fires supported by fire protection services that minimize the potential for loss of life, property, and natural resources.

S-G5. **Airport Safety.** Land use and development in the vicinity of airports that minimizes exposure to unsafe levels of noise and aircraft hazards consistent with the applicable Airport Land Use Compatibility Plan.

S-G6. **Industrial Safety.** Industrial development regulated by performance standards, monitored by the appropriate agencies, and supported by land use plans that minimizes risk and exposure of the population to industrial hazards.

S-G7. **Response Preparedness.** Interagency readiness and capacity to respond to emergencies to reduce loss of life and property, support the population, and facilitate recovery.

S-G8. **Cascadia Event Preparation.** A community prepared to withstand and recover from a high magnitude, long-duration local earthquake along the Cascadia subduction zone.

Policies

General

S-P1. **Reduce the Potential for Loss.** Plan land uses and regulate new development to reduce the potential for loss of life, injury, property damage, and economic and social dislocations resulting from natural and manmade hazards, including but not limited to, steep slopes, unstable soils areas, active earthquake faults, wildland fire risk areas, airport influence areas, military operating areas, flood plains, and tsunami run-up areas.

S-P2. **Coastal Zone Hazards.** Development within the coastal zone shall minimize risks to life and property in areas of high geologic, tsunami, flood, and fire hazard; assure stability and structural integrity; and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or surrounding areas or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.

S-P3. **Hazard Education.** Encourage the education of the community regarding the nature and extent of hazards and community disaster preparation and response.

S-P4. **Disaster Response Plans.** The County shall prepare and maintain current disaster response plans. The County shall support and participate in the preparation of disaster response plans by community organizations, companies, cities, and state and federal agencies.

S-P5. **Hazard Mitigation.** The County shall actively seek opportunities to reduce the impacts of disasters through hazard mitigation planning.

S-PX7. **Military Operating Areas.** Provide notification and project information to the military for discretionary development projects within military airspace operating areas as may be required by the California Government Code.

Geologic/Seismic

S-P6. **Structural Hazards.** The County shall protect life and property by applying and enforcing state adopted building codes and Alquist-Priolo requirements to new construction.

S-P7. **Improved Information.** Encourage and support more detailed scientific analysis of Cascadia Subduction Zone earthquake risks, probabilities, and anticipated effects.

S-P8. **Earthquake Mitigation Planning**. The potential for a local earthquake in excess of magnitude 9.0 (Richter scale) shall be considered in disaster planning, risk assessment, and pre-disaster mitigation efforts.

S-P9. **Cascadia Event Disaster Response.** The County shall maintain readiness for a comprehensive response to a major earthquake consistent with the nationwide emergency management hierarchy and the adopted Emergency Response Plan for the Humboldt Operational Area.

S-PX1. **Site Suitability.** New development may be approved only if it can be demonstrated that the proposed development will neither create nor significantly contribute to, or be impacted by, geologic instability or geologic hazards.

Flooding

S-P10. **Federal Flood Insurance Program.** The County shall participate in the Federal Flood Insurance Program and maintain Flood Damage Prevention regulations in the County Code to regulate land uses in flood hazard areas in order to minimize loss of life and property and public flood-related expense.

S-P11. **Flood Plains.** Agricultural lands that are in mapped floodplains shall be retained for use in agriculture.

S-PX2. **Prohibition of Residential Subdivisions within Floodplain.** The creation of new parcels that increase residential density wholly within the 100 year floodplain, as identified in the most recent FEMA flood insurance rate maps, shall be prohibited unless the Board of Supervisors makes specific findings that the potential for loss of life and property can be reduced to less than significant levels.

S-PX3. **Construction Within Special Flood Hazard Areas.** Construction within a floodplain identified as the 100-Year Flood Boundary on FEMA's Flood Insurance Rate Map shall comply with the County's Flood Damage Prevention Regulations. Fill in the floodplain shall only be allowed if it can be demonstrated that the fill will not have cumulative adverse impacts on or off site and such fill shall not be detrimental to productive farm land, and is otherwise in conformance with the County's Flood Damage Prevention Regulations.

