RESOURCE CONSERVATION & MANAGEMENT ELEMENT

reflects Forest Management Committee modifications adopted 09.08.22

4.4 INTRODUCTION

Overview of Arcata's Natural Resources. Collectively, Arcata's natural resources ~~constitute~~ are a significant component of the community. The forested hillsides, including the ~~community~~ Arcata Community Forest and Jacoby Creek forests, the Arcata Bottom, baylands, tidelands, creeks, sloughs and wetlands are ~~features of the~~ defining natural ecosystem features. ~~, which is~~ They are as much a part of the community as homes, businesses, and schools. Goals and policies for conserving, enhancing, and managing the City's natural systems and features are critical ingredients of the General Plan.

Arcatans have demonstrated that natural resource conservation and management are civic responsibilities, which can be met by emphasizing resource enhancement rather than resource depletion. By taking an ecosystem management approach, the City can evaluate natural resource interrelationships, and plan to maintain regional biodiversity when making resource conservation and management decisions.

> ***Biodiversity*** *- "The variety of organisms considered at all levels, from genetic variants belonging to the same species through arrays of species to arrays of genera, families, and still higher taxonomic levels; includes the variety of ecosystems, which comprise both the communities of organisms within particular habitats, and the physical conditions under which they live."*
>
> *Edward O. Wilson*
> *The Diversity of Life, 1992*

Overview of Arcata's watercourses, wetlands, baylands and tidelands. Arcata's nine named creeks and associated sloughs provide~~:~~ flood control, freshwater habitat, riparian habitat, scenic enjoyment, water quality, educational opportunities, public safety, fish and wildlife habitat (e.g., fish spawning and migration, wildlife nesting and foraging areas), open space, recreation, marine habitat, and groundwater recharge. The~~se~~ creeks also have tributaries with similar features and functions. Arcata's creeks and sloughs, including areas with tidal action, are illustrated in Figure RC-a, on the following page.

The City~~'s has an~~ adopted a ~~a~~ Creeks ~~and Wetland~~ Management Plan ~~(CMP) which~~ in 1991 which contains policies for: creek zone and flood hazard management; erosion and sedimentation, vegetation and wildlife; water quality; recreation; and public awareness. ~~-~~The ~~CMP~~ Creeks ~~and Wetland~~ Management Plan was adopted to address land uses that have significantly altered Arcata's creeks from their original condition.

Figure RC-a
(Figure update in progress)

~~These~~ Those past alterations ~~have~~ resulted from ~~the present use of~~ stream courses used as storm drains, and past land use practices which produced large amounts of sediment, contributing to creek degradation. Alterations also included installation of structures such as tide gates, which prevent or severely limit ~~access for anadromous~~ fish passage to all creeks except for ~~but~~ Jacoby, Janes and Jolly Giant creeks.

The Resource Conservation and Management Element contains overall goals and policies for creek management, which are supported by the Creeks Management Plan policies and implementation measures. The Creeks Management Plan provides policy direction for new and modified development along creeks, and for existing activities in creek zones, in order to fully realize the creek's beneficial uses.

~~–~~The City has implemented dozens of stream restoration in the last thirty years to address habitat degradation and fish passage, though many restoration opportunities remain. Additionally, the implementation of the City's MS4 Stormwater Permit has helped to reduce ~~With the exception of~~~~Except for Jacoby Creek, the riparian forests have been completely removed from at least half of each stream channel. P~~pollutants from a variety of sources, ~~(~~including petroleum products from urban run-off and suspended sediments from soil erosion, from entering the City's creeks and riparian areas.~~)~~ ~~have degraded~~ the appearance and the ~~biological integrity of the creeks.~~

