

Chapter 5

OPEN SPACE AND CONSERVATION ELEMENT

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5.1 INTRODUCTION



The Open Space and Conservation Element is concerned with the conservation of natural resources and the provision of open space within community. Open Space and Conservation are combined because the natural resources and open space provide the framework for the built areas of the City, and the overall appearance of the City integrates natural and man-made elements.

The primary vision of the Open Space and Conservation element is to maintain and encourage development that compliments the natural visual setting of Rio Dell. The City is located in a portion of the County with high quality aesthetic value due to its many natural and community resources. The bluffs on the east side of the City provide outstanding aesthetic value. In addition, Rio Dell is at a transition point where the Eel River Valley's redwood covered slopes open up to the broad Eel River delta. Sweeping vistas associated with the Eel River valley contribute to the City aesthetic setting.

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, including parks. 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 City.

Conservation goals include development, and utilization of natural resources such as water and its hydraulic force, forests, soils, rivers and other waters, fisheries, wildlife, minerals, and cultural resources. Open space goals include limiting hillside development, creek and river setback areas, biologically sensitive habitat, and natural forests.

The Open Space and Conservation 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.

State planning law provides a detailed description of open space lands and the topics that must be addressed in the Open Space and Conservation Elements. These topics include Open Space for the Preservation of Natural Resources, Open Space for the Managed Production of Resources, Open Space for Outdoor Recreation and Open Space for Public Health and Safety:

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

5.2 Open Space for the Preservation of Natural Resources

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).

The surrounding natural environment, including the Eel River, streams, riparian areas, bluffs and forested hillsides are signature assets for the City. As such the City has placed a high priority on retaining and enhancing these resources.

The City's biological resource conservation strategy relies on identifying 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.

Except for the wetland areas along streams and drainage channels, Rio Dell is not considered prime habitat for sensitive plant species. The wetland and riparian areas provide habitat for certain special status plants. See Figure 6 for Rio Dell biological resources.

According to the U.S. Fish and Wildlife Service, most of the Eel River channel (extending approximately to the 500-year flood plain boundary) is included within the National Wetlands Inventory. The Eel River channel south of Davis Street was not mapped as part of the National Wetlands Inventory but exhibits many of the same characteristics as the River channel north of Davis Street. The 500-year flood plain associated with the River channel within the City and south of Davis Street contains potential wetlands.

Some amphibians listed as species of special concern may exist in the wetlands and forested areas surrounding Rio Dell. Habitat for threatened and endangered fish species exists in the Eel River and possibly Dean Creek. In addition, The Riparian forests and upslope woodlands surrounding Rio Dell have the potential to support a variety of bird species, including species of special concern, threatened and endangered species; however the majority of the habitat is not ideal and would have a low probability of occurrence. No threatened or endangered mammals or plants are known to exist in the Rio Dell Planning Area.



Within one half mile of Rio Dell, but not within the City limits, the California Department of Fish and Game has mapped the occurrence of the following special status species: Marbled Murrelets; Osprey; Northern Spotted Owls; and Great Blue Heron (CDFG Natural Diversity Database, Spotted Owl Database, Marbled Murrelet Database), . The U. S. Fish and Wildlife Service has further mapped the occurrence of long-beard lichen within the Nanning Creek.

Below are the existing goals policies and implementation measures regarding biological resources within the current General Plan:

Biological Resources Policies

- Update the Conservation and Safety Element to identify a system of public parks and open space. *Public park measures are included in Section 5.4.*
- Ensure that environmentally sensitive habitat areas (ESHA's) such as the Eel River corridor, streams and drainage channels with riparian habitat, and forested areas that could potentially support sensitive species, are buffered to protect against any significant disruption of their habitat values.

Biological Resources Implementation Measures

- The City shall prepare and adopt a Conservation and Safety Element of the General Plan to expand open space and sensitive habitat information and develop specific implementation measures.
- The City shall acquire additional open space through a variety of measures including exactions, dedications, grant funding, and easements.
- The City shall prepare Development Regulations that require the identification of open space and sensitive habitat areas in proposed developments.

In addition to the goals, policies and implementation measures regarding the natural environment in and surrounding the City currently within the Land Use Element of the General Plan, the Open Space and Conservation Element contains the following goals policies and implementation measures (action plan) for the preservation of natural resources:

Goal CO 5.2-1

Provide open space for the preservation of natural resources 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)

Policy CO 5.2-1

Riparian areas within the City shall be protected when adjacent development projects are proposed.

Implementation CO 5.2-1.a. Establish Environmentally Sensitive Habitat (ESHA) regulations.

Responsibility: Community Development Department.

Timeframe: 2013/2014
Resources: General Fund

Implementation CO 5.2-1.b. Map Environmentally Sensitive Habitat (ESHA) areas.

Responsibility: Community Development Department.
Timeframe: 2013/2014
Resources: General Fund

Goal CO 5.2-2

Preserve existing trees and encourage additional trees on hillsides and within the urban developed areas of the City.

Policy CO 5.2-2

Maintain and expand the tree canopy within and outside the developed areas of the City.

Implementation CO 5.2-2.a. Encourage new developments to maintain existing trees and plant additional trees.

Responsibility: Community Development Department.
Timeframe: Ongoing.
Resources: Project Proponents.

Policy CO 5.2-3

Protect distinctive natural vegetation such as riparian corridors and mixed evergreen forests by maintaining the natural features as a whole. Preservation of individual trees or features rather than the larger habitat does not satisfy this policy.

Implementation CO 5.2-3.a. Establish Environmentally Sensitive Habitat (ESHA) regulations.

Responsibility: Community Development Department.
Timeframe: 2013/2014
Resources: General Fund.

Policy CO 5.2-4

New private and public development, including public street, sidewalk, utility, and park construction, shall provide a mix of trees with a crown that can provide shade and summer

cooling and trees with height to create a silhouette against the skyline.

Implementation CO 5.2-4.a. Require landscaping plans for new public and private developments.

Responsibility: Community Development Department and Public Works Department.

Timeframe: Ongoing

Resources: General Fund, Project Proponents and Grants

Policy CO 5.2-5

New public and private development shall provide street trees parallel to streets -- in planter strips, in sidewalks, or at back of sidewalks, spaced at regular intervals along the street. Tree locations shall be identified prior to design of utilities, drainage, hydrants, electrical equipment boxes, vaults, etc., and those features should be subservient to tree locations.

Implementation CO 5.2-5.a. Require landscaping plans for new public and private developments.

Responsibility: Community Development Department

Timeframe: Ongoing.

Resources: Project Proponents.

Policy CO 5.2-6

Require the use of drought-tolerant or native to Mediterranean climate trees, shrubs, and ground covers for use in public and private landscaping development approvals.

Implementation CO 5.2-6.a. Require and review landscaping plans for new public and private developments to ensure that drought-tolerant or native trees, plants, shrubs and ground covers are used for required landscaping

Responsibility: Community Development Department

Timeframe: Ongoing.

Resources: Project Proponents.

Goal CO 5.2-7

Conserve natural vegetation and wildlife resources.

Policy CO 5.2-7

Conserve and protect the area's natural vegetation by ensuring that:

- Drainage and runoff from City sources is not impairing the water quality of the Eel River.
- Retaining existing riparian vegetation within the conservation buffers along all natural watercourses to preserve riparian vegetation and habitat.
- Restoring degraded riparian habitats where feasible.
- Prohibiting agricultural activities within the conservation buffers along all natural watercourses.
- Avoiding the contamination of groundwater supplies.