S-PX4. **Development on, or Adjacent to, Coastal Bluffs and Beaches.** Allow development in areas immediately adjacent to coastal bluffs and beaches only if it can be demonstrated by a certified engineering geologist that wave action, storm swell, tsunami inundation, and projected sea level rise using the best available scientific information and at the time of review, are not a hazard to the proposed development.

Fire Hazards

S-P12. **Joint Planning and Implementation.** The County shall plan collaboratively with local fire agencies and companies, CAL FIRE, and federal fire organizations on countywide fire prevention and response strategies. Implementation shall be coordinated to maximize efficiency and ensure efforts are complimentary.

S-P13. **Subdivision Design in High and Very High Fire Hazard Zones.** Subdivisions within State Responsibility Area (SRA) high and very high fire severity classification areas shall explicitly consider designs and layout to reduce wildfire hazards and improve defensibility; for example, through clustering of lots in defensible areas, irrigated green belts, water storage, perimeter roads, roadway layout and design, slope development constraints, fuel modification plans, and vegetation setbacks.

S-P15. **Conformance with State Responsibility Areas (SRA) Fire Safe Regulations.** Development shall conform to Humboldt County SRA Fire Safe Regulations.

S-P16. **Level-of-Service Standards.** Support the development of a level of service standard by the Humboldt County Fire Chief's Association for all emergency response services (fire, EMS, HazMat, and rescue) and make such information public so that landowners and residents understand the distribution and quality of service.

S-P17. **Fire District Boundary Maps.** The County shall maintain and publish fire district boundary maps.

S-P18. **Prescribed Burning.** Encourage the use of prescribed burning as a management tool for hazardous fuels reduction, timber management purposes, livestock production, and enhancement of wildlife habitat.

S-P18. **Hazardous Fuel Reduction.** Encourage land management activities that result in the reduction of hazardous fuels and also support timber management, livestock production, and the enhancement of wildlife habitat, through the use of prescribed burning, hand or mechanical methods, firewise plants, biomass utilization, and animal grazing.

S-P19. **Fire Safe Education.** Expand fire prevention and mitigation education capacity in the county.

S-P20. **Fire Service Provider Support.** Make information available to fire service providers about creating districts, increasing organizational capacity, developing funding streams, and improving Insurance Services Office (ISO) ratings for reduced insurance costs.

S-PX5 **Protection of Native Plants.** The County shall promote fire-safe practices that encourage conservation and use of native plants and native plant ecosystems, while protecting citizens, firefighters, and property.

S-PX6 **Alternative Owner Builder High and Very High Fire Severity Zones.** Alternative Owner Builder (AOB) permits for construction of new dwellings in high and very high fire severity zones shall be required to comply with the materials and construction methods for exterior wildfire exposures of the California Residential Code (CRC) and chapter 7-A of the California Building Code (CBC) as amended, unless the construction materials can be found to be in substantial conformance with the California Building Codes by the Humboldt County Building Official.

Airport Safety

S-P21. **Development Compatibility.** Encourage the Airport Land Use Commission to review the Airport Land Use Compatibility Plan (ALUCP) at least every five years to ensure that the ALUCP accurately defines planning areas around airports and establish land use policies and standards appropriate for the public safety and protection of airport operations. Amend the General Plan Safety Element to be consistent with changes to the ALUCP.

S-P22. **Airport Land Use Compatibility Criteria**. Regulate and plan land use around airports according to the Airport/Land Use Safety Compatibility Criteria (Table 14-A), which shall be consistent with the ALUCP.

S-P23. **Obstruction-free Approach Surfaces.** The maintenance of obstruction-free approach surfaces at all airports identified on the Approach and Clear Zone plans consistent with FAA requirements shall be principally permitted.

S-P24. **Airport Safety Combining Zone.** Utilize an airport safety combining zone within airport influence areas to ensure consistent application of the Airport/Land Use Safety Compatibility Criteria matrix.

Industrial Hazards

S-P25. **Hazardous Industrial Development.** Hazardous industrial development may be permitted when:

A. It includes mitigation measures sufficient to offset increased risks to adjacent human populations and the environment; and

B. Increased risks to adjacent human populations and the environment have been adequately mitigated by approved disaster response plans. (See definition of "hazardous industrial development" in Standards ~~Section below~~ **S-S15, Hazardous Materials Handling and Emergency Response**).

