

3.11 Biological Resources

This section provides background information regarding biological resources within the County, the regulations and programs that provide for their protection, and an assessment of the potential impacts of implementing the proposed General Plan Update. Additional background on biological resources is described in Chapter 2, Biological Resources, of the *Natural Resources and Hazards Report*, September 2002 (Appendix D), which includes a more complete discussion of biological resources in Humboldt County including habitats, fisheries, special status species, and the existing policies concerning these resources. This report was developed utilizing the California Department of Fish and Wildlife (CDFW) and the California Natural Diversity Database (CNDDDB), which includes federally listed or protected species. This report, which is available for review at the Planning Division public counter at 3015 H Street in Eureka during normal business hours or for download at <http://co.humboldt.ca.us/gpu/documentsbackground.aspx>, is incorporated herein by reference and summarized below. Where any discrepancies may exist between the referenced material and the material presented here, the material presented here should be considered as the most up to date and is to be relied upon for the environmental setting and analyses.

3.11.1 Biological Resources - Environmental and Regulatory Setting

Overview

Humboldt County is part of the Klamath/North Coast bioregion. In general, this bioregion is characterized by its rocky coastline, forested montane areas, and sparse human settlement. Much of the bioregion is covered by forest, including many important forest resources in Humboldt County. This mountainous region is also the wettest area in the State of California. The coastal climate is cool, moist, and tends to be foggy, while inland the climate is drier.

The Humboldt coastal area is rich in natural resources. Bays and estuaries and other tidal inlets provide a variety of habitats supporting many species of resident and migratory wildlife. Humboldt Bay, one of California's largest coastal estuaries, is second only to San Francisco Bay in size. The bay is an important habitat for many invertebrates, fish, birds, and mammals. Bay resources include Humboldt Bay National Wildlife Refuge, which was established in 1971 in recognition of the area's unique fish and wildlife values.

The inland area of Humboldt County is home to a wealth of fish and wildlife due to the region's ample rainfall and the mild, consistent climate. Additionally, relatively sparse development and high open space land potential has resulted in nearly 400,000 acres of the County's undeveloped forest and coastline habitats designated as parkland in the State and National Park systems, leaving large tracts of existing habitat untouched. The County is composed mainly of coastline and mountainous areas with dense coniferous forests interspersed with grass or chaparral covered slopes. Six wild rivers run through the County, providing habitats for fish and wildlife as well as important water resources.

Wildlife habitat can be broadly defined as any area that supports wildlife species. The relative lack of development and human disturbance in the area enhances the opportunity for wildlife species to live and reproduce without disturbance. It is often difficult to determine what elements in the landscape actually increase the value of a given habitat. The type of vegetation and the structure of the vegetative community are important characteristics of

habitat since wildlife species rely upon vegetation for food and cover. Slope, elevation, exposure, and accessibility by predators or humans can also have an impact on habitat suitability. Habitat requirements vary according to species, season, and climatic conditions. The varied wildlife habitat types present in Humboldt County provide opportunities for a diverse wildlife population. Habitat in Humboldt County supports fox, deer, elk, waterfowl, marine mammals, salmon, mountain lions, bears, and other fish and wildlife.

A number of biological communities characterize the unincorporated area of Humboldt County. These communities include coniferous forest comprised of Douglas fir, redwood and pine forest (61%), oak woodlands (23%), grassland (10%), and other (6%) which includes coastal beach-dune vegetation, northern coastal scrub, chaparral, salt marsh, riparian, and freshwater marsh. The predominant vegetation type or community found in a certain region can generally be used to characterize habitats. The generalized vegetation types in Humboldt County are listed in Table 3.11-1, below. Chapter 2 of the Natural Resources and Hazards Report, Figures 2-5 through 2-16 in particular, show the detailed distribution of vegetation types throughout Humboldt County.

Table 3.11-1. Vegetation Types in Unincorporated Humboldt County.

Vegetation Type	Total Acres	% of Total
Agriculture-Crops	41,166	2%
Annual Grass	222,109	10%
Chaparral	30,452	1%
Coastal Scrub	13,699	1%
Fir Forest	760,611	34%
Oak Woodlands	502,066	23%
Pine Forest	170,492	8%
Redwood	425,670	19%
Riparian	49,968	2%
Wetlands	8,867	0%
Total	2,225,100	100%
Source: California Department of Forestry and Fire Protection, 2002.		

For additional information, see Section 3.10, Hydrology and Water Resources, for a general discussion of the habitats and geography of each planning watershed within the County. A summary of the habitat types and anadromous species can be found in Section 3.10 Hydrology and Water Resources, of this EIR.

Fish and Wildlife

The anadromous salmonids are species that help define California's north coast and form an integral part of the County's natural ecosystems, cultural heritage, and local economies. California's commercial salmon fishery is an estimated \$100 million-a-year industry. Yet despite their importance, salmonids are also some of the County's most imperiled species. Most of the County's anadromous salmonid stocks have, for multiple reasons, precipitously declined over the past 100 years. Coho salmon, for example, has undergone a 70% decline in abundance since the 1960s, and is currently at 6% to 15% of its abundance during the 1940s (DFG 2004). The region's commercial and recreational fishing industry has been severely impacted by this decline. In 2006, the US Commerce Department declared a commercial fishery failure for coastal Oregon and California. As a result, a \$60 million emergency disaster relief package for the Pacific salmon industry was approved.