Implementation CO 5.2-7a. Establish Environmentally Sensitive Habitat (ESHA) regulations.

Responsibility: Community Development Department.

Timeframe: 2013/2014

Resources: General Fund.

Implementation CO 5.2-7.b. Require public awareness programs such as plaques or painted notices that storm drains flow to the river and programs to identify ways to protect wildlife and vegetation resources.

Responsibility: Community Development Department

Timeframe: Ongoing.

Resources: General Fund, Project Proponents and Grant Funding.

Implementation CO 5.2-7.c. Preserve wetlands, habitat corridors, sensitive natural communities, and other essential habitat areas that may be adversely affected by public or private development projects where special-status plant and animal species are known to be present or potentially occurring based on site conditions, resource mapping or other technical material. Require a Biological Resources Assessment for development projects in areas with identified or with potential for special status plant and animal species.

Responsibility: Community Development Department and CEQA Process

Timeframe: Ongoing with project submittals.

Resources: Project Proponents.

5.3 Open Space for the Managed Production of Resources

Open space for the managed production of resources include 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. This Open Space and Conservation Element contains goals, policies and implementation measures supporting orderly development of forested hillsides and agricultural lands while minimizing impacts to resource production.

Agricultural activities within the City include small scale farming, grazing and limited timber production. The Mozzetti property on the north side of the Eel River which was annexed in 2008 and the Dinsmore Plateau contain the vast majority of the City's agricultural land. Based on the County's agricultural soils mapping done as part of their 2025 General Plan Update, there is approximately 170 acres of prime agricultural land within the City. Figure 5-1 identifies the prime agricultural lands within the City.

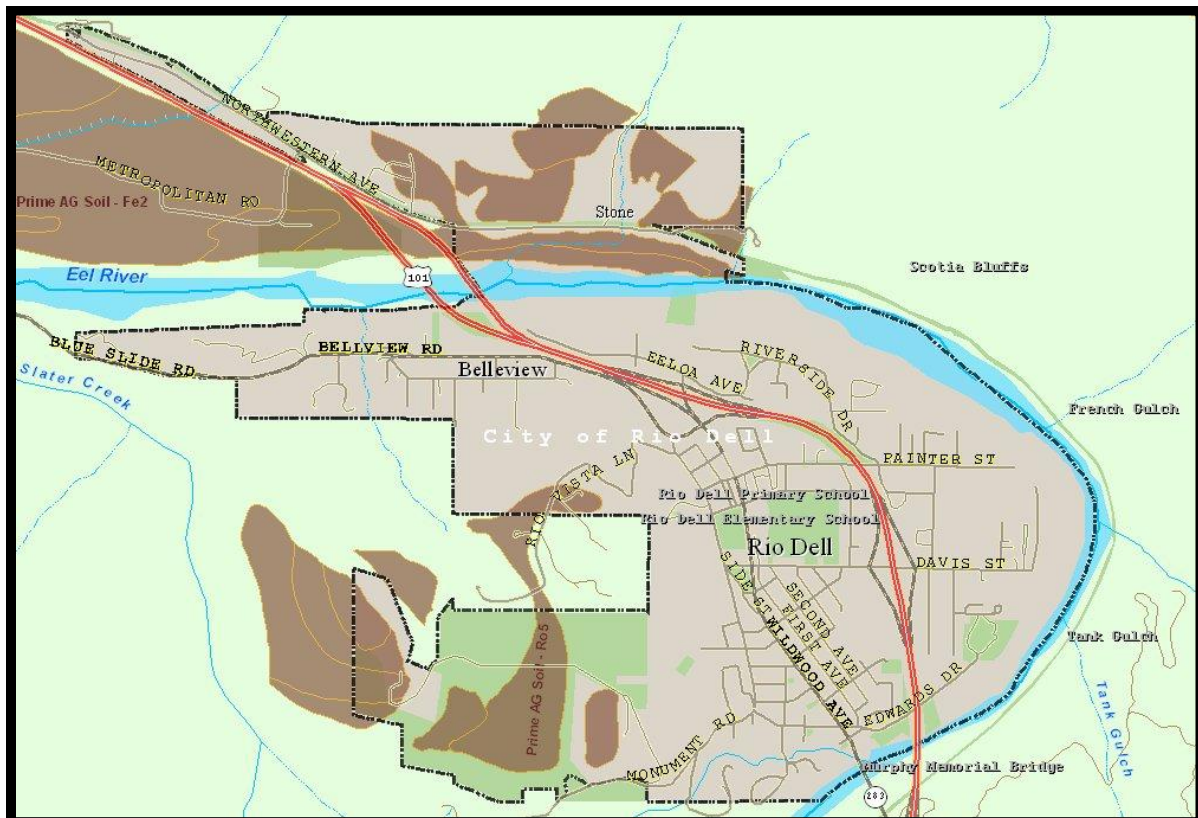


Figure 5-1 Prime Agricultural Soils
Source: Humboldt County GIS August 2013

The Dinsmore Plateau contains about sixty (60) acres of prime agricultural land. The majority of the Plateau is designated Rural (R) with a five (5) acre minimum parcel size. About ten of the sixty (acres) is designated Suburban (S). The Suburban designation is a one (1) acre minimum parcel size. Both the Rural and Suburban designations minimum parcel sizes will accommodate small scale farming and limited grazing opportunities. Policies are included herein which encourage clustered development on prime agricultural lands.

The other area containing prime agricultural land is located on the north side of the Eel River. This area includes the Mozzetti property which was annexed into the City in 2008. This area is designated Natural Resources (NR). The NR designation does not allow further subdivision and residential uses are to be subordinate to agricultural activities.



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 the County 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). Sand, gravel, and rock mining are essential to road construction, road maintenance, concrete, streambank protection, erosion control, and engineered fill and drainage systems. There are no mineral resource operations within the City. The closest mining operations, which are in stream gravel operations, are just upstream in Scotia.

Below are the existing goals policies and implementation measures regarding agricultural resources within the current General Plan:

Agricultural Resources Policies

- Update the Conservation and Safety Element to characterize the role of agricultural and timber uses.
- Require large lots in the Monument and Belleview neighborhoods.

Agricultural Resources Implementation Measures

- The City shall prepare and adopt a Conservation and Safety Element of the General Plan to expand agricultural and timber information and develop specific implementation measures.
- The City shall prepare Development Regulations that control logging operations within the City Limits.

In addition to the goals, policies and implementation measures regarding resource production in and surrounding the City currently within the Land Use Element of the General Plan, the Open Space and Conservation Element contains the following goals policies and implementation measures (action plan).

Goal CO 5.3-1

Conserve and protect working agricultural lands within and adjacent to the City.

Policy CO 5.3-1

Encourage clustered development on the Dinsmore Plateau and consider density bonuses for development on or adjacent to prime agricultural lands.

Implementation CO 5.3-1a. Review development proposals on or adjacent to existing agricultural operations or development on prime agricultural lands and require clustering and additional setbacks where appropriate.

Responsibility: Community Development Department and CEQA Process

Timeframe: Ongoing with project submittals.