S-P26. **Hazardous Waste.** Eliminate the use of toxic materials within Humboldt County, where feasible, and require the reduction, recycling, and reuse of such materials, to the greatest extent possible, where complete elimination of their use is not feasible. Require new development which may generate significant quantities of hazardous wastes to be consistent with all the goals and policies of the Hazardous Waste Management Plan (Appendix H).

Emergency Management

S-P27. **Pre-disaster Planning and Mitigation.** The County shall proactively reduce known hazards through pre-disaster planning and mitigation efforts.

S-P28. **Hazard Mitigation Plan.** The County incorporates by reference into this Safety Element the Humboldt Operational Area Hazard Mitigation Plan for unincorporated areas (Volume I and the Humboldt County Annex and the Appendices of Volume II) as adopted and amended by the Board of Supervisors, in accordance with the Federal Disaster Mitigation Act of 2000 and California Government Code, Section 65302.6.

S-P29. **Emergency Operations Capability.** The County shall maintain the ability to implement the nationwide National Incident Management System (NIMS), statewide Standardized Emergency Management System (SEMS), activate the Operational Area Emergency Operations Center (EOC), coordinate responders, and implement other tactical response measures as required. Emergency operations shall conform to the Humboldt County Operational Area Emergency Operations Plan.

S-P30. **Tsunami Ready Program.** The County shall support efforts of low-lying coastal communities to attain TsunamiReady™ status, as developed by the National Weather Service.

14.5 Standards

Geologic

S-S1. **Geologic Report Requirements.** Site specific reports addressing geologic hazards and geologic conditions shall be required as part of the review of discretionary development and ministerial permits. Geologic reports shall be required and prepared consistent with land use regulations (Title III, Land Use and Development, Division 3, Building Regulations, Chapter 6—Geologic Hazards.)

S-S2. **Landslide Maps.** Utilize California Division of Mines and Geology, North Coast Watersheds landslide mapping as information to assist in review of developments.

S-S3. **Alquist-Priolo Fault Hazard Zones.** Utilize California Mines and Geology Board Policies and Criteria for Alquist-Priolo Fault Hazard Zones (Special Publication #42) as standards of implementation within zones.

S-S4. **Tsunami Emergency Response Plan.** The Tsunami Emergency Response Plan shall guide interagency response efforts.

Flood Management

S-S5. **Flood Regulations.** Regulatory standards for flood mitigation shall be based on FEMA Flood Insurance Rate Maps and regulations and local ordinances.

S-S6. **Flood Plains.** No new essential facilities that would be rendered inoperable by flooding shall be permitted to locate within the 100-year flood plain.

S-S7. **Tsunamis.** New development below the level of the 100-year tsunami run-up elevation as described in Tsunami Predictions for the West Coast of the Continental United States (Technical Report H-78-26 by the Corps of Engineers) shall be limited to public access, boating, public recreation facilities, agriculture, wildlife management, habitat restoration, and ocean intakes, outfalls, pipelines, and dredge spoils disposal. [Mitigation Measure 3.10.3.4.a]

S-S8. **Flooding and Drainage Management Activities.** Flooding and drainage management shall be principally permitted in all zones when consistent with applicable state, federal, and local regulations.

Fire Hazards

S-S9. **SRA Fire Safe Regulations.** Development within SRA shall conform to SRA Fire Safe Regulations (Humboldt County Code, Division 11 of Title III as amended).

S-S10. **California Building Codes.** New construction shall conform to the most recently adopted California building codes.

S-S11. **California Fire Code.** The California Fire Code shall be applied to all applicable development.

S-S12. **Fire Hazard Severity Zone Maps.** The County shall use the most recently adopted CALFIRE Fire Hazard Severity Zone Maps for fire planning and local land use and development review purposes.

S-S13. ~~**Master**~~ **Community Wildfire Protection Plan.** Utilize the ~~Master~~ **Community Wild**Fire Protection Plan for countywide fire prevention and response strategy and implementation.

Airport Safety

S-S14. **Airport Land Use Compatibility Plan.** Development within the jurisdiction of Airport Land Use Compatibility Plans (ALUCP) shall conform to the policies and standards of the ALUCP.