Jolly Giant Creek is one of Arcata's urban creeks. The headwaters of Jolly Giant Creek start in the Arcata Community Forest and flow through the urban downtown before becoming tidally influenced near Samoa Boulevard where its name changes to Butcher Slough. Butcher Slough flows into Humboldt Bay at the Arcata Marsh. ~~Jolly Giant Creek was dammed in the 1930s to provide drinking water to the City. In 1964, the City transitioned to using the Mad River for its source of drinking water, but the dam remained in place.~~ As the City was urbanized, sections of Jolly Giant Creek were realigned and routed through culverts and paved over for road crossings and other forms of urban development. Restoration efforts in Jolly Giant Creek started in the 1980s and continue to current day with the goals of enhancing fish and wildlife habitat and reducing flooding by daylighting culverted sections of the creek, realigning sections of the channel, removing barriers to fish migration, planting native riparian and wetland vegetation, and establishing City protection zones/easements along the creek corridor.

~~Realignment of Butcher Slough in 1985 was one of the earliest restoration projects in the Jolly Giant Creek watershed. This was followed by restoration of the creek and surrounding area in what is now Shay Park in the early 1990s and continuing into early 2000s. The site of a former lumber mill, the habitat was restored by excavating and grading the land and planting the stream channel with native plants to create a riparian corridor. Downstream from Shay Park, on the Dellanina property, restoration of Jolly Giant Creek continued in 1999 with installation of instream fish habitat structures, excavation of a flood control pond, and riparian revegetation activities. In 2002, a 240 foot segment of Jolly Giant Creek near 8th and F Streets was daylighted and realigned with a new box culvert to improve fish passage. Additional salt marsh enhancement and channel realignment occurred at Butcher Slough during this same time~~

~~period. A detention basin was constructed alongside Jolly Giant Creek near the corner of 11th and M Street to capture and hold stormwater runoff and reduce flooding (timeline for this unknown). In 2009, a culvert was replaced under 14th Street near M Street with a larger diameter culvert and realigned to better facilitate fish passage in the creek. In 2010, the dam infrastructure in Jolly Giant Creek was upgraded to provide flood protection and enhance water quality by providing a larger settling/detention basin. An overflow protection pipe and spillway were also installed to provide overflow control in the case of a severe flood event. In 2018, the City acquired 20 acres of private timber lands in the Jolly Giant Creek watershed from John and Claudia Lima, and forest road and trail upgrades adjacent to the creek were conducted prior to the acquisition. In 2015, the City replaced an existing leaky tide gate in Butcher Slough with a flood control tide gate, which allowed the City to adjust the amount of saline water allowed to pass upstream.~~ Through out the Jolly Giant Creek watershed, the City has conducted invasive plant removal projects ~~throughout the Jolly Giant Creek watershed~~, including reed canary grass and spartina removal projects, extensive riparian enhancements, fish passage and culvert improvements and tide gate replacements.

Similar to Jolly Giant Creek, Janes Creek's headwaters start in the Arcata Community Forest and adjacent Samuels Conservation Easement and flow through the urban neighborhoods of Arcata, west of Jolly Giant Creek, before becoming tidally influenced near Samoa Boulevard where its name changes to McDaniel Slough. McDaniel Slough flows into Humboldt Bay through the Arcata Marsh. The City has undertaken many restoration and enhancement projects in the Janes Creek watershed, including watershed-wide reed canary grass removal, installation of in-stream structures, planting native riparian and wetland plants, channel realignment, culvert replacement to improve fish passage, and tide gate removal. The McDaniel Slough Project has been the largest project in the Janes Creek watershed which opened tide gates on McDaniel Slough in 2013 and restored tidal action to 212 acres of former tidelands. In 2021 the City completed a fish passage improvement project along Janes Creek under Alliance Road. ~~...~~

~~The Resource Conservation and Management Element contains overall goals and policies for creek management, which are supported by CMP Creek and Wetland Management Plan policies and implementation measures. The CMP Creek and Wetland Management Plan provides policy direction for new and modified development along creeks, and for existing activities in creek zones, in order to fully realize the creek's beneficial uses.~~

The Mad River's westernmost reach ~~of the Mad River~~ forms the northern boundary of Arcata's Planning Area. The river originates at the northern edge of the Yolla-Bolly wilderness area, in Trinity County, approximately 100 miles southeast of its outlet to the Pacific Ocean. Its associated riparian corridor forms the northern portion of the City's perimeter greenbelt and a natural buffer between Arcata and the community of McKinleyville, to the north. The Mad River also serves as ~~is~~ the source of drinking water for the City of Arcata.