Resources: Project Proponents.

Goal CO 5.3-2

Encourage small scale timber production within the City while minimizing impacts to adjacent properties.

Policy CO 5.3-2

Request that CAL-FIRE notify the City regarding timber operations within or adjacent to the City.

Implementation CO 5.3-2a. Review Timber Harvest Plans (THP's) and Timberland Conversion

Permits (TCP's) for timber operations within or adjacent to the City.

Responsibility: Community Development Department

Timeframe: Ongoing with project submittals.

Resources: General Fund and CAL-FIRE.

Goal CO 5.3-3

Encourage and support in-stream gravel mining operations on the Eel River within and adjacent to the City

Policy CO 5.3-3

Request that County notify the City regarding in-stream gravel mining operations on the Eel River within or adjacent to the City.

Implementation CO 5.3-3a. Review surface mining applications within or adjacent to the City.

Responsibility: Community Development Department

Timeframe: Ongoing with project submittals.

Resources: General Fund and County of Humboldt.

Goal CO 5.3-4

Encourage on-site and off-site development of ponds, detention/retention basins and associated wetland habitat that encourage ground-water recharge.

Policy CO 5.3-4

Encourage project applicants to construct ponds, detention/retention basins and associated wetland habitat that encourage ground-water recharge.

Implementation CO 5.3-4a. Review project proposals for the potential incorporation of ponds, detention/retention basins and associated wetland habitat that encourage ground-water recharge.

Responsibility: Community Development Department

Timeframe: Ongoing with project submittals.

Resources: Project proponents.

5.4 Open Space for Outdoor Recreation and Conservation of Historical and Cultural Resources

Open space for outdoor recreation are 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.

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.



The City owns, operates and maintains two (2) parks, Memorial Park and Side Street Park. Memorial Park is located on the east side of Wildwood Avenue across the street from City Hall. It is approximately 13,000 square feet in size and includes two concrete picnic tables. Side Street Park is about 15,000 square feet and is developed with two (2) concrete picnic tables and two concrete benches.

The City also has an agreement with the school district to operate and maintain the Davis Street Tennis Courts. In addition, the Rio Dell Fire Protection District owns, operates and maintains Fireman's Park. Fireman's Park is about 2.5 acres and includes four (4) bocci ball courts, a baseball/softball field, a playground and restrooms.

The City currently imposes Parkland Dedication in-lieu fees for subdivision on parcels that are subject to the Planned Development (PD) Combining Zone. Policies included herein require the City to implement Parkland Dedication or in-lieu fees for all residential subdivisions in the City.

Cities and counties have been authorized since the passage of the 1975 Quimby Act (California Government Code §66477) to pass ordinances requiring that developers set aside land, donate conservation easements, or pay fees for park improvements. Revenues generated through the Quimby Act cannot be used for the operation and maintenance of park facilities.

The goal of the Quimby Act was to require developers to help mitigate the impacts of property improvements. The act gives authority for passage of land dedication ordinances only to cities and counties. Special districts must work with cities, and/or counties to receive parkland dedication and/or in-lieu fees. The fees must be paid and land conveyed directly to the local public agencies that provide park and recreation services community-wide.

When California voters approved the local property tax relief initiative, Proposition 13 in 1978, property taxes were essentially frozen thus frustrating local government's financing options further. In addition, federal and state mandates without reimbursements also put pressure on already stretched recreation and park agency budgets. Local agencies needed to become more resourceful in locating funding options, and turned to Quimby, Mello-Roos, development impact fees, developer agreements (informal agreements requiring additional exactions) fee concession operations, facility leases, non-profits, commercialization, and competitive grants to sustain their budgets.

Many jurisdictions have found that the Quimby Act provides a consistent means of providing parks for many California communities and helps supplement strained agency budgets. While the Quimby Act is not an "end-all" in being able to provide sufficient dollars for land acquisition and park development, many agencies agree that it's a good start.

Originally, the Act was designed to ensure "adequate" open space acreage in jurisdictions adopting Quimby Act standards (e.g., 5 acres per 1,000 residents). In some California communities the acreage fee can get very high where the property values are high, and many local governments do not differentiate on their Quimby fees between infill projects and green belt developments.

In 1982, the act was substantially amended. The amendments further defined acceptable uses of or restrictions on Quimby funds, provided acreage/population standards and formulas for determining the exaction, and indicated that the exactions must be closely tied (nexus) to a project's impacts.

The 1982 amendment to the Quimby Act was designed to hold local governments accountable for imposing park development fees. Local ordinances must now include definite standards for determining the proportion of the subdivision to be dedicated and/or the amount of the fee to be paid.

In 2009 the City carefully considered the basis for a Parkland Dedication Fee, and calculated this one-time fee based on residential demand, park land acquisition and development costs. The Quimby Act sets a ratio of 5-acres of parkland per thousand population. Because these fees are population-driven, they apply only to residential development. The City may charge an in-lieu fee under the Quimby Act. The Parkland Dedication Fee covers the cost of land needed for park purposes and parks and recreational facilities. It will develop a per capita amount to cover those costs per the Quimby Act.

Parkland Dedication Fee Calculation

Impact Fee = Cost per Capital x Population per Development Unit
Park Development Fee Cost per Capita Calculation

Acres per Capita ¹	Land Cost per Acre	Cost per Capita ²
0.005	\$125,000	\$625

¹This ratio is set forth by the State Quimby Act.

² Cost per Capita = 0.005 x Cost per Acre

Note: the cost per acre was derived by contacting park managers in other jurisdictions, and local realtors, to estimate the cost of an acre of land potentially suitable for park acquisition and development. The average household size in Humboldt County population per development unit) is 2.4 persons. The calculation for determining cost per residential unit is as follows:

Parkland Dedication Fee Cost per Dwelling Unit Calculation

Cost per Capita	Person per Household	Fee per Household
\$625.00	2.4	\$1,500.00

Archeological Resources: According to the Humboldt County 2025 General Plan Update Natural Resources and Hazards Report, the original people of the "Eel River complex" are referred to as



Transitional Athabascans, as their culture is a bridge between the Hupa and Whilkut to the north and other tribes to the south. Rio Dell is very close to the aboriginal territory boundaries of several tribes, including the Wiyot (whose southern ancestral territory boundary is believed to have been between

the mouth of the Van Duzen and Rio Dell), and the southern Athabascan groups including Mattole, Nongatl, and Sinkyone (whose northern ancestral territory boundary is believed to have been in the area of Rio Dell). Based on A.L. Kroeber's Handbook of Indians of California (first published in 1925), Rio Dell appears to be at the edge of the aboriginal territory of the Sinkyone people; whose territory included the coast above Shelter Cove and most of the South Fork of the Eel River extending along the main stem of the Eel River just beyond Rio Dell and the Wiyot people, whose territory includes the Eel valley and coastal plain to the north.

Although not reflected in City or County records, there may be culturally sensitive areas and sites of special importance to Native Americans within the City of Rio Dell. Culturally sensitive areas include village sites, cemeteries, and lithic scatters (concentrations of stone chips, flakes, and tools). The North Coastal Information Center has records of approximately 2,040 cultural resource sites in Humboldt and Del Norte Counties and will be a source of information for archival records of culturally sensitive areas within Rio Dell.