S-SX. **Airport Land Use Compatibility Zone Overlay.** An Airport Land Use Compatibility Zone for all public use airports shall be established that matches the Recommended Compatibility Zones contained in the March 1993 Airport Land Use Compatibility Plan, as amended, for Humboldt County Airports, and that limits the maximum allowable residential density and building occupancy for each land use designation subject to such zones, to the Airport/Land Use Safety Compatibility Criteria of the Airport Land Use Compatibility Plan (Table 14-A). [Mitigation Measure 3.7.4.2.a]

Industrial Hazards

S-S15. **Hazardous Materials Handling and Emergency Response.** The County shall condition new development that handles toxic, flammable, or explosive

materials in such quantities that would, if released or ignited, constitute a significant risk to adjacent human populations or development to conform to the applicable state or federal materials handling and emergency response plans.

S-S16. **Transport of Nuclear Materials**. Transport of nuclear materials shall conform to the prohibitions of Ordinance #1403; Humboldt County Code, Title III, Division 8, Chapter 3, as amended.

Emergency Management

S-S17. **Humboldt County Operational Area Office of Emergency Services (OES)**. Local emergency management and response operations shall be consistent with Humboldt County Operational Area Emergency Operations Plan and Humboldt County Ordinance 2203.

S-S18. **Consistency with State and Federal Framework.** County emergency response efforts shall be consistent with the California Emergency Services Act (California Government Code, Section 8550 et seq.) and the federal National Response Framework (effective March 2008, as amended) and the National Incident Management System (NIMS).

14.6 Implementation

S-IM1. **Code Review.** Review and amend, as needed, the land use code and subdivision regulations for consistency with fire protection policies of the General Plan.

S-IM2. **Hazard Planning Information on the Internet.** Maintain countywide hazard land use planning data, such as fire district boundaries, State Responsibility Areas (SRA), hazard areas and plans, on the internet.

S-IM3. **Drainage Ordinance.** The County shall implement drainage course flood mitigation policies through the adoption of a drainage ordinance.

S-IM4. **Update County State Responsibility Areas (SRA) Fire Safe Regulations.** Humboldt County SRA Fire Safe regulations should be updated to ensure that fire mitigation is proportional to risk as identified in State Fire Hazard Severity Maps.

S-IM5. **Coordination with CAL FIRE on State Responsibility Areas (SRA) Exception Requests**. The County shall maintain efficient and timely procedures for processing SRA Exception Requests to CAL FIRE.

S-IM6. **~~Master~~ Community Wild~~-~~Fire Protection Plan (~~M~~MCW~~F~~FP).** Actively support and pursue the implementation recommendations in the ~~M~~MCW~~F~~FPP. Periodically update the ~~M~~MCW~~F~~FP. The risk assessment portion of the ~~M~~MCW~~F~~FPshall be updated at least every five years.

S-IM7. **Funding Fire Planning Activities.** The County shall pursue state and federal funding sources to support the coordination and planning needs of local fire safe councils and fire agencies.

S-IM8. **Local Hazard Mitigation Plan.** Participate in FEMA's pre-disaster mitigation program by developing, maintaining, and implementing a Local Hazard Mitigation Plan.

S-IM8X. **Flood Elevation Markers.** To increase public awareness of flood hazard levels, seek funding to place flood elevation markers along roadways in flood-prone communities.

S-IM9. **Emergency Operations Plan.** The County shall maintain a Humboldt County Operational Area Emergency Operations Plan consistent with FEMA standards.

S-IM10. **Geologic Reports Correction.** Correct errata in the Geologic Hazards Land Use Matrix contained in the grading and building regulations (Title III, Land Use and Development, Division 3, Building Regulations, Chapter 6—Geologic Hazards.)

S-IMX1. **Probabilistic Tsunami Inundation Mapping.** The County shall seek funding to conduct studies and prepare probabilistic tsunami hazard mapping for the unincorporated areas and prepare and publish probabilistic tsunami run-up maps for use in ministerial and discretionary project review.

S-IMX2. **Firewise Plants.** The County shall provide a list of recommended "Firewise" plants suited to, and/or native to, the local area. This list should be developed with the cooperation of the County and fire authorities having jurisdiction and botanical experts, and made available at the Humboldt County Planning Department and include information about how to maintain plants to maximize fire resistance.