As noted in the Natural Resources and Hazards Report, Humboldt County has numerous ecologically and economically important aquatic resources, including wetlands, lagoons, streams, rivers, estuaries and the Pacific Ocean. These resources have both regional and statewide significance. Humboldt Bay, for instance, is California's second largest estuary, and combined with surrounding agricultural lands and the Eel River estuary, is one of the most important migratory waterfowl stopovers along the Pacific Flyway. Humboldt County also has some of the largest and most ecologically important coastal lagoons in the state, and two of California's three largest river systems flow through the County. These streams, rivers and estuaries are habitat for more than 20 state and federal listed threatened and endangered species. Even smaller streams adjacent to urban areas can have significant fisheries values. For instance, CDFW 2005 stream survey data for Freshwater Slough records the presence of 28 fish species, many with important commercial and recreational fisheries value.

Many of the County's larger bodies of water, such as Humboldt Bay; Freshwater, Jacoby, and Redwood Creeks; and the Eel, Elk, Klamath, Mad, Mattole, Trinity and Van Duzen Rivers, are designated by the US Environmental Protection Agency as sediment-impaired pursuant to the Clean Water Act §303(d) or are otherwise impaired by high water temperatures, water diversions, loss of riparian habitat, or barriers to fish passage. A number of these waters, such as Humboldt Bay and its principal tributaries and the lower Eel, Mad, and Van Duzen Rivers, maintain important coho salmon populations that have been designated by CDFW as key populations to maintain or improve (CDFW 2004). Humboldt Bay and many of these important fish-bearing rivers and streams are situated in, or adjacent to, areas serviced by existing water and sewer services, and are therefore in the areas most likely to be impacted by future development.

Special Status Species

The California Department of Fish and Wildlife (CDFW) has developed a list of "special status species." Plant or animal species may be identified as "special status species" even if they are not officially listed as threatened or endangered. "Special Status" species fall under one or more of the following categories:

1. Officially listed or proposed for listing under the State of California and/or the Federal Endangered Species Acts;
2. State of California or federal candidate species for possible listing;
3. A California Department of Fish and Wildlife Species of Special Concern;
4. Species that may be considered endangered or rare under Section 15380(d) of CEQA guidelines;
5. A Bureau of Land Management, U.S. Fish and Wildlife Service or U.S. Forest Service Sensitive Species;
6. Species listed in the California Native Plants Society's Inventory of Rare and Endangered Vascular Plants of California;
7. Species that are biologically rare, very restricted in distribution, or declining throughout their range but not currently threatened with extinction;
8. Population(s) of species in California that may be peripheral to the major portion of a species' range but are threatened with extinction in Humboldt or California;
9. Species closely associated with a habitat that is declining in California at an alarming rate (e.g. wetlands, riparian, old growth forests, desert aquatic systems, native grasslands, valley shrub land habitats, vernal pools, etc.).

The following table shows a list of state and federal (CDFW, NMFS, USFWS) listed threatened or endangered animal and plant species in Humboldt County.

Table 3.11-2. Listed Threatened or Endangered Species in Humboldt County.

Scientific Name	Common Name	Status
<i>AMPHIBIANS</i>		
Rana Aurora	California red-legged frog	FT
<i>BIRDS</i>		
Brachyramphus marmoratus	marbled murrelet	SE, FT
Charadrius nivosus nivosus	western snowy plover	FT
Coccyzus americanus occidentalis	western yellow-billed cuckoos	SE, FT
Empidonax traillii	willow flycatcher	SE
Haliaeetus leucocephalus	bald eagle	SE
Passerculus sandwichensis beldingi	Belding's savannah sparrow	SE
Riparia riparia	bank swallow	ST
Rallus longirostris obsoletus	California clapper rail	SE, FE
Strix nebulosi	great gray owl	SE
Strix occidentalis caurina	northern spotted owl	ST, FT
<i>FISH</i>		
Acipenser medirostris	green sturgeon	FT
Eucyclogobius newberryi	tidewater goby	FE
Oncorhynchus kisutch	coho Salmon	ST, FT
Oncorhynchus mykiss	steelhead	FT
Oncorhynchus tshawytscha	Chinook salmon	FT
Spirinchus thaleichthys	longfin smelt	ST
Thaleichthys pacificus	Pacific eulachon	FT
<i>INSECTS</i>		
Speyeria zerene behrensii	Behren's silverspot butterfly	FE
<i>Gastropods</i>		
Monadenia infumata setosa	Trinity bristle snail	ST
<i>PLANTS</i>		
Astragalus agnicidus	Humboldt milk-vetch	SE
Erysimum mensiesii	Menzies' wallflower	SE, FE
Howellia aquatilis	water howellia	FT
Layia carnosa	beach layia	SE, FE
Lilium occidentale	western lily	SE, FE
Noccaea fendleri ssp. Californica	Kneeland Prairie pennycress	FE

Source: CDFW, California Natural Diversity Database; January 2017 memo

ST – State threatened; SE – State Endangered; FT – Federally threatened; FE – Federally endangered.