Wetlands provide flood protection, groundwater recharge, water quality treatment, food production and wildlife habitat, which are valued by the community. Wetlands are highly productive, complex ecosystems, seasonally or permanently saturated, and support specially

adapted vegetation. Wetlands are often found in transitional zones, or ecotones, between uplands and open water habitats. Arcata's marshes may be among the best examples of local wetlands.

The Arcata Marsh and Wildlife Sanctuary encompasses 317 acres of diverse marshland and is also home to the City of Arcata's innovative wastewater treatment facility. The sanctuary includes freshwater marshes, salt marsh, tidal sloughs, grassy uplands, mudflats, brackish marsh, approximately five miles of walking and biking paths and an Interpretive Center. By integrating conventional wastewater treatment with the natural processes of constructed wetlands, Arcata has succeeded in turning wastewater into a resource. –A portion of the Arcata Marsh and Wildlife Sanctuary is shown in the photo on the following page. The City implemented the McDaniel Slough Restoration Project that removed tide gates, deepened historic slough channels, and removed failing or obsolete levees to restore former tidelands between Humboldt Bay and Samoa Boulevard.

The Aldergrove marsh was a log pond that has ~~now~~ since been reconstructed and significantly enhanced as a ten acre freshwater marsh, as part of the Aldergrove Industrial Park development. In 2021, the City removed invasive aquatic vegetation, including reed canary grass, in approximately 0.6 acres to restore the open water habitat and restore biodiversity in the marsh. ~~A plan viewportion of the 170 acre Arcata Marsh and Wildlife Sanctuary (AMWS) is shown in the photo on the following page.~~

Arcata Bay is part of Humboldt Bay, which is fourteen miles in length, from north to south; covers more than 17,000 acres; and is the second largest coastal estuary in California. A significant portion of the northerly waters of Arcata Bay are either owned or held in trust by the City, are within its City limit, and represent a significant natural, visual, aquacultural, and recreational resource for the community. The tidelands adjacent to the Bay include salt marshes and sloughs, excepted where diked/reclaimed and used as pastureland.

Overview of agricultural resources. Agricultural lands represent an important natural resource within the City. Arcata's agricultural lands are currently used primarily for flowers, silage and hay production, food production, and livestock grazing. The Ferndale, Russ, and Loleta series are Arcata's most productive agricultural soils.

The agricultural lands in and around Arcata produce crops of raspberries, strawberries, lilies, daffodils, potatoes, corn, artichokes, hay (forage for cattle), and a number of other shallow rooted crops. There is community support for the continuation of dairy, beef, vegetable, fodder, and flower production in the City and the Planning Area, and recognition that protection of agricultural values, as well as open space and recreational values, is important.

Arcata's agricultural lands include ~~farmed~~ diked former tidelands~~wetlands~~ ~~Most of the farmed wetland areas around Humboldt Bay are former tidelands,~~ once owned by the State, which private parties acquired ~~from the State~~ under the California Swamp and Overflowed Lands Act. These lands, now used primarily for grazing, were diked/reclaimed around the turn of the century.

These areas are below ten feet in elevation, have relatively impermeable soils, and retain run-off for long periods of time. ~~While the State conveyed the fee title interest in these former tidelands, they are still subject to an easement under the Public Trust Doctrine, for the benefit and enjoyment of the people of this state. Much of this Public Trust land bordering Arcata Bbay can provide important wildlife habitat and recreational opportunities.~~

These ~~farmed wetlands~~diked former tidelands are no longer salt and brackish wetlands, but now function as freshwater wetlands, with meandering year-round creek and slough channels. Arcata's diked former tideland areas typically include the less productive types of Loleta and Bayside soils and are generally used for pasture.