S-IMx3. **Structural Hazards.** The County shall assist property owners in making upgrades to existing structures to mitigate structural hazards.

S-IMx4. **Update Airport/Land Use Safety Compatibility Criteria.** The County shall update Airport/Land Use Safety Compatibility Criteria (Table 14-A), consistent with amendments to the ALUCP. [Mitigation Measure 3.7.4.2.b.]

S-IMx5. **Airport Safety Review Combining Zone.** Amend the Zoning Maps to apply an Airport Safety Review Combining Zone, indicated by "AP", that matches the outer boundaries of the Recommended Compatibility Zones contained in the March 1993 Airport Land Use Compatibility Plan, as amended, for Humboldt County Airports. Until such time as the Zoning Maps are amended, places a note on the record for each parcel in Humboldt County's online permit management system that lies within the outer boundaries of the Recommended Compatibility Zones. [Mitigation Measure 3.7.4.2.b.]

S-IMX5. **Airport Compatibility Zones.** Incorporate into the Safety Element Maps in Appendix F the new airport compatibility zone data for airports and surrounding areas from Airport Master Plans, and from new ALUPs within six months of adoption of a new ALUP.

Chapter 15. Air Quality Element

15.1 Purpose

The purpose of this Element is to describe the county's existing air quality, sources of air pollution, and strategies for improving air quality. Policies to reduce greenhouse gas emissions and mitigate climate change are included in this Element.

15.2 Relationship to Other Elements

Air quality considerations, including greenhouse gas emissions, are reflected in policies within the Land Use, Circulation, Energy, and Safety elements and in the Mineral Resources Chapter of the Conservation and Open Space elements.

15.3 Background

Air Quality Standards and Sources of Emissions

As a whole, air quality in this county is better than other parts of the state. Local measurements by the North Coast Unified Air Quality Management District (NCAQMD) reveal that the county currently meets all federal standards for air quality and all state standards except for one pollutant – airborne particles that are 10 microns in diameter and smaller (PM_{10}). Continued review and refinement of national and state standards may require additional control technologies.

Emissions of PM_{10} come from a number of sources within Humboldt County:

- Stationary sources such as power plants and manufacturing facilities. These sources are not the most significant PM_{10} contributors locally.
- Area-wide sources in which emissions originate from many points over a wide area. These include emissions from, fireplaces, construction and demolition, road dust, and agricultural operations. Wood stove emissions are a significant source of PM_{10} emissions during the winter months when the county exceeds PM_{10} thresholds. Road dust is a significant source during dry months.
- Mobile sources including "on-road sources" such as automobiles, and "off-road sources," such as farm and construction equipment. Automobiles are significant sources of PM_{10} locally.
- Natural sources include wildfires, sea salts, windblown dust, and biogenic emissions from plants and trees. Along the coast, sea salts are a significant source of PM_{10}.

The emissions from stationary sources are subject to General Plan policies if the project requires discretionary land use permits. Environmental review of new development requires coordination between NCUAQMD and the County to ensure project conditions are consistent with state air quality laws and to reduce impacts below levels of significance. There is also direct coordination with NCUAQMD on the demolition of

commercial structures that may involve asbestos and on surface mining and grading that occurs in areas containing naturally occurring asbestos. This Plan supports complimentary policies and supports frequent communication between the County and the NCUAQMD to coordinate efforts, avoid regulatory redundancy and minimize permit costs and delays.

Area-wide and mobile source emissions are addressed through General Plan policies that target specific sources. Transportation policies have been designed to reduce area-wide PM_{10} levels by reducing both the number of vehicle miles traveled and the number of vehicle trips. Grading and road maintenance policies also work to reduce particulates in dust. Incentives for energy efficient building construction will help reduce emissions related to residential and commercial energy consumption, including woodstove emissions.

Naturally occurring PM_{10} from wildfires may be reduced by decreasing the occurrence and severity of wildfires. Provisions in the Forest Resources Chapter and Safety Element support fuel hazard reduction programs and initial attack on wildfires that may adversely impact the air quality of local population centers.