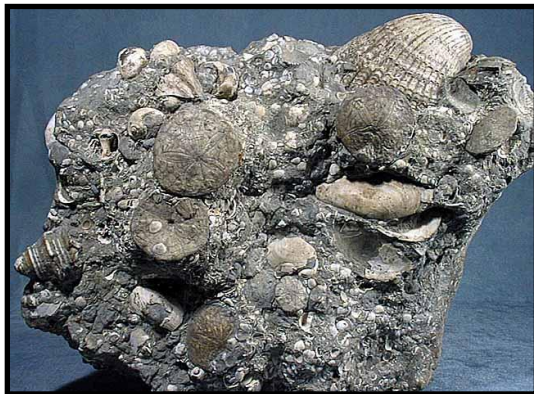


All discretionary projects involving ground disturbing activities are referred to the North Coastal Information Center and the Bear River Band of the Rohnerville Rancheria (Wiyot) for comments and recommendations. Those projects deemed to have a possible impact to archeological resources are required to conduct a Phase I investigation. In those areas that have a likelihood of containing archeological resources, representatives of the Bear River Band of Rohnerville Rancheria and the Wiyot tribe are invited to observe these activities.

If potential archaeological resources, paleontological resources or human remains are unearthed during these activities, all work ground disturbing activities are required to stop and a

qualified archaeologist funded by the applicant and approved by the City of Rio Dell and the Bear River Band, is contracted to evaluate the find, determine its significance, and identify any required mitigation (e.g., data recovery, resource recovery, in-situ preservation/capping, etc.). Any such mitigation is required to be implemented by the developer prior to resumption of any ground disturbing activities.

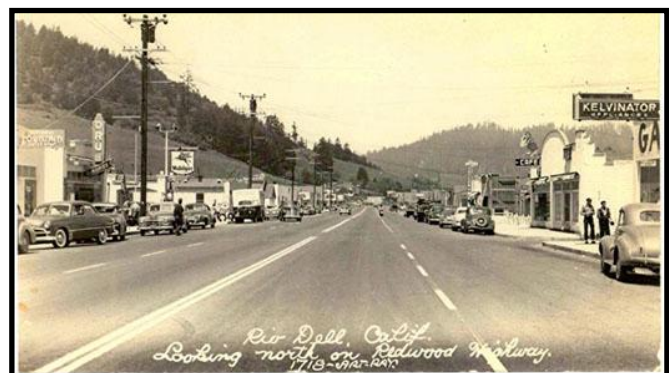
In addition, in accordance with California Health and Safety Code §7050.5 and California Public Resources Code §5097.94 and 5097.98, if human remains are uncovered during project subsurface construction activities, all work is required to be suspended immediately and the City of Rio Dell, Humboldt County Coroner and the Bear River Band of the Wiyot Nation is immediately notified. If the remains are determined by the Coroner to be Native American in origin, the Native American Heritage Commission (NAHC) is notified within 24 hours of the determination, and the guidelines of the NAHC shall be adhered to in the treatment and disposition of the remains.



Paleontological Resources: The Scotia Bluffs Formation, a prominent geologic feature visible across the Eel River from the City of Rio Dell, is made up of massive fine and medium grained sandstones, although some pebbly conglomerate and siltstone is also recorded. The Scotia Bluffs is a significant source for many fossils and the types of fossils found suggest water depths of 30 meters or less. Ash layers that can

be found in the Scotia Bluffs date to about 1.3 to 1.5 million years ago. In addition to the mollusks and sand dollars commonly found, the Scotia Bluffs are reported to have produced some plants, turtles, starfish and agatized whale bone. Fossils have also been found along the Eel River within the City

Historic Buildings: The area was known as Eagle Prairie until about 1870, when it was renamed Rio Dell by Lorenzo Painter, an early Rio Dell landowner and the founder of the town. Lorenzo Painter laid out the first plat of Rio Dell and served as its first Post Master, having been named to that position by



Ulysses S. Grant in 1876. Although there are many older buildings in Rio Dell as well as houses constructed prior to 1920, there are no Rio Dell Historic Sites or National Register of Historic Places Landmarks

Below are the existing policies and implementation measures regarding cultural resources within the current General Plan:

Cultural Resources Policies

- Ensure that planning decisions integrate information about cultural resources and provide for consultation and collaboration with outside entities.
- Areas of archeological, paleontological and architectural significance should be identified, assessed and protected from destruction.
- Work with community organizations to develop and staff a local historic museum.

Cultural Resources Implementation Measures

- The City shall prepare Development Regulations that include cultural and historic protections.
- The City shall work with community organizations to finance and develop a City museum.

In addition to the existing policies and implementation measures, the Open Space and Conservation Element contains the following goals policies and implementation measures (action plan) regarding open space for outdoor recreation areas, historical and cultural resource values.

Goal CO 5.4-1

Provide passive and active recreational opportunities, including parks offering a wide range recreational activities and a City wide trails program ultimately connecting to a local regional county wide trails program.

Policy CO 5.4-1

Support the acquisition, development and maintenance of park and recreation areas that provide recreation activities, including trails identified in the Circulation Element.

Implementation CO 5.4-1a. Establish a City wide parkland dedication or in-lieu fee program pursuant to the Quimby Act (California Government Code §66477).

Responsibility: Community Development Department.

Timeframe: 2013/2014.

Resources: General Fund

Policy CO 5.4-2

Encourage private acquisition, development and management of outdoor recreational facilities and activities.

Implementation CO 5.4-2a. Encourage and support private commercial recreation endeavors within and adjacent to the City.

Responsibility: City of Rio Dell.

Timeframe: Ongoing.

Resources: Project Proponents.

Goal CO 5.4-3

Investigate historic, archaeological, and paleontological resources and preserve or conserve resources that help residents and visitors understand the history of Rio Dell.

Policy CO 5.4-3

Conserve or preserve historic buildings and the character of downtown, while also allowing change of use of the properties where allowed by General Plan land use and density standards.

Implementation CO 5.4-3a. Review Building Permits for consistency with the City's Design Review Guidelines and encourage the preservation and enhancement of structures built prior to 1960.

Responsibility: Community Development Department.

Timeframe: Ongoing.

Resources: Project proponents.

Implementation CO 5.4-3b. Use the State Historic Building Code at the Building's Official's discretion on any structure identified in the National Register of Historic Places, California Register of Historic Resources, or local designation.

Responsibility: Community Development Department.
Timeframe: Ongoing.
Resources: General Fund and Project Proponents.

Policy CO 5.4-4

Identify and preserve remaining prehistoric camps, villages, and use sites. Identify areas that may be used by the local natives for resource procurement or religious purposes.

Implementation CO 5.4-4a. Maintain standard conditions of approval for CEQA and project review of development projects including agricultural conversion. Require cultural resources studies where applicable and require that work be halted and studies conducted if cultural or archaeological resources are discovered; require that such studies be conducted by qualified historians or archaeologists; and require notification pursuant to law if human remains are discovered.

Responsibility: Community Development Department
Timeframe: Ongoing
Resources: Development Review requirements.

Implementation CO 5.4-4b. Coordinate with the Native American Heritage Commission and local tribal members to determine if the study area or developments contain any artifacts or areas used for religious purposes.

Responsibility: Community Development Department
Timeframe: Ongoing
Resources: Development Review requirements.