Soil classifications are based on the most recent surveys. In the event that an updated soil survey is completed in the future, the classifications and associated mapping shall be changed accordingly.

Overview of forest resources. The eastern portion of Arcata is located on forested slopes of Fickle Hill Ridge. The slopes contain mostly second growth conifer stands. These forested lands are both publicly and privately held. The City of Arcata owns three separate tracts of forestland that comprise approximately 2,445 acres ~~two separate tracts of forest land that comprise approximately 1,125 acres~~. Together, the publicly owned Arcata Community Forest, that includes the~~and~~ Jacoby Creek Unit, Sunny Brae Unit and the Arcata Forest Unit ~~Forests~~ constitute a significant ecological, recreational, economic and educational resource for the citizens of Arcata and the surrounding region.

The City ~~adopted the~~is currently updating the *Arcata Community Forest Management Plan ~~2020 Update~~*. The 2022~~0~~ Forest Management Plan will replace~~d~~ the *1994 Arcata Community Forest & Jacoby Creek Forest Management Plan* by incorporating, updating, and revising much of the document. The 2022 Forest Management Plan update reflects updated information, recent research, and State Forest Practice Rule changes, thus providing management direction with a higher degree of environmental protection. The goal of the Forest Management Plan is to provide a ~~management~~ flexible and adaptive management program that provides for protection and use of forest resources,~~;~~ addresses local and regional issues and concerns,~~;~~ and fulfills legislative requirements. The updated plan is fundamentally designed to restore and transition~~move~~ a relatively even-aged forest to a more structurally complex forest. The long-term~~ultimate~~ goal is to develop late-seral or old-growth forest characteristics in the Arcata Community Forest. Tangible outcomes of management include:

- Fostering and accelerating the transition to an old forest stand structure through selective thinning that promotes light in the forest understory and stimulates recruitment of new tree age class.
- Obtaining support from the community for management that includes timber harvests in close proximity to residential areas and recreational use areas.
- Protecting and enhancing biological diversity and rare species, including maintenance of northern spotted owl (*Strix occidentalis caurina*) nesting pairs.
- Contributing to the local economy by providing a source of wood products and jobs in the woods.

- Providing an opportunity for residents to be involved in forest planning, as well as on-the-ground activities, with volunteer work days that amount to at least 5,000 volunteer hours per year.
- Providing opportunities for non-motorized recreation and contributing to the local tourism economy.
- Testing different silvicultural practices and "no-cut" watercourse protection zones to protect and enhance water quality, as well as providing a network of connectivity of older seral forest habitat for species that require those conditions.
- Maintaining a climate resilient landscape within the city forestlands.

The Forest Management Plan provides direction and guidance for the managed uses of forest resources and non-timber resources with an emphasis on fish and wildlife habitat, recreation, watershed protection, demonstration and education, research, and timber management. ~~to provide guidance for integrated multi-resource management activities and to establish standards and guidelines for the Arcata Community Forest and Jacoby Creek Forest.~~ The Resource Conservation and Management Elements contain overall goals and policies for forest management, which are derived from the Forest Management Plan. ~~The Forest Management Plan includes goals, policies, detailed management direction, monitoring and evaluation techniques for the City-owned forests.~~ ~~The forest management plan goals are listed below.~~

Forest Management Goals

The Arcata Community Forest Goals are:

- Maintain the health of the forest system, specifically, maintain the integrity of the watershed, wildlife, fisheries and plant resources, their relationships, and the process through which they interact with their environment.
- Produce marketable forest products and income to the City in perpetuity, balancing timber harvest and growth.
- The Community Forest shall also be managed to provide forest recreational opportunities for the Community.
- The City's forests shall serve as models of managed redwood forests for demonstration and educational purposes.
- Enhance carbon sequestration and climate resiliency
- Provide opportunities for education and research
- Foster productive relationships with adjacent landowners