Greenhouse Gas Emissions and Climate Change

California is the fifteenth largest emitter of greenhouse gases (GHGs) in the world, representing about two percent of worldwide emissions. In an effort to help curb global warming, new state laws regulating GHGs were enacted in 2006. Assembly Bill 32, the Global Warming Solutions Act, requires the state to implement a series of actions to achieve a reduction in GHG emissions to 1990 levels by 2020.

Through AB 32, the statewide cap for 2020 GHG emissions has been set at 427 million metric tons of carbon dioxide equivalents (MMTCO2E). Reducing GHG emissions to this level means cutting approximately 30% from business-as-usual emission levels projected for 2020, or about 10% from today's levels. On a per-capita basis, that means reducing our annual emissions of 14 tons of carbon dioxide for every person in California down to about 10 tons per person by 2020.

California's draft Climate Change Scoping Plan (June 2008) recommends 2 million metric tons carbon dioxide equivalent MMTCO2E reduction in GHG emissions by 2020 from local government actions. The Scoping Plan believes local government can directly influence:

- **Energy.** The energy used in local government buildings, equipment, and infrastructure as well as the amount of energy used by community businesses and residents through building codes, conservation programs, and other mechanisms.
- **Waste and Recycling**. Local government's own waste and recycling activities and the carbon footprint of their jurisdiction's waste and recycling operations through collection system adjustments and promotion of waste reduction and recycling.
- **Water and Wastewater Systems**. Water use in municipal operations and through community-wide water conservation and reclamation program efforts.
- **Transportation**. Increases in the carbon efficiency of government fleets and local transportation planning processes to increase the use of transit, carpooling, biking, and walking. New development can be planned and distributed in a carbon-efficient way.

- **Design**. Siting and design of new developments in a way that reduces greenhouse gases associated with energy, water, waste, and vehicle travel.

On December 4, 2007, the Board of Supervisors joined the International Council on Local Environmental Initiatives' (ICLEI) campaign to reduce local carbon emissions using a five-step process:

1. Conduct a baseline emissions inventory and forecast of emissions growth.
2. Set an emissions reduction target.
3. Develop a Climate Action Plan to meet the emissions reduction target.
4. Implement the Climate Action Plan.
5. Monitor and verify progress and results.

Through this process, the County intends to lead by example and reduce GHG emissions in its own operations to 10% below 2003 levels by 2020 (current AB 32 goal). Through this General Plan and participation in a countywide Climate Action Plan, the County intends to reduce GHG emissions in the unincorporated area resulting from its discretionary land use decisions to 10% below 2003 levels by 2020. The County will also partner with local cities to attain this level of reduction for the entire county.

CEQA requires public agencies to identify the potentially significant effects on the environment of projects they intend to carry out, or approve, and to mitigate significant effects whenever it is feasible to do so. AB 32 establishes that GHG emissions cause significant adverse impacts to the environment so the General Plan must include feasible mitigations to offset the GHG emissions associated with the Plan.

The Plan includes a range of mitigations for reducing GHG emissions and mitigations to achieve increased carbon storage within the County. Increasing carbon storage on timber and agricultural lands may be the County's most effective means to combat global warming

The State's 2020 target for California's forest lands is to retain the current carbon storage capacity of California's forests through sustainable management practices, reducing the risk of wildfire, and the avoidance or mitigation of land use changes that reduce carbon storage. This equates to 5 MMTCO2E of carbon storage, which is more than 10% of all non-transportation reductions planned through 2020, underscoring the role that forest lands will play in California's efforts to reduce GHG emissions.

The state's first forest carbon storage project to be verified through the California Climate Action Registry was located in Humboldt County on 2,100 acres owned by the van Eck Forest Foundation. The project generated more than 500,000 tons of carbon credits that are being sold to interested purchasers. Under AB 32, California is planning to implement a cap-and-trade program by 2012 that could increase the demand for verifiable carbon credits. This may create increased financial opportunities for forest and agricultural landowners in Humboldt County willing to manage their lands consistent with accepted carbon storage protocols.

While timber management is regulated by the state under the Forest Practices Act, this Plan proposes the development of a program that could provide carbon credits to local forest landowners who voluntarily agree to long-term restrictions on land uses that increase GHG emissions. These carbon credits could be registered and potentially sold under a GHG emissions cap-and-trade program and provide a financial incentive to maintain lands in resource production.