There are other plant and animal species that have not been listed as threatened or endangered at the federal or state level, but which are still rare enough to be listed in the California Natural Diversity Database (CNDDB). These species, such as the golden eagle, great blue heron, osprey, and the pacific fisher, would meet the criteria for listing but have not yet been formally listed or selected as candidates. See Natural Resources and Hazards Report, Section 2, Biological Resources, Table 2-16 for a complete listing and mapping of these species in Humboldt County.

CDFW has also identified a number of Significant Natural Areas (SNAs). SNAs are designated sites that support extremely rare communities or species, populations of several special-status species, high-quality examples of special biological communities, or high species diversity. In addition to the specific sites identified as SNAs, other biological communities in the County require special protection. See the General Plan Biological Resources Maps at <http://www.co.humboldt.ca.us/gpu/documents/maps.aspx> for a mapping of these areas.

The *Natural Resources and Hazards Report* provides a summary of each planning watershed within the County. See The *Natural Resources and Hazards Report*, Section 2, Biological Resources, pages 2-22 through 2-34. Figures 2-5 to 2-16 of that report illustrate the distribution of vegetation types within each watershed. Tables 2-4 through 2-15 list the federal and state listed special status species in Humboldt County's planning watersheds. The Eureka Plain, Mad River, and Trinidad watersheds have the greatest number of federal and state listed species. The only species found consistently in every watershed is the state and federally threatened northern spotted owl.

Habitat Conservation Planning

In the 1982 amendments to the federal Endangered Species Act, Congress established a mechanism authorizing the U.S. Fish and Wildlife Service and the National Oceanographic and Atmospheric Administration National Marine Fisheries Service (NOAA Fisheries, also referred to as NMFS) to issue to non-federal entities planning activities that have no federal nexus, a permit for the "incidental take" of endangered and threatened wildlife species. This permit allows these activities that are otherwise legal but would result in the "incidental" taking of a listed species, to proceed. The ESA defines incidental take as "incidental to, and not the purpose of, the carrying out of an otherwise lawful activity."

A Habitat Conservation Plan, or HCP, must accompany an application for an incidental take permit. The purpose of the HCP is to ensure that the effects of the permitted action on listed species are adequately minimized and mitigated. The permit authorizes the incidental take, not the activity that results in take. The activity itself must comply with other applicable laws and regulations.

The USFWS and/or West Coast Region NOAA Fisheries websites list the following HCPs in Humboldt County and the following information describing the HCPs:

- Green Diamond Resource Company California Timberlands (formerly Simpson Timber Company) Northern Spotted Owl HCP: HCP Permit #767798 was issued on September 17, 1992, covering 380,000 acres in Humboldt, Del Norte and Trinity Counties, California, to be used for forest management activities. The threatened northern spotted owl (*Strix occidentalis caurina*) is covered under the incidental take permit for a period of 30 years.
- Regli Estates HCP: HCP Permit #803749 was issued on August 30, 1995, covering 500 acres in Humboldt County, California, to be used for forest management activities. Two threatened species, the marbled murrelet (*Brachyramphus marmoratus*) and northern spotted owl, as well as two non-listed species, the bald eagle (*Haliaeetus leucocephalus*) and American peregrine falcon (*Falco peregrinus anatum*), are covered under the incidental take permit for a period of 20 years.
- Pacific Lumber Company (now Humboldt Redwoods Company) HCP: Permit #TE828950-0 was issued on March 1, 1999, covering 211,700 acres in Humboldt County, California, to be used for forest management activities, mining or other extraction. The following three threatened and nine non-listed species are covered under the incidental take permit for a period of 50 years.
 - Threatened species:
 - Marbled murrelet
 - Northern spotted owl

Western snowy plover (*Charadrius alexandrinus nivosus*)

Candidate species:

Pacific fisher (*Martes pennant pacifica*)

Non-listed species:

Bald eagle

American peregrine falcon

Foothill yellow-legged frog (*Rana boylei*)

Northern red-legged frog (*Rana aurora aurora*)

Tailed frog (*Ascaphustruei*)

Southern torrent salamander (*Rhyacotriton variegatus*)

Northwestern pond turtle (*Clemmys marmorata marmorata*)

California red tree vole (*Phenacomys longicaudus*)

- Green Diamond Resource Company, 2007 Aquatic Habitat Conservation Plan/Candidate Conservation Agreement with Assurances (AHCP/CCAA) covering its timberland ownership in Del Norte and Humboldt counties in Northern California. The plan seeks to conserve habitat for, and mitigate impacts on, seven aquatic species: Coho salmon; steelhead; Chinook salmon; coastal cutthroat trout; rainbow trout; the southern torrent salamander and the tailed frog. The plan was negotiated between Green Diamond Resource Company, The National Oceanic and Atmospheric Association's National Marine Fisheries Service (NOAA Fisheries Service), and the U.S. Fish & Wildlife Service.
- Humboldt Bay Municipal Water District HCP, 2004, covering the width of the Mad River bank full channel from the river mouth to Mathews Dam in Trinity County, to be used for flow release and management activities; diversion activities in the Essex reach; maintenance; and periodic excavation. Chinook and coho salmon and steelhead and coastal cutthroat trout are covered under the incidental take permit for a period of 50 years.