Wildlife Habitat Diversity and Resiliency Overview

The City applies certain practices in CDFW's Natural Community Conservation Planning (NCCP) approach to biological diversity planning.[1] This includes a city-wide ecosystems approach for protecting native plants, animals, and their habitats, while allowing compatible and appropriate economic activity. One of the key conservation practices for maintaining natural habitat diversity is invasive exotic non-native species control. This includes Pampas grass (Cortaderia jubata), Himalaya berry (Rubus discolor), Scotch broom (Cytisus scoparius), blue gum

[1] *https://wildlife.ca.gov/Conservation/Planning/NCCP*

eucalyptus (Eucalyptus globulus), English ivy (Hedera helix), English holly (Ilex aquifolium), reed canary grass (Phalaris arundinacea) and cotoneaster (Cotoneaster franchetii), that displace native species. These non-native species reduce natural diversity, biological integrity and aesthetics.

The City's wildlife habitat planning accounts for current habitats, wildlife health, projected habitat changes due to climate change, wildlife conservation, furthering responsible development and addressing growing human population needs. The City recognizes the importance of habitat connectivity and potential habitat threats from development pressures, fragmentation and edge effects. The Resource Conservation Element's focus on wildlife is consistent with the State Wildlife Action Plan, California Essential Habitat Connectivity Project, Regional Advance Mitigation Plans, and conservation plans developed by state and regional entities.

Energy Resources Overview

The City of Arcata is part of the Redwood Coast Energy Authority (RCEA) a joint powers authority (JPA) formed in 2003 representing all seven of the County's cities, the Humboldt Bay Municipal Water District, and Humboldt County. As a JPA, RCEA is the regional energy authority governed by a board of representatives from each jurisdiction. RCEA's mission statement is:

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

RCEA implements energy strategies through a Comprehensive Action Plan for Energy. This action plan is maintained by the RCEA Board. The City of Arcata also implements energy conservation through policies and implementation measures. The Energy component of the Conservation Element promotes self-sufficiency, independence, local energy management and supports diversity and creativity in energy resource development, conservation, and efficiency. This can reduce energy demands, stimulate the economy, and help meet greenhouse gas emission reduction targets. [*summarized & adapted from Humboldt County General Plan Chapter 12*]

RCEA adopted the Humboldt County Comprehensive Action Plan for Energy (CAPE), In 2012, which is RCEA primary guiding document. Expanding on the strategies outlined in the CAPE, RCEA initiated RePower Humboldt, a community-wide effort to define a vision and Strategic Plan for achieving energy independence and energy security in Humboldt County.

The City adopted a Community Greenhouse Gas Reduction Plan in 2006, and City Council priorities continue to emphasize energy conservation for City facilities, shifting towards a Green Fleet, and promoting alternative transportation options.

Climate Action Planning Overview

The City has participated in preparing the Humboldt Regional Climate Action Plan (CAP), a collaborative County and Cities regional approach to address climate change challenges. This regional approach enables improved county-wide coordination to maximize GHG reduction

measure effectiveness and improve the potential for future grant funding. The primary CAP goal is to reduce greenhouse gas (GHG) emissions from local sources. Tthere is scientific consensus that significant human caused GHG emissions reductions are needed by the mid-21st century to prevent the most catastrophic effects of climate change.

Guiding Principles and Goals.