15.4 Goals and Policies

Goals

AQ-G1. **Improved Air Quality.** Air quality that meets state and federal ambient air quality standards.

AQ-G2. **Particulate Emissions.** Successful attainment of California Ambient Air Quality Standards for particulate matter.

AQ-G2x. **Other Criteria Pollutants.** Maintain attainment of Ambient Air Quality Standards for ozone and other criteria pollutants which may be subject to tightening standards.

AQ-G3. **Greenhouse Gas Emissions.** Successful mitigation of greenhouse gas emissions associated with this Plan to levels of non-significance as established by the Global Warming Solutions Act and subsequent implementation of legislation and regulations.

Policies

AQ-P1. **Reduce Length and Frequency of Vehicle Trips.** Reduce the length and frequency of vehicle trips through land use and transportation policies by encouraging mixed-use development, compact development patterns in areas served by public transit, and active modes of travel.

AQ-P2. **Reduce Localized Concentrated Air Pollution.** Reduce or minimize the creation of "hot spots" or localized places of concentrated automobile emissions.

AQ-P3. **Fireplace and Woodstove PM_{10} Emissions.** Support incentives to minimize emissions from fireplaces and woodstoves.

AQ-P4. **Construction and Grading Dust Control.** Dust control practices on construction and grading sites shall achieve compliance with NCAQMD fugitive dust emission standards.

AQ-P5. **Air Quality Impacts from New Development.** During environmental review of discretionary permits, reduce emissions of air pollutants from new commercial and industrial development by requiring feasible mitigation measures to achieve the standards of the NCAQMD.

AQ-P6. **Buffering Land Uses.** During environmental review of discretionary commercial and industrial projects, consider the use of buffers between new sources of emissions and adjacent land uses to minimize exposure to air pollution.

AQ-P7. **Interagency Coordination.** Coordinate with the NCAQMD early in the permit review process to identify expected regulatory outcomes and minimize delays for projects involving:

A. CEQA environmental review;

B. Building demolition projects that may involve removal of asbestos-containing material subject to National Emission Standards for Hazardous Air Pollutants (NESHAP); and

C. Grading and mining operations subject to State Airborne Toxic Control Measures (ATCM) for naturally occurring asbestos.

Rely on the air quality standards, permitting processes, and enforcement capacity of the NCAQMD to define thresholds of significance and set adequate mitigations under CEQA to the maximum extent allowable.

AQ-P8. **Reduce Air Quality Impacts from Wildfires.** Support and encourage fire suppression of wildfires that may have an acute air quality health impact on local population centers.

AQ-P9. **County Climate Action Plan.** Through public input and review, develop and implement a multi-jurisdictional Climate Action Plan to achieve reductions in greenhouse gas emissions consistent with the state Global Warming Solutions Act and subsequent implementing legislation and regulations.

AQ-P10. **County Government Greenhouse Gas Emission Reductions.** To lead by example, the County of Humboldt shall reduce its 2003 greenhouse gas emissions from governmental operations consistent with the state Global Warming Solutions Act and subsequent implementing legislation and regulations.

AQ-Px. **Review of Projects for Greenhouse Gas Emission Reductions.** The County shall evaluate the GHG emissions of new large scale residential, commercial and industrial projects for compliance with state regulations and require feasible mitigation measures to minimize GHG emissions.

AQ-Px1. **Transfer of Development Rights.** The County shall encourage the transfer of development rights from resource lands and other rural areas into areas served with public water and sewer to reduce GHG emissions from new development.

AQ-P11. **Forest Sequestration and Biomass Energy.** Provide incentives for increased carbon sequestration on forest lands and encourage the reduction of smoke production through the utilization of excess forest biomass for sustainable energy generation and other uses.

AQ-P12. **Solar Electric System Capacity.** Encourage and provide incentives to increase solar-electric capacity in residential, commercial, and industrial sectors.

AQ-P13. **Energy Efficient Building Design.** Encourage and provide incentives for construction of buildings and energy saving measures beyond Title 24 requirements for residential and commercial projects.

AQ-P14. **Electric Vehicle Accommodations.** Encourage and provide incentives for commercial and residential design that supports the charging of electric vehicles.