3.11.2 Biological Resources - Standards of Significance

This analysis uses the significance criteria from the CEQA Guidelines Appendix G. The proposed General Plan Update would result in a significant impact on biological resources if it would do any of the following:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.
- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.
- d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Items “a” and “b” are discussed together in Impact 3.11.3.1, Sensitive Species and Sensitive Habitat Areas, Item “c” is discussed in Impact 3.11.3.2, Wetlands, Item “d” is discussed in Impact 3.11.3.3, Wildlife Corridors and Nursery Sites, Item “e” is discussed in Impact 3.11.3.4, Local Policies and Ordinances, and Item “f” is discussed in Impact 3.11.3.5, Habitat Conservation Plans.

3.11.3 Biological Resources - Impacts and Mitigation Measures

Impact 3.11.3.1 Sensitive Species and Sensitive Habitat Areas

Implementation of the General Plan Update would result in additional development that could adversely impact special status species or habitat.

This impact analysis addresses items “a” and “b” of the significance standards listed in Appendix G of the CEQA Guidelines as provided in Section 3.11.2 above. Pursuant to these standards, the proposed County General Plan Update would have a significant impact if it would:

- a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service.
- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or US Fish and Wildlife Service.

Future development consistent with the General Plan Update could result in substantial loss or degradation of special status plant or animal species, depending on the manner in which future development is implemented and how much of the General Plan Update’s development capacity is utilized. Alteration of natural habitat could occur when undeveloped land is converted to residential, commercial, industrial, or certain recreational uses. Changes in the diversity of plant and animal species could occur during development due to removal of vegetation and/or other habitat. Impacts to special status species could include direct loss of individuals or localized populations, elimination or degradation of critical habitat, and isolation of subpopulations due to habitat fragmentation. Conversion of existing natural habitat to urban development, roadways, and other infrastructure improvements could result in the elimination of populations of special status species where present within the limits of proposed grading and development. While project-level review and mitigation may address many direct impacts, indirect and cumulative impacts could still result.

The analysis of potential biological resources impacts is qualitative in nature as development projections are regional rather than project-specific. The evaluation of impacts is based on an assessment of the habitat types that have the potential to support the plant and animal species identified within the General Plan Update’s Background Report (*Natural Resources and Hazards Vol. 1*). This report identified special-status plant and wildlife species that have the potential to occur in Humboldt County.

The County has mapped sensitive habitat areas, riparian areas and wetlands, and has developed Geographic Information System (GIS) tools for easy access to this information. The

County will continue to use these tools during the building permit review process for new construction, and will continue to refer to these maps to identify areas where additional evaluation would be necessary and ensure that new construction does not conflict with policies or ordinances protecting biological resources in order to avoid significant impacts to those resources.

Policies, programs and standards in the General Plan Update, community plans and coastal plans address biological resources and are intended to protect species diversity in sensitive biological communities. In addition to the general biological resources policies established in these plans, the County maintains Streamside Management Areas (SMAs), which are generally coincident with the riparian corridors along watercourses, to protect sensitive fish and wildlife habitats and to minimize erosion, runoff, and other conditions detrimental to water quality. .

The existing Framework Plan defines the SMA's as an area extending 100 feet in a horizontal line from the "Stream Transition Zone" of perennial (year round) streams, which is the area where woody vegetation is permanently established on the bank of the stream. For intermittent streams, the SMA is only 50 feet in width. While SMA's may be extended to account for important habitat outside the SMA area, the maximum width of an SMA is 200 feet.

The County's existing SMAs are shown in a general manner on Figure 2-17 in Chapter 2, Biological Resources, of the *Natural Resources and Hazards Report*. Also, the McKinleyville Community Plan mapped the WR - Wetlands and Riparian Areas Combining Zone in 2002 using these same criteria.

Development within the SMAs is very restricted and is subject to numerous development standards designed to protect the habitat quality of the SMA. For example, existing policies protect valuable riparian and inland wetland habitat, while coastal zoning designations serve to protect sensitive habitat areas near the coast, bays, sloughs and lagoons. The General Plan Update will continue to implement these measures, which will reduce the potential biological impacts of the General Plan Update.

Impacts to sensitive species and habitats may occur directly or indirectly through alteration of the natural habitat when undeveloped land is converted from open space to developed uses. Changes in the habitat and quantity of plant and animal species on a property will occur during development due to grading, removal of vegetation, and the encroachment of development into open space areas. New development may displace riparian habitat or other sensitive natural communities, or federally protected wetlands. In addition, new development also can impact sensitive species and habitats through the effects of noise and light. New construction, water diversions for domestic water use and grading of new access roads may also interfere with the movement of native resident or migratory fish or wildlife species, or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. Since the General Plan Update encourages new development, the project may indirectly cause such impacts, and conflict with policies in the Framework Plan and the Zoning Ordinance protecting biological resources.

The development of currently undeveloped land, especially outside of infill areas, would likely be the principal cause of adverse impacts to candidate, sensitive, or special status species. The principal General Plan tools for the protection of such land are the land use maps and biological resource protection policies. The land use maps identify land appropriate for residential, commercial and industrial development within community planning areas, and those areas that are served, or are expected to be served, with urban level services. Open space lands are currently those lands planned for continued resource production at very low densities or public

lands that have little to no planned development allowed. Biological resource protection measures include performance standards for new development, which helps reduce impacts on sensitive species and habitats.