A. Protect, maintain and enhance natural ecosystem processes and functions in the region, in order to maintain their natural ecological diversity.
B. Restore and maintain the physical and biological integrity of Arcata's streams.
C. To protect, restore, enhance, and maintain riparian habitat on those lands subject to wetlands and streamside protection zone.
D. Recognize and protect wetlands as highly productive complex ecosystems that provide vital habitat and cleansing systems.
E. Restore and maintain the physical and biological integrity of publicly owned former tidelands ~~(farmed wetlands)~~ subject to the Public Trust easement, to a diversity of tidal, freshwater, and riparian habitats.
F. Protect and enhance prime agricultural lands for their food production, resource, and aesthetic values.
G. Manage a sustainable production of both public and private forest products ~~on both public and private timberlands~~.
H. Manage water resources at the watershed level, to maintain high ground and surface water quality.
I. Manage surface and groundwater resources to provide water quality and quantity adequate to support natural ecosystem processes and functions.
J. Conserve soil resources as the foundation of resource production~~,~~ and minimize erosion and other soil depleting processes.
K. Promote energy conservation, and development and use of alternative, non-polluting, renewable energy sources for community power, with an all-electric emphasis, in both the public and private sectors.
L. Maintain an active relationship with adjacent communities and government agencies to encourage cooperative management of natural resources and ecosystems in Arcata's Planning Area.
M. Conserve natural resources through reduced materials consumption and recycling (see integrated waste management policies in the Public Facilities & Infrastructure Element).
N. ~~Establish an Agricultural Advisory Committee~~Support the Wetlands & Creeks Committee and Forest Management Committee to provide recommendations to the City Council to continue to enhance the City's natural resources and ~~-~~to help maintain a compatible relationship between agricultural and non-agricultural activities and uses.

4.5 POLICIES

POLICY RC-1 NATURAL BIOLOGICAL DIVERSITY/ ECOSYSTEM FUNCTION

Objective. Set an overarching policy that emphasizes the overall value of biological diversity and the fact that all natural resources are optimized when they function as part of a healthy ecosystem.

The following policies are included in the Resource Conservation and Management Element:

RC-1 Natural Biological Diversity/Ecosystem Function
RC-2 Streams Conservation & Management
RC-3 Wetlands Management
RC-4 Open Waters of Arcata Bay and Tidelands
RC-5 Agricultural Resources Management
RC-6 Forest Resources Management
RC-7 Water resources Management
RC-8 Energy Resources Management
RC-9 Soils and Mineral Resources

RC-1a **Maintain Biological and ecological integrity.** Maintaining ecological balance, system function, biological integrity, and natural diversity is the primary focus of the Resource Conservation and Management Element. Protecting ecological functions of natural habitats, and natural drainage and infiltration processes, will enhance natural ecosystems in the Planning Area. Ecological system functions elements and processes are maintained through the following measures:

1. The structure and composition of ecological systems within the City shall contain the same native plant and animal species, in the same relative abundances and proportions, which are found in the least-disturbed natural ecosystems in the Planning Area.
2. The ecological functions performed by ecological systems in the City shall resemble the functions of the least-disturbed natural ecosystems in the Planning Area.
3. Ecological systems and natural processes are not disrupted by exotic organisms to a significant degree.
4. Ecological systems and natural processes are not to be disrupted by land use activities to a significant degree (e.g., a culvert or other drainage device that blocks fish passage).

An "adaptive management" approach shall be utilized to maintain ecological and biological integrity, including monitoring the status of ecological systems in the City and adjusting City implementation of this Plan, in order to more closely approximate the conditions provided in the Planning Area's least-disturbed natural ecosystems.

RC-1b **Non-native plant ~~and animal~~ species.** Some non-native species, such as pampas grass (*Cortaderia jubata*), H~~H~~imalayan blackberry (*Rubus discolor*), Scotch broom (*Cytisus scoparius*), blue gum eucalyptus (*Eucalyptus globulus*), English ivy (*Hedera helix*), English holly (*Ilex aquifolium*), ~~and~~ cotoneaster (*Cotoneaster franchetii*), and reed canary grass (*Phalaris arundinacea)* are invasive exotics that ~~can and do~~ displace native species. The presence of these non-native species reduces the area's natural biodiversity, biological integrity and aesthetics. Only native species, or species demonstrated to be non-invasive, shall be used in public landscapes and are to be strongly encouraged in private landscapes. The City shall provide public information ~~that explains why~~ on invasive species ~~are a problem. The City shall also~~ and maintain a program that recommends effective but non-toxic eradication measures, and eradicates non-native species on public lands where they are displacing native species.