Policy CO 5.4-5

Identify historically significant structures or groups of structures that help residents and visitors understand what Rio Dell was like historically.

Implementation CO 5.4-5a. Assist property owners in their restoration efforts. This includes providing information on preservation resources and assisting in the placement of structures on the National Register of Historic Places, and seeking public and private funding for preservation.

Responsibility: Community Development Department.
Timeframe: Ongoing.

Resources: General Fund and Grants.

Implementation CO 5.4-5b. Identify locally important historic resources and historic patterns of settlement.

Responsibility: Community Development Department

Timeframe: Ongoing.

Resources: General Fund.

Implementation CO 5.4-5c. Maintain standard conditions of approval for CEQA and project review of development projects to preserve historic and archaeological resources.

Responsibility: Community Development Department

Timeframe: Ongoing.

Resources: Development Review requirements.

Policy CO 5.4-6

Preserve paleontological resources if identified by discovery or if the area is found to have resources by other investigations or databases.

Implementation CO 5.4-6a. Review discretionary projects for the preservation and avoidance of paleontological resources.

Responsibility: Community Development Department

Timeframe: Ongoing.

Resources: Project proponents and referral agencies.

5.5 Open Space for Public Health and Safety

Open Space for Public Health and Safety areas that require special management or regulation because of hazardous conditions such as geologic hazards (i.e. earthquake fault zones, landslides), flooding and dam failure inundations areas. Accordingly, this Open Space and Conservation Element contains Goals, Policies and Implementation Measures addressing natural hazards.

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 ground-shaking and fault

rupture. The following sections briefly describe the seismic setting and bedrock geology of the area.

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

The subducting Gorda and Juan de Fuca Plates form the "Cascadia Subduction Zone," which runs north offshore of Humboldt, Del Norte, Oregon, and Washington. Recent investigations have shown that this system has moved in unison in a series of great earthquakes (magnitude 8 to 9) over the last 20,000 years, most recently about 300 years ago, with events occurring at 300–500 year intervals.

Seismic shaking poses a potentially significant hazard to Rio Dell and vicinity. An array of strong motion sensors (part of the California Strong Motion Instrumentations Program) are mounted on the Painter Street overpass. These sensors recorded seismic shaking during the 1992 Petrolia earthquakes that occurred on April 25th and 26th. These earthquakes had magnitudes of 7.1, 6.6 and 6.7. Acceleration rates were measured from 0.55 g (acceleration of gravity) up to 1.23 g. However, acceleration rates near the epicenter were close to 2 g, indicating the potential for very strong ground shaking throughout the northcoast region.

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 Little Salmon fault zone is the closest mapped Alquist-Priolo fault hazard zone to Rio Dell, approximately six (6) miles northeast. The Little Salmon fault hazard zone extends from Hydesville northwesterly towards Humboldt Hill near Eureka.

Ground-shaking 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. Based on the County's Hazard mapping, Rio Dell is not within a high area of potential liquefaction.

Ground-shaking can induce landslides, especially under saturated conditions. Again, soils engineering investigations can evaluate the seismic stability of slopes and prescribe appropriate setbacks. Figure 5-2 identifies slope stability and historic landslides.

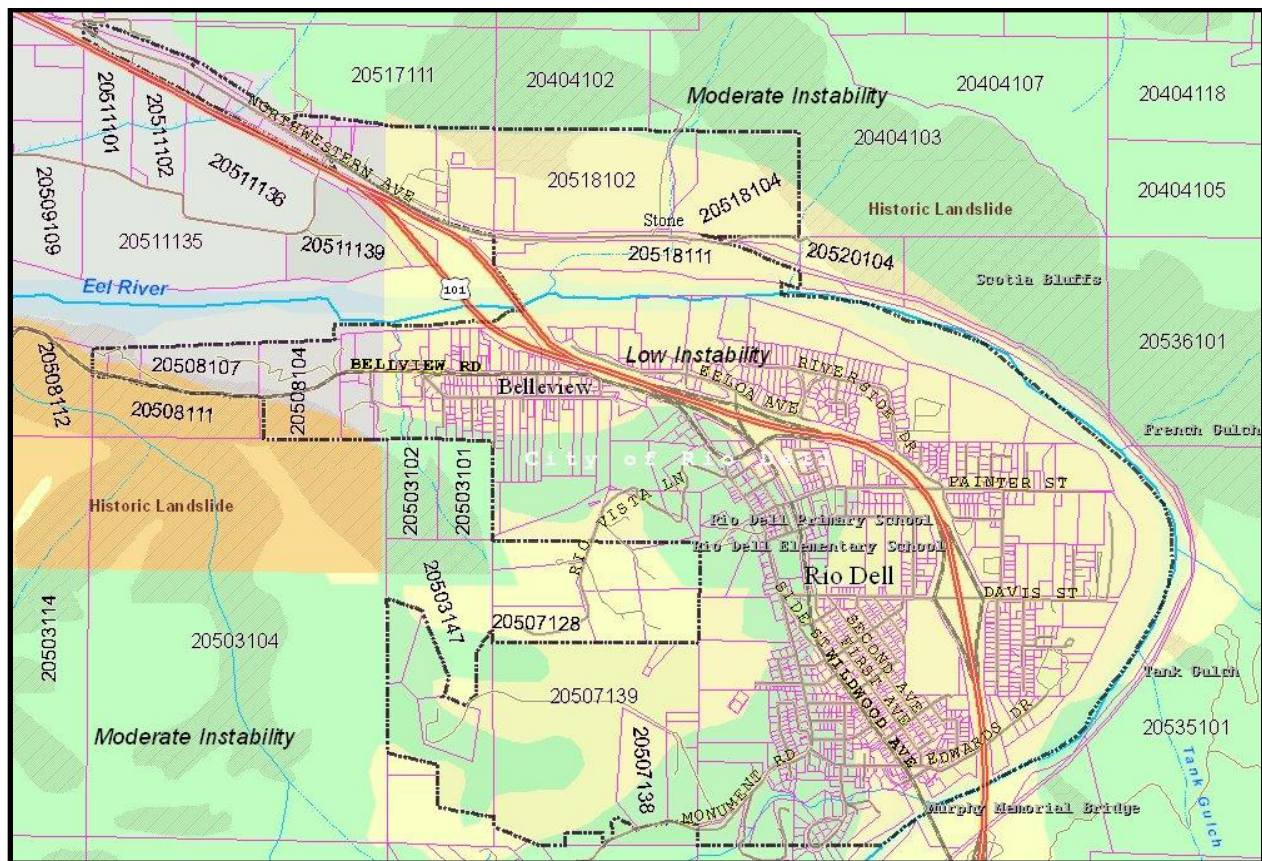


Figure 5-2 Slope Stability and Historic landslides

Source: Humboldt County GIS August 2013

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.

Rio Dell is within the Coast Range province. 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 dominating in 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*. Rio Dell is bisected by the Franciscan *mélange* and younger alluvial deposit formations. Franciscan *mélange* consists of rubble of sheared sandstone and siltstone in which occur more competent 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. Younger alluvial deposits are found in the lower reaches of the river basins and in the area surrounding Humboldt Bay, alluvial sediments dominate. These unconsolidated to partially consolidated sediments have been mildly folded and faulted, but when forested or gently sloped, are generally stable. Figure 5-3 identifies the location of the Franciscan *mélange*, Unit C and younger alluvial deposit formations, Unit D.