AQ-P15. Preservation and Replacement of On-site Trees. Projects requiring discretionary review should preserve large trees, where possible, and mitigate for carbon storage losses attributable to significant removal of trees.

15.5 Standards

AQ-S1. Construction and Grading Dust Control. Ground disturbing construction and grading shall employ fugitive dust control strategies to prevent visible emissions from exceeding NCAQMD regulations and prevent public nuisance.

AQ-Sx. Evaluate Greenhouse Gas Emission Impacts. During environmental review of large scale residential, commercial and industrial projects, include an assessment of the project's GHG emissions and require feasible mitigation consistent with best practices documented by the California Air Pollution Control Officers Association in their 2008 white paper "CEQA & Climate Change" or successor documents.

AQ-S2. Evaluate Air Quality Impacts. During environmental review of discretionary projects, evaluate new commercial and industrial sources of emissions using analytical methods and significance criteria used, or recommended by, the NCAQMD.

AQ-S3. Buffering Land Uses. When considering buffers between new commercial and industrial sources of emissions and adjacent land uses follow the California Air Resources Board's *Air Quality and Land Use Handbook: A Community Health Perspective* and NCAQMD recommendations.

AQ-S4. Preservation and Replacement of On-site Trees. Large scale residential, commercial and industrial projects which remove a significant number of large trees (for example, more than 50 trees of greater than 12 inches DBH) shall plant replacement trees on-site or provide offsetting carbon mitigations.

15.6 Implementation Measures

AQ-IM1. Review Attainment Plan Revisions. Review local Attainment Plan revisions to guide future General Plan and Housing Element updates, as necessary, and implement new land use and transportation policies and other regulatory controls as identified by the attainment.

AQ-IM2. North Coast Air Quality Management Permitting Coordination. The County shall maintain efficient and timely procedures for project referral to the North Coast Air Quality Management District for review and consultation.

AQ-IM3. County-wide Climate Action Plan. Develop and implement a Climate Action Plan that effectively mitigates the carbon emissions attributable to this Plan, consistent with the requirements of the state Global Warming Solutions Act and subsequent implementing legislation and regulations.

AQ-IM4. County Government Greenhouse Gas Emission Reductions. The County shall prepare a Climate Action Plan for its governmental operations consistent with

the Countywide Climate Action Plan that seeks emission reductions in the following areas:

A. Energy Efficiency and Conservation
B. Green Building
C. Waste Reduction and Recycling
D. Climate-Friendly Purchasing
E. Renewable Energy and Low-Carbon Fuels
F. Efficient Transportation
G. Offsetting Carbon Emissions
H. Promoting Community and Individual Action

AQ-IM5. **Greenhouse Gas Emissions.** Update the General Plan and Land Use Ordinances, as appropriate, to reflect the adopted countywide Climate Action Plan and the new state laws and regulations for greenhouse gas emissions when they become available.

AQ-IMx. **Review of Greenhouse Gas Emissions Impacts of New Development.** Modify the Zoning and Subdivision Ordinances to assess GHG emissions of discretionary large scale residential, commercial and industrial projects, and require feasible mitigation.

AQ-IM6. **Programs to Reduce Air Quality Impacts of Wildland Fires.** Support and encourage programs such as fuel reduction, prescribed fires, and vegetation management as recommended in the County's Fire Plan to reduce air quality impacts of wildfires.

AQ-IMx1. **Transfer of Development Rights Program.** The County shall develop a voluntary transfer of development rights program which provides incentives to transfer entitlements from resource lands and other rural areas into areas served with public water and sewer to reduce GHG emissions from new development.

AQ-IMx2. **Reduce Air Quality Impacts from Surface Mining.** To reduce air quality impacts from asbestos and other pollutants, refer all discretionary review actions for new and existing rock quarries and other surface mining activities to the North Coast Air Quality Management District for review and recommendations.

AQ-IM7. **Sensitive Receptors.** Regulate the location and operation of land uses to avoid or mitigate harmful or nuisance levels of air emissions to the following sensitive receptors: residential uses, hospitals and nursing/convalescent homes, hotels and lodging, schools and day care centers and neighborhood parks. New development shall follow the recommendations for siting new sensitive land uses consistent with the ARB's recommendation as shown in Table 3.12-4. [Mitigation Measure 3.12.4.2]