RC-1c **Habitat value protection.** Environmentally sensitive habitat areas (ESHA) shall be protected against any significant disruption of their habitat values, and only uses dependent on and compatible with maintaining those resources shall be allowed within ESHAs. Proposed development in areas adjacent to ESHAs shall be sited and designed to prevent impacts which would significantly degrade such areas, and must be compatible with the continuance of such habitat areas.

RC-1d **Sensitive habitat definition.** The City declares the following to be ESHAs within the Planning Area:

1. Rivers, creeks, sloughs, and associated riparian habitats: Mad River; Jacoby Creek; Beith Creek; Fickle Hill Creek; Grotzman Creek; Campbell Creek; Jolly Giant Creek; Janes Creek; Gannon Slough; Butcher Slough; and McDaniel Slough.
2. Wetlands, estuaries, and associated riparian habitats: Arcata Bay; Mad River Slough; Liscom Slough; Butcher Slough; the Aldergrove marshes and ponds; and the Arcata Marsh and Wildlife Sanctuary.
3. Other unique habitat areas: waterbird rookeries; shorebird concentration sites; habitat for all rare, threatened, or endangered species on federal or state lists; and vegetated dunes.
4. Public Trust lands such as grazed or ~~farmed wetlands (i.e.,~~ diked/reclaimed former tidelands).

RC-1e **Threshold of City review for sensitive habitat effects.** Development on parcels designated Natural Resource [NR] on the Land Use Plan Map, or within 250 feet of such a designation, or development potentially affecting a sensitive habitat area, shall be required to be in conformance with applicable habitat protection policies of this

Element. All proposed development plans, including grading and drainage plans, submitted as part of a planning entitlement application for these areas, shall show the precise locations of all sensitive habitat areas on the site plan.

RC-1f **Sensitive habitat buffer requirements.** A setback separating all permitted development from adjacent sensitive habitat areas shall be required. The purpose of such setbacks shall be to prevent any degradation of the ecological functions provided by the habitat area as a result of the development. The following shall apply to such setbacks:

1. The minimum width of setbacks for streams and wetlands shall be as provided in policies RC-2 and RC-3, respectively.
2. The minimum width of all other habitat setbacks shall be 100 feet, unless the designated setback would eliminate all reasonable use of the property.
3. A definition and map of sensitive habitat will be maintained by the City.

RC-1g **Sensitive habitat information required in development application review.** Where there is a question regarding the boundary, buffer requirements, location, or current status of an ESHA identified pursuant to General Plan policies, the public or private applicant shall provide the City with the following:

1. Base map delineating topographic lines, adjacent roads, and location of dikes, levees, flood control channels, and tide gates, as applicable.
2. Vegetation map, including identification of species that may indicate the existence or nonexistence of a sensitive environmental habitat area.
3. Soils map delineating hydric and non-hydric soils.
4. Census of animal species indicating the existence, or non-existence, of an environmentally sensitive habitat area.

This information shall be provided to the Department of Fish and Game, US Fish and Wildlife Service, National Marine Fisheries Service, and other affected agencies for review and comment. Any comments and recommendations provided by the Department shall be immediately sent to the applicant for his or her response. The decision concerning the boundary, location, or current status of the environmentally sensitive habitat area in question shall be based on the substantial evidence in the record and supported by written findings.

RC-1h **Habitat integration for ecological integrity and development of a protected habitat corridor system.** An ecological connection network plan for linking native habitats in the Planning Area, and all of the environmentally sensitive habitat areas identified in this Plan, shall be prepared. The network shall incorporate all existing large areas (or "nodes") of habitat for fish and wildlife species (such as marshes and forests) and "linkages" or "corridors" of natural habitat (such as stream zones and sloughs) for migration and species movement. The plan will link large "nodes" of natural habitat

together with the “linkage” connections as a functioning ecological network. Nodes and linkages shall include a "core" of natural ecosystem elements and shall provide a protected "buffer" along the outer margins of the core habitat which shall function to protect the ecological values in the "core" habitat.