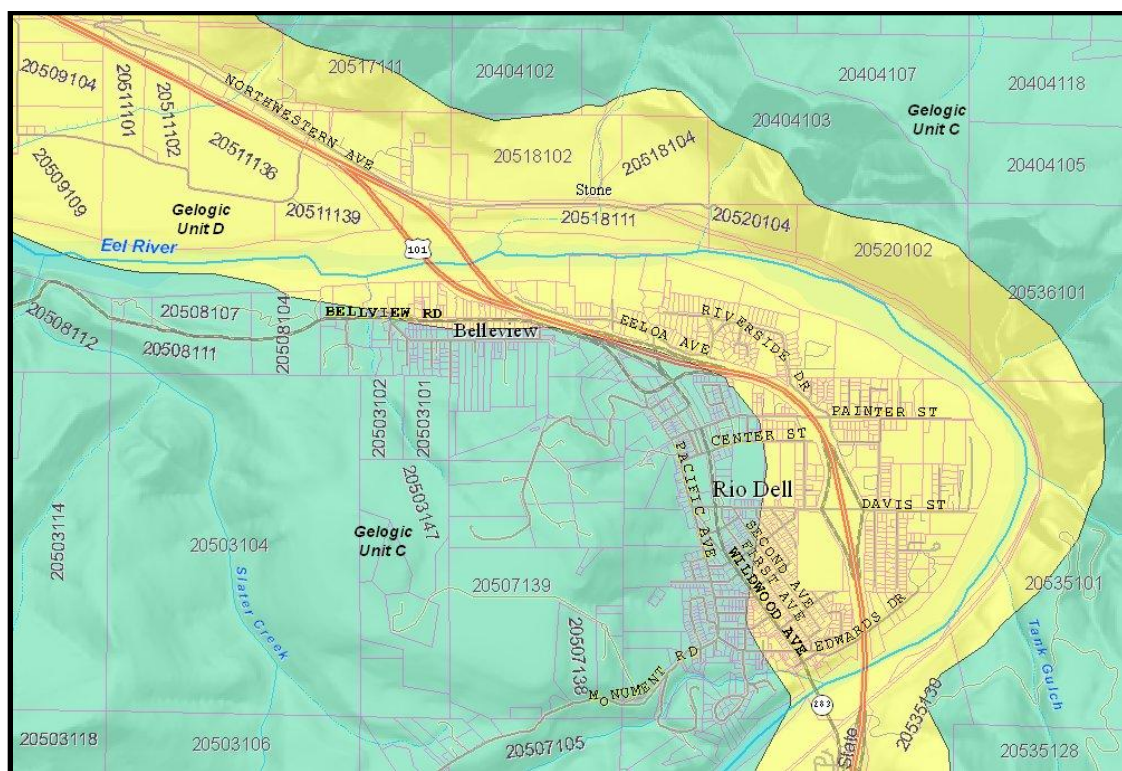


Figure 5-3 Bedrock Geology; Unit C: Franciscan Mélange; Unit D: Alluvial

Source: Humboldt County GIS August 2013

In addition to the existing policies and implementation measures, the Open Space and Conservation Element contains the following goals policies and implementation measures (action plan) regarding soil and geologic hazards. Many of the recommendations are addressed herein.

Soils and Geologic Resources Policies

- Update the Conservation and Safety Element to include the most current soil stability and geologic hazard mapping.
- Make soils and geologic resources information publicly available.
- Update the Conservation and Safety Element to require that minimum parcel sizes be increased in areas greater than 15 per cent slopes.
- Require that geo-technical reports be prepared by qualified professionals for developments in areas of potential slope stability to ensure that slope and soil stability measures are incorporated into project design.

Soils and Geologic Resources Implementation Measures

- The City shall prepare and adopt a Conservation and Safety Element of the General Plan to expand soil stability and geologic hazard information and develop specific implementation measures.
- The City shall develop a Geographic Information System (GIS) that contains data on slope stability and geologic hazards and maintain large-scale hazard maps.
- The City shall prepare Development Regulations that require soil and geological investigations of proposed development on slopes of 15% or greater. Information obtained should be used to continually update the GIS database.
- The City shall prepare a Grading Ordinance.
- The City shall prepare Hillside Development Regulations to control the density and location of development on parcels that include slopes of 15% or greater



Goal CO 5.5-1

Minimize risks to life and property due to soils and/or geologic hazards.

Policy CO 5.5-1

Continue to utilize all available data on geologic hazards and related risks from the appropriate agencies.

Implementation CO 5.5-1.a. Utilize geologic maps to identify those areas of instability to require soils/geologic reports.

Responsibility: Community Development Department

Timeframe: Ongoing

Resources: Project Proponents.

Goal CO 5.5-2

Maintain unstable and hillside areas exceeding 15% as open space within the City.

Policy CO 5.5-2

Adopt a Hillside Development Regulations within the Zoning Ordinance to implement hillside development provisions. Benches or flats on hillside areas may be developed when demonstrated that access roads and building site are geologically stable.

Implementation CO 5.5-2.a. Prior to adoption of Hillside Development Regulations, any development on slopes exceeding 15% shall require a Geologic Report demonstrating the area is stable and suitable for the proposed development.

Responsibility: Community Development Department

Timeframe: Ongoing

Resources: Project Proponents.

Policy CO 5.5-3

Roads serving hillside development shall follow natural contours, with minimum disruption to hills or forests.

Implementation CO 5.5-3.a. Adopt road standards minimizing alterations to natural contours accessing hillside development.

Responsibility:	Community Development Department, Public Works Department and City Engineer
Timeframe:	Ongoing
Resources:	General Fund

5.6 Flood Hazards: The 1955 and 1964 floods caused extensive damage throughout the northcoast. Damages from the 1964 flood alone totaled more than \$100 million dollars. Most of the City is outside the mapped 100 year flood zones. All development within the 100 year flood zone is subject to the requirements of the Federal Emergency Management Agency's (FEMA's) National Flood Insurance Program. The County maintains a Geographic Information System (GIS) which identifies flood zones and dam failure inundation zones for the entire County.



Lands within special flood hazard zones "A" and "V" as delineated by the Federal Emergency Management Agency (FEMA) are typically required to have flood insurance. FEMA as part of the National Flood Insurance Program publishes Flood Insurance Rate Maps. These maps identify various flood hazard zones for flood insurance and land use purposes. Lands within Flood Zone "A" and "V" are located within a 100 year flood plain.

Zone A is for inland areas and Zone V is for coastal areas. A 100 year flood event has an **average** occurrence of once in 100 years. There are instances where lands and or structures within mapped zones "A" or "V" may actually be located outside or above the mapped flood zone. A property owner is typically required to provide a Flood Elevation Certificate in order to get a Letter of Map Revision (LOMR) or a Letter of Map Amendment (LOMA) from the National Flood Insurance Program.

Dam Failure: While providing some degree of flood control, dams also present a possible hazard in the event of failure. The Trinity Dam (Trinity and Klamath rivers) and the Ruth Dam (Mad River) pose the most substantial risk, with their large volumes and, in the event of a

failure, short downstream warning times.