Analysis of Relevant General Plan Update Policies

The General Plan Update goals and policies are protective of land planned for open space and resource production and direct new commercial, industrial and residential development to infill areas. The land use map identifies land appropriate for residential, commercial and industrial development within community planning areas. Open space lands are planned for continued open space uses by applying appropriate land use designations listed in the General Plan Update Section 4.8, Land Use Classifications (which includes Natural Resources (NR) and Open Space (OS)). Resource production lands are planned for continued resource uses through the application of appropriate land use designations listed in the General Plan Update Section 4.8, such as Agriculture Exclusive, Agriculture Grazing, and Timberland. Within lands planned for Open Space and Resource Production, residential uses are allowed only in cases where they are found to be incidental or subordinate to the principal use. Commercial and industrial uses would be similarly limited. Therefore, development or subdivision of open space and resource production lands for purposes other than those planned for in the land use map would not be allowed.

The following policies of the General Plan Update specifically address potential impacts to sensitive species and habitats, Conservation and Open Space Chapter Policy BR-P1, Compatible Land Uses, required that area containing sensitive habitats shall be planned and zoned for uses compatible with the long-term sustainability of the habitat, and requires that 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 CDFW guidelines or recovery strategies. BR-P2, Critical Habitat, requires that 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 CDFW guidelines or recovery strategies.

Planned development within, and adjacent to, stream channels, SMAs, and other wet areas would be subject to protections contained in several policies in the Conservation and Open Space Element. Policy BR-P4, Development within Stream Channels, requires that development within stream channels shall be permitted when there is no lesser environmentally damaging feasible alternative, where the best feasible mitigation measures have been provided to minimize adverse environmental effects, and is limited to essential, non-disruptive projects as listed in Standard BR-S6 -Development within Stream Channels. Policy BR-P5, Streamside Management Areas, requires the County to protect sensitive fish and wildlife habitats and to minimize erosion, runoff, and interference with surface water flows by maintaining SMAs along streams, including intermittent streams that exhibit in-channel wetland characteristics and off-channel riparian vegetation.

As proposed by the Board of Supervisors, the width of the SMA's as prescribed in the Framework Plan is modified in the General Plan Update (Conservation and Open Space Element, Standard BR-S5) to begin at the top of the bank or the edge of the riparian dripline rather than the "stream transition line", which is lower on the bank where permanent woody vegetation is first established. The General Plan Update provides widths for SMAs as follows:

- 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.

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.

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, ~~and~~ there are no in-channel wetland characteristics or off-channel riparian vegetation, and [?] or [?] 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.

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

The above modifications to the SMA areas have been mapped, and will replace the current GIS SMA layer upon adoption of the GPU by the Board of Supervisors.

To address California Department of Fish and Wildlife concerns regarding riparian and wetland buffer areas, the Planning Commission revised Standard BR-S5, Streamside Management Areas Defined, to eliminate the reference to "blue line streams" as identified on US Geological Survey (USGS). The revised standard now calls for use of specific mapped areas where available, to define the SMA and, for areas along streams not specifically mapped as SMA and Wetland Combining Zones, the outer boundaries of the SMA shall be defined as 100 feet for perennial streams and 50 feet for intermittent streams, measured as the horizontal distance from the top of bank or edge of riparian drip line, whichever is greater on either side of the stream. The standard also requires that the SMA be expanded to up to 200 feet as necessary to include slides, or areas with visible evidence of slope instability.

Policy BR-P6, Development within Streamside Management Areas, requires that 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. Standard BR-S8 - Required Mitigation Measures, provides mitigation measures for development within an SMA, which at a minimum include retention of standing and felled snags in most instances, retention of live nesting trees, erosion control measures per BR-S9, and maximum feasible retention of overstory canopy in riparian corridors. BR- S9 - Erosion Control, provides erosion control measures for SMA development to minimize sedimentation impacts. Standard BR-S10 - Development Standards for Wetlands, states that development standards for wetlands are consistent with SMA standards, except that the setback from seasonal wetlands is 50 feet and from perennial wetlands is 150, and the setback is from the edge of the delineated wetland. Policy BR-P7, Wetland Identification, requires that 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. Standard BR-S11, Wetlands Defined, defines wetlands for the purpose of protecting them. Policy BR-P11, Agency Review, requires that the County request Department of Fish and Wildlife, as well as other appropriate trustee agencies and organizations, to review development plans within sensitive habitat areas, including SMAs. National Marine Fisheries Service or U.S. Fish and Wildlife development plan review is required within critical habitat if the project includes federal permits or funding. Recommended mitigation measures to reduce potential impacts below levels of significance will be considered during project approval, consistent with CEQA.

Other policies that contribute to the protection of sensitive species and sensitive habitat areas include BR-P10, Biological Resource Maps, which requires that biological resource maps be consulted during ministerial and discretionary project review in order to identify habitat concerns and guide mitigation for discretionary projects that will reduce biological resource impacts to below levels of significance. For ministerial projects, if proposed development is within sensitive areas and cannot meet certain performance criteria, a discretionary special permit process is invoked. Through Policy BR-P8, Oak Woodlands, the County will further protect important habitats by specifying that oak woodlands be conserved through the review and conditioning of discretionary projects to minimize avoidable impacts to functional capacity and aesthetics.