The Scott Dam is near the headwaters of the Eel River. The Scott dam was built in 1922 for hydroelectric power. It is 130' high, forms Lake Pillsbury and holds 80,560 acre-feet of water.



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. Figure 5-5 identifies the 100 flood zone and the dam failure inundation zone.

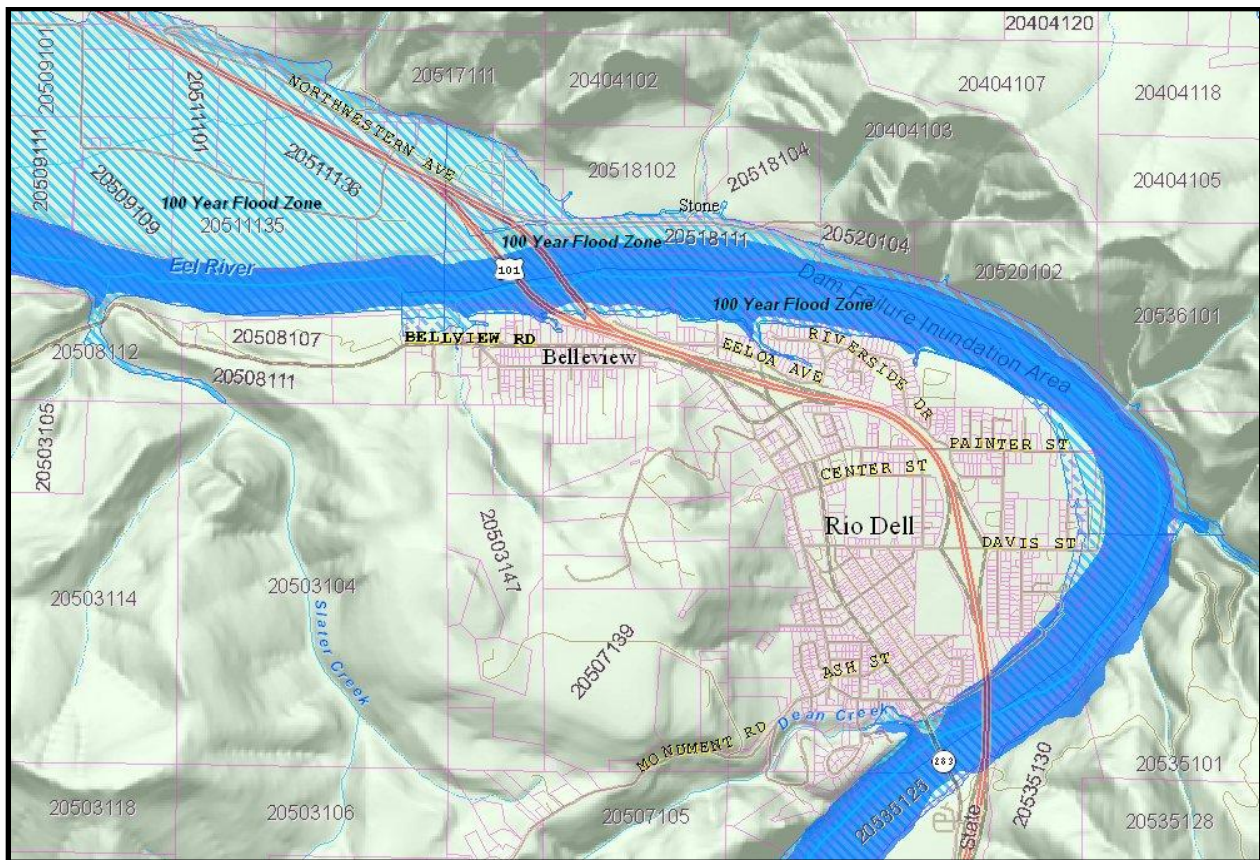


Figure 5-4 100 Year Flood and Dam Failure Inundation Zones

Source: Humboldt County GIS August 2013



Local Flooding: The City experiences local flooding during larger storm events. The Bellevue/Ogle and Riverside neighborhoods have the most significant drainage problems. The City recently made application for a Community Development Block Grant (CDBG) for a drainage/hydraulics study of the Bellevue/Ogle and Riverside neighborhoods.

Subdivisions and new development subject to the California Environmental Quality Act (CEQA) are required to submit drainage/hydraulics reports when deemed necessary. In addition, pursuant to Section 17.30.180(12)(a)(iii) of the Rio Dell Municipal Code (RDMC) multifamily, commercial and industrial ministerial projects are required to incorporate Low Intensity Development (LID) techniques including on-site retention, detention of stormwater runoff.

The current General Plan contains a number of policies and implementation measures regarding flooding and drainage issues. Below is a copy of the existing policies and implementation measures. Again, many of the recommended policies and implementation measures are addressed in this Open Space and Conservation Element.

Hydrology and Water Resources Policies

- Update the Conservation and Safety Element to include the most current information regarding flood and drainage conditions.
- Identify improvements that can be made to municipal drainage facilities so they can better convey runoff and minimize flood impacts.
- Require new development projects to incorporate on-site drainage features such as retention and infiltration systems to reduce runoff and maximize infiltration.
- Use a combination of incentives, educational programs, and ongoing system audits to promote water conservation.

Hydrology and Water Resources Implementation Measures

- The City shall prepare and adopt a Conservation and Safety Element of the General Plan to expand hydrologic information and develop specific implementation measures.
- The City shall maintain GIS data on stream and drainage channels and identified flood

plains and make available to the public large-scale hazard maps.

- The City shall pursue funding for a detailed study of the conditions of the municipal drainage system. The study should include an assessment of drainage improvements required for build-out of this General Plan.
- The City shall prepare Development Regulations that require Drainage Plans for proposed development to show on-site retention or improvements to the municipal drainage system.

Goal CO 5.6-1

Minimize risks to life and property due to flooding hazards.

Policy CO 5.6-1.a

Continue to utilize all available data on flooding hazards and related risks from the appropriate agencies.

Implementation CO 5.6-1.a. Utilize Flood Insurance Rate Maps to identify those areas subject to flooding.

Responsibility: Community Development Department
Timeframe: Ongoing
Resources: Flood maps.

Policy CO 5.6-1.b

Coordinate flood hazard analysis and management activities with the Army Corps of Engineers, Federal Emergency Management Agency (FEMA) and other responsible agencies. Request changes in FEMA maps where appropriate to reflect new data or analyses.

Implementation CO 5.6-1.b. Review flood elevation information provided by project proponents and when appropriate request changes in the FEMA maps.

Responsibility: Community Development Department, Army Corps of Engineers, City Engineer.
Timeframe: Ongoing
Resources: Project proponents and General Fund.

Policy CO 5.6-1.c

Continue to utilize all available data on dam failure inundation and related risks from the appropriate agencies.

Implementation CO 5.6-1.c. Utilize Dam Failure Inundation Maps to identify those areas subject to flooding as a result of the potential failure of the Scott Dam on the Eel River.

Responsibility: Community Development Department

Timeframe: Ongoing

Resources: Dam Failure Inundation maps.

Goal CO 5.6-2

Minimize drainage impacts associated with new development.

Policy CO 5.6-2

Require project proponents to incorporate Low Intensity Development (LID) techniques including on-site retention and detention of stormwater runoff.

Implementation CO 5.6-2.a. Review projects and require hydraulics/drainage studies where deemed appropriate.