The Water Resources Element contains policies that provide protection for sensitive species and habitats. Pursuant to Policy WR-P5, Critical Watershed Areas, the County shall designate all or portions of watersheds as "Critical Watersheds" if cumulative impacts from land or water resource uses within the area have the potential to create significant environmental impacts to threatened or endangered species. This policy also requires that 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. The Water Resources Element Policies WR-P8, Erosion and Sediment Discharge, and WR-P36, Erosion and Sediment Control Measures, require that grading performance standards and best management practices be used to limit erosion and sediment discharge from ministerial and discretionary projects requiring grading permits, and direct incorporation of erosion and sediment control measures into development design and improvements. Water quality and habitat area degradation will be further limited through Policies WR-P15, Nutrient Discharge from Agricultural Operations, which supports programs that reduce nutrient discharge from agricultural operations; WR-P34, Commercial and Industrial Activities, which requires that commercial and industrial operations minimize facility-related discharges to the stormwater system; and WR-P35, Oil/Water Separation, which requires that parking lots incorporate facilities to separate oils from stormwater.

Policy WR-Px1, Requirements for Water Storage in Flow Impaired Watersheds, requires new development proposed within flow impaired watersheds that is not served by public water to install water storage tanks capable of providing 100 percent of the necessary water storage volume for the summer low-flow season, and requires a forbearance agreement prohibiting water withdrawals during low-flow conditions to be included as a performance standard for the project.

Policy WR-Px2, Mitigate Controllable Sediment Discharge Sites, requires that discretionary development involving a site identified as part of the TMDL Controllable Sediment Discharge Inventory shall be conditioned to mitigate sediment. Implementation Measure WR-IMx1, Update Water Quality Regulations, directs the County to 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. Implementation Measure WR-IMx2, Unpermitted Development Ordinance for Critical Watersheds, directs the County to prepare an ordinance to provide enforcement capabilities for un-permitted development within critical watershed areas if the development impacts water resources, and to work with the State Departments of Water Resources and Fish and Wildlife to address illegal water diversions and over-subscribed water right allocations.

Federal and state laws that govern sensitive species and habitats (e.g., the Federal Endangered Species Act and the California Endangered Species Act) would apply to new development under the General Plan Update, and new discretionary development proposals would be required to comply with the provisions of these statutes. Routine and ongoing timber and agricultural activities are also subject to these requirements and would be required to comply with all applicable federal and state sensitive species requirements. In addition, future discretionary development activities contemplated by the General Plan Update would be required to undergo environmental review pursuant to CEQA. This review would include assessment of potential impacts on sensitive species and sensitive habitats.

Conclusion

The General Plan Update Land Use Element emphasizes infill development and discourages the encroachment of urban uses into undeveloped areas. That said, existing parcelization of outlying areas and the potential creation of new parcels with residential or other development at buildout could result in significant adverse effects on the County's sensitive species and sensitive habitats. Activities requiring discretionary approvals by the County, state, and federal agencies provide for the greatest protection of biological resources because proposed activities must be evaluated for their potential impact on special status species and other sensitive habitats. These include development applications which are reviewed under CEQA and NEPA when applicable.

Through implementation of General Plan Update policies, standards, and implementation measures, the County will assess development impacts on species diversity in coastal areas, wetlands, mapped sensitive habitats, threatened/endangered species ranges and in SMA's as part of the review process for discretionary permits, as well as to protect water quality. With continued implementation of existing federal and state regulations and proposed new policies and implementation measures of the General Plan Update, impacts to species identified as candidate, sensitive, or special status species would be **less than significant**.

Mitigation

None required.

Impact 3.11.3.2. Wetlands

Implementation of the General Plan Update would result in additional development that could adversely impact wetlands.

This impact analysis addresses item "c" of the significance standards listed in Appendix G of the CEQA Guidelines as provided in Section 3.11.2 above. Pursuant to these standards, the proposed County General Plan Update would have a significant impact if it would:

- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

Federally protected wetlands are defined in Section 404 of the Clean Water Act as 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.

Land uses and development consistent with the General Plan Update could result in the direct loss of or modification to, existing wetlands. Affected wetlands could include both the wetland-related sensitive natural community types described above, as well as areas of open water, degraded and modified streams and channels, unvegetated waters, and isolated seasonal wetlands now dominated by non-native species.

Potential direct and indirect effects from development adjacent to wetlands include, but are not limited to: altered hydrology; diminished water quality from the discharge of pollutants such as sediment, pesticides, petroleum products, pathogens and other toxic substances; vegetation removal; disturbance to wildlife from noise, night lighting, and domestic animals; introduced invasive plant and animal species; altered microclimate; and human intrusion such as off-road vehicle use, homeless encampments, trash dumping, and illegal filling.

Analysis of Relevant General Plan Update Policies

Under Policy BR-P7, Wetland Identification, the presence of wetlands in the vicinity of a proposed project must 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 professional when wetland characterization and limits cannot be easily inventoried and identified by site inspection. Also, under Policy BR-Pxxx, Wetlands Banking, the County supports the development of a wetlands banking system to mitigate for otherwise permitted wetland impacts.

To address the Department of Fish and Wildlife's concern regarding wetland buffer areas, the Planning Commission revised BR-S10, Development Standards for Wetland and Other Wet Areas, to provide expanded buffers of 50 feet for seasonal wetlands and 150 feet for perennial wetlands (and other wet areas). This standard does allow for the reduction of these distances with CDFW consultation.