Responsibility: Community Development Department, Public Works Department and City Engineer.

Timeframe: Ongoing

Resources: Project proponents.

5.7 Air & Energy Resources. The Open Space and Conservation Element also address the conservation of our air and energy resources.

Air Resources. The City supports and encourages the conservation of our local air resources. Rio Dell is located within the North Coast Air Basin (NCAB). The Humboldt County portion of the NCAB is currently designated as “nonattainment” or in excess of allowable limits for respirable particulate matter of 10 microns or less (PM₁₀) and as “attainment” or within allowable limits with respect to the balance of the criteria pollutants (COE 2008). Because the NCAB is in “nonattainment” for PM₁₀, the North



Coast Unified Air Quality Management District (NCUAQMD) has prepared a draft PM₁₀ Attainment Plan identifying cost effective control measures that can be implemented to bring ambient PM₁₀ levels to within California standards. These include transportation measures (e.g., public transit, ridesharing, vehicle buy-back programs, traffic flow improvements, bicycle incentives, etc.), land use measures (infill development, concentration of higher density adjacent to highways, etc.), and combustion measures (open burning limitations, hearth/wood burning stove limitations; NCUAQMD 1995). The City requires the following standard mitigation measures for grading permits and construction to control dust and other regulated particulate matter:

- Spray exposed soils with water during grading on a daily basis.
- Apply soil stabilizers to inactive exposed soils.
- Suspend earth moving and trenching activities when winds exceed 20 mph.
- Plant ground cover in disturbed areas immediately after grading.
- Cover haul truck loads.
- Use only low VOC asphalt, coatings, paints and building materials.
- Ensure that all construction vehicles and equipment possess EPA- and/or NCUAQMD-approved exhaust systems and are kept tuned.

In addition, new fireplaces are restricted to either gas fireplaces or EPA or NCUAQMD approved low emission wood burning fireplaces.

The current General Plan contains policies and implementation measures regarding air resources. Below is a copy of the existing air resource policies and implementation measures.

Air Resources Policies

- Establish review procedures for development proposals to ensure that mobile, point, and area sources of air emissions are reduced to the greatest extent possible.
- Reduce emissions from stationary sources by limiting wood-burning fireplace installations in new construction to low emitting, State and EPA certified fireplace inserts, woodstoves, pellet stoves, or natural gas fire stoves.

Air Resources Implementation Measures

- The City shall prepare Development Regulations that identify and propose mitigation measures for potential air pollution sources in proposed developments.

- The City shall work with North Coast Unified Air Quality Management District to identify funding sources for low income and elderly households to retrofit or replace older wood burning stoves.

As indicated above the City has developed standard conditions of approval for to mitigate air impacts associated with grading activities and air impacts from wood burning appliances.

Goal CO 5.7-1

Maintain and enhance the air quality within and adjacent to the City.

Policy CO 5.7-1

Continue to impose standard conditions of approval to mitigate air impacts associated with grading activities.

Implementation CO 5.7-1.a. Review projects and implement standard conditions of approval to mitigate air impacts associated with grading activities.

Responsibility: Community Development Department, Public Works Department and City Engineer.

Timeframe: Ongoing

Resources: Project proponents.

Policy CO 5.7-2

Continue to refer discretionary projects to the North Coast Unified Air Quality Management District (NCUAQMD).

Implementation CO 5.7-2.a. Refer projects that may have an impact on air resources to the North Coast Unified Air Quality Management District.

Responsibility: Community Development Department and the North Coast Unified Air Quality Management District

Timeframe: Ongoing

Resources: Project proponents.

Policy CO 5.7-3

Continue to require that wood burning appliances meet EPA or NCUAQMD air quality

standards.

Implementation CO 5.7-3.a. Review building permits to ensure that wood burning appliances meet EPA or NCUAQMD air quality standards.

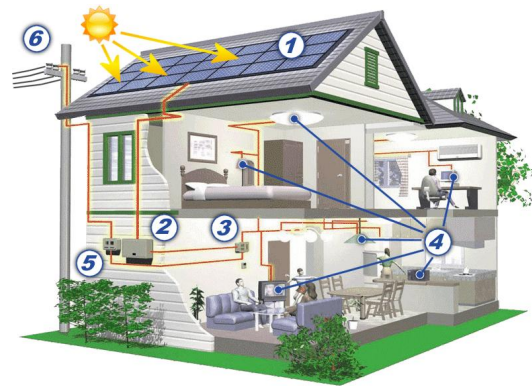
Responsibility: Community Development Department, Public Works Department and City Engineer.

Timeframe: Ongoing

Resources: Project proponents.

Energy Resources. All new residential development within the City is subject to the State's Title 24 energy efficiency requirements, which requires minimum insulation standards, energy efficient windows, water heaters, furnaces and air conditioners.

In addition, the City refers residents to the Redwood Coast Energy Authority (RCEA). The Redwood Coast Energy Authority is a Joint Powers Authority whose members include the County of Humboldt; the Cities of Arcata, Blue Lake, Eureka, Ferndale, Fortuna, Rio Dell, and Trinidad; and the Humboldt Bay Municipal Water District. RCEA'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. Residents can schedule an in-home appointment with one of RCEA's Energy Technicians to assess lighting, water heating, appliances, building envelope, and heating systems. Residents receive specific recommendations for improving their home's comfort and efficiency.



The City is actively looking into the possibility to develop a photovoltaic solar system to help run City Hall.

The current General Plan contains policies and implementation measures regarding energy resources. Below is a copy of the existing energy resource policies and implementation measures.

Energy Resource Policies

- Coordinate with energy suppliers and agencies to educate residents, property owners, and business operators about the need for and benefits of conserving energy.
- Maintain and distribute current information about building insulation, energy efficient appliances, lighting, and heating; other conservation measures and materials; and home power alternatives.
- Require that new construction and retrofits comply with energy efficient construction codes including high-energy windows, water heaters, and furnaces, to reduce energy consumption.

Energy and Mineral Resources Implementation Measures

- The City shall support the energy efficiency construction standards of Title 24 in local building codes.
- The City shall participate in countywide energy conservation programs and initiatives.
- The City shall seek funding to establish a library of energy conservation and "Green" construction techniques for use by building permit applicants.

Goal 5.7-4

Conserve energy and minimize resource depletion by encouraging alternative energy, solar power, and green building techniques.

Policy CO 5.7-4

Use energy and resource efficient methods in daily City operation.

Implementation CO 5.7-4.a. Where feasible, use energy efficient transportation, solar and alternative power sources, and green building methods for City buildings.

Responsibility: City of Rio Dell
Timeframe: Ongoing.
Resources: General Fund and Grants.

Policy CO 5.7-5

Use, support, and encourage energy and resource efficient methods in private construction.

Implementation CO 5.7-5a. Study and develop ordinances and incentives to encourage energy

efficient transportation, solar and alternative power sources, and green building methods for private buildings and projects. Building Department should provide reviews and inspect using green building standards if requested by any applicant.

Responsibility: Community Development Department, Building Department

Timeframe: Ongoing.

Resources: General Fund.

Implementation CO 5.7-5.b. Study and develop ordinances and incentives to encourage energy conservation.

Responsibility: City of Rio Dell.

Timeframe: Ongoing.

Resources: General Fund and Grants.