Additionally, under Implementation Measure BR-IM3, Biological Review and Referral, Building and Planning Division staff must receive periodic training related to the field identification of biological resources and mitigation of impacts.

The discussion of General Plan Update policies, standards, and implementation measures in Impact 3.11.3.1 above addresses other impacts to wetland areas. Potential impacts are addressed most directly by Biological Resources policies BR-P1 through BR-P7, which plan compatible uses for land containing sensitive and critical habitats, require that discretionary projects be conditioned to avoid impacts to sensitive and critical habitats, require that wetlands be identified during project review, and regulate development within SMAs.

In working with County Planning and Building Department staff, builders, developers, and environmental consultants to prevent the loss of wetlands and wetland habitat values, CDFW determined there is a strong interest and need for a wetland mitigation bank in the Humboldt Bay-Eel River Delta area. While it is CDFW's policy to provide for the protection, preservation, restoration, enhancement and expansion of natural wetland habitat, CDFW finds that in certain limited instances, utilization of a local wetland bank may be the most environmentally sound, feasible, and cost-effective approach to mitigate for impacts to wetlands. CDFW therefore recommended the County consider working with local, state, and federal agencies and private stakeholders to promote or facilitate developing a wetland bank for the Humboldt Bay-Eel River Delta area. CDFW is willing to provide technical support for the creation of a local wetland bank. The Board of Supervisors incorporated this recommendation into the GPU with Implementation Measure BR-IMx2 - Wetlands Bank.

Under Standard BR-S11, Wetlands Defined, the County must follow the identification and classification policies of the California Department of Fish and Wildlife which considers wetlands as 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. In Standard BR-S11, wetlands must have 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. This definition does not work well because areas cannot logically have both hydric soil substrate and non-soil substrate at the same time.

Conclusion

Through implementation of General Plan Update policies, standards, and implementation measures the County will assess development impacts on wetlands and associated sensitive habitats, as part of the review process for discretionary permits, as well as to protect water quality. As discussed above, the definition of wetland contains a logical flaw, and needs to be revised.

Mitigation

The following implementation measure below shall be fulfilled to help address the potential impacts related to the definition of wetlands in the General Plan Update. Alternative language is presented below that would correct the existing logical flaw in Standard BR-S11.

Mitigation Measure 3.11.3.2. Replace BR-S11 with the below definition of wetlands:

"BR-S11. Wetlands Defined. The County considers wetlands as 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."

Level of Significance After Mitigation

With the above revision to Standard BR-S11 and continued implementation of existing federal and state regulations, and proposed new policies and implementation measures of the General Plan Update regarding protection of wetlands, impacts to federally protected wetlands would be **less than significant**.

Impact 3.11.3.3. Wildlife Corridors and Nursery Sites

Implementation of the General Plan Update would result in additional development that could interfere with the movement of native resident or migratory fish or wildlife species or with their migratory wildlife corridors, or impede the use of native wildlife nursery sites.

This impact analysis addresses item "d" of the significance standards listed in Appendix G of the CEQA Guidelines as provided in Section 3.11.2 above. Pursuant to these standards, the proposed County General Plan Update would have a significant impact if it would:

- a) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Development and land use activities consistent with the General Plan Update could result in a reduction in existing habitat, could contribute to further fragmentation of remaining natural areas, and could substantially interfere with the movement of native fish and wildlife species. These include potential impacts to special-status species, sensitive natural communities, and streams and wetlands, as well as more general wildlife habitat resources.

Roosevelt Elk habitat and deer winter range are mapped on the Biological Resources maps that identify important wildlife corridors. Within the coastal zone, a Roosevelt Elk Habitat combining zone is applied to lands which contain elk corridors, and calls for their protection.

Streams tend to serve as important movement corridors for terrestrial and aquatic wildlife, and protection of areas that qualify as SMAs is essential to protecting existing habitat functions and values. Forested areas and native woodlands also tend to provide important habitat resources to wildlife.

A substantial amount of development could occur in the unincorporated areas as a result of buildout of the General Plan Update land use designations at specified minimum parcel sizes, despite many site specific constraints that may exist. A portion of this development would occur on parcels containing SMAs.

Discretionary development that would occur under the General Plan Update would be sited and designed to avoid impacts to the movement of native resident migratory fish or wildlife species and to avoid established native resident or migratory corridors and wildlife nursery sites. Such areas are identified in biological resource maps, Humboldt County GIS layers, and the California Natural Diversity Database. The County uses these tools to assess whether or not new development would potentially impact the movement of wildlife, and to ensure that such impacts would be avoided through project design, siting, and conditions of approval.

Analysis of Relevant General Plan Update Policies

To address wildlife movement in SMAs, Standard BR-S6, Development within Stream Channels, was revised to ensure new fencing would not impede wildlife movement. The discussion of General Plan Update policies, standards, and implementation measures in Impact 3.11.3.1 above addresses other impacts to riparian areas. These protections in the General Plan Update, in addition to existing state and federal regulatory requirements (e.g., Natural Communities Conservation Planning Act, Fish and Game Code §2800 et seq, California Endangered Species Act, and CDFW's incidental take permit program), and CEQA, provide a wide net of measures that protect wildlife corridors and nursery sites.

Conclusion

Buildout of the General Plan Update could potentially result in adverse impacts to wildlife movement and nursery sites. In response, the General Plan Update contains comprehensive policies that protect critical and sensitive habitats and stream corridors. Policies in the Land Use and Housing Element promote infill and urban development over development on resource lands and rural development. Collectively, these policies promote compact urban growth in existing developed areas and discourage growth in significant natural areas that serve as wildlife movement corridors and nursery sites where development would have the most significant impacts on wildlife movement and reproduction, and requires the avoidance and conservation of significant natural areas that contain wildlife movement corridors. Furthermore, any activities consistent with the General Plan Update that would impact wildlife movement or nursery sites would be required to comply with applicable federal and state statutes and regulations. Implementation of these policies, as well as compliance with federal and state statutes, would ensure that wildlife movement and nursery sites are not adversely impacted by General Plan Update.

To avoid the loss of wildlife corridors and nursery sites through impacts to riparian habitats, implementation of general plan policies specified in Section 3.11.3.1 above that protect riparian habitats, wetland areas and critical and essential habitats through development restrictions and buffer requirements would reduce potential impacts to wildlife corridors and nursery sites to a **less than significant level**.

Mitigation

None required.

Impact 3.11.3.4. Local Policies and Ordinances

Implementation of the General Plan Update proposes revisions to policies and ordinances that could conflict with existing policies and ordinances that protect biological resources.

This impact analysis addresses item "e" of the significance standards listed in Appendix G of the CEQA Guidelines as provided in Section 3.11.2 above. Pursuant to these standards, the proposed County General Plan Update would have a significant impact if it would:

- e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.

The General Plan Update proposes revisions to policies and ordinances that protect biological resources, so for this particular impact category a comparative discussion of the existing and proposed policies is appropriate.

Analysis of Relevant General Plan Update Policies

The proposed General Plan Update policies, standards, and implementation measures of the Biological Resources section (10.3) are more protective of biological resources than current local policies and ordinances. The SMA, wetland, and other sensitive area policies, standards and implementation measures increase the buffers for these habitats. Additionally, Implementation Measure WR-IMx1, Update Water Quality Regulations, requires the County to 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. Therefore the proposed measures do not conflict with existing policies and ordinances in a manner that would be detrimental to the protection of biological resources.

Conclusion

The General Plan Update contains comprehensive policies, standards, and implementation measures that maintain and enhance protections for streams, SMAs, wetlands, and other sensitive areas. The revisions proposed are intended to improve the efficacy of the current General Plan in protecting these biological resources. The SMA, wetland, and other sensitive area policies, standards and implementation measures increase the buffers for these habitats. Therefore the General Plan Update measures do not conflict with existing policies and ordinances in a manner that would be detrimental to the protection of biological resources. Impacts of revisions to local policies or ordinances protecting biological resources would be **less than significant**.

Mitigation

None required.

Impact 3.11.3.5. Habitat Conservation Plans

Implementation of the General Plan Update would result in additional development that conflicts with adopted habitat conservation plans.

This impact analysis addresses item "f" of the significance standards listed in Appendix G of the CEQA Guidelines as provided in Section 3.11.2 above. Pursuant to these standards, the proposed County General Plan Update would have a significant impact if it would:

- f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

See Section 3.11.1, Habitat Conservation Planning (Page 3.11-5) for a discussion and list of HCPs in Humboldt County.

Analysis of Relevant General Plan Update Policies

The first four Habitat Conservation Plans (HCPs) listed in Section 3.11.1 above apply to lands planned for continued timber production under the existing and proposed general plan land use designations. While most timber harvesting and management activities are under the permit jurisdiction of the California Department of Forestry and Fire Protection (CAL FIRE), the County has the jurisdiction to permit a list of compatible uses on these lands. One of the more controversial and significant uses is residential. Under the proposed General Plan Update, residential uses are planned at densities of 40 to 160 acres per dwelling unit. At maximum buildout, this could theoretically result in the construction of as many as 20,000 housing units on the 900,000 acres of planned timberlands, although historical growth trends and Department of Finance projections would indicate that only limited demand for possible development is likely to exist. Housing construction was not an issue that was considered or addressed by the HCPs indicated above.

The proposed General Plan Update does not contain policies that specifically relate to HCPs. Conservation and Open Space Element Biological Resources Chapter Goal BR-G2, Sensitive, Critical, and Essential Habitat, calls for a mapped inventory of sensitive, critical, and essential habitat where biological resource protection policies apply. In addition, Policy BR-P2, Critical Habitat, requires that discretionary projects require federal permits or use federal funds that have the potential to impact critical habitat shall be conditioned to avoid significant habitat modification or destruction consistent with federally adopted HCPs or interim recovery strategies.

Conclusion

Future projects proposed under the General Plan Update would be required to comply with applicable Habitat Conservation Plans and other federal and state conservation and recovery plans. Regulatory processes to ensure compliance are available by including a mitigating policy.

Mitigation

Mitigation Measure 3.11.3.5.a. To avoid impacts to established Habitat Conservation Plan areas through direct conversion to other uses, the following policy shall be added to the Conservation and Open Space Element, Biological Resources section that states the following:

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.*

Level of Significance after Mitigation

With the proposed mitigation, potentially significant impacts associated with conflicts with such plans would not occur and would therefore be **less than significant**.