RC-1i **Use of biocides and other compounds with biological consequences.** Pesticides, herbicides and insecticides (biocides); hormones and antibiotics (growth promoters); and hydrocarbon-based compounds, used both commercially and individually, can accumulate to toxic levels in biological organisms, including humans. Certain of these substances, even at low levels, can affect reproductive health.

The City shall maintain and make available a current list of alternative, environmentally-safe products for controlling unwanted vegetation and pests, growing crops and enhancing production of animal products. The use of substances and compounds which can accumulate to toxic levels is restricted by the City (Pesticide Ordinance), and a program for fostering the reduction in private use shall be developed and implemented.

POLICY RC-2 STREAMS CONSERVATION & MANAGEMENT

Objective. Enhance, maintain, and restore the biological integrity of entire ~~steamcourses~~stream courses (headwaters to mouth), and their associated riparian habitats, as natural features in the City’s landscape.

RC-2a **Designation of protected streams.** The provisions of this policy shall apply to those streams shown on the Protected Watercourse Map (Figure RC-a). These watercourses and their associated riparian areas serve as habitat for fish and wildlife, provide space for the flow of stormwater runoff and flood waters, and furnish open space and recreational areas for city residents.

RC-2b **Environmental Buffer Area (EBA).** A streamside protection area is hereby established along both sides of the streams identified on the City Watercourse Map. The purpose of the EBA is to remain in a natural state in order to protect stream~~s’~~ ecosystems and their associated riparian habitat areas. The EBA shall include:

1. In areas where existing development, as defined in the Land Use Code, is adjacent to the stream, the EBA shall be not less than 25 feet outward on both sides of the stream, measured from the top of bank.
2. In all other locations within the City, the EBA shall be not less than 100 feet outward on both sides of the stream, measured from the top of bank.
3. In locations within the City having significant areas of riparian vegetation exceeding 100 feet in width measured from the top of bank, the EBA shall be expanded to encompass all of the riparian vegetation, except in no case shall the EBA exceed 250 feet in width from the top of bank on either side of the stream.

EBAs outside of the City shall follow the policies in the Humboldt County Framework Plan, regarding Streamside Management Areas.

RC-2c **Allowable uses and activities in Environmental Buffer Areas.** The following compatible land uses and activities may be permitted in EBAs, subject to all other policies in this Element, including those requiring avoidance of impacts and other mitigation requirements:

1. Outside the Coastal Zone:
    a. agricultural operations compatible with maintenance of riparian resources;
    b. fencing along property boundaries and along EBA setback boundaries to prevent bank erosion and degradation of natural riparian vegetation by livestock;
    c. maintenance of existing roads, driveways, and structures;
    d. construction of public road crossings;
    e. forest management practices as permitted by the State of California or Arcata's Forest Management Plan;
    f. construction and maintenance of ~~foot~~ trails for public access;
    g. construction and maintenance of utility lines;
    h. resource restoration projects;
    i. emergency or preventive removal of sediment and vegetation for flood control purposes (only when authorized by the City of Arcata).
2. In the Coastal Zone:
    a. all uses and activities listed in (1) above;
    b. public coastal access improvements;
    c. boat launching facilities.
3. If the provisions herein would result in any legal parcel, not on Public Trust lands, created prior to the date of this plan, being made unusable in its entirety for any purpose allowed by the land-use plan, exceptions to the foregoing may be made to allow a reasonable economic use of the parcel, subject to approval of a conditional use permit. Any land use, construction, grading, or removal of vegetation which is not listed above shall be prohibited.

RC-2d **The Wetland and Stream Protection Combining (:WSP) Zone.** The :WSP zone of the Land Use and Development Code shall be applied to all streamside protection areas. [The WSP zone should be a land use designation under the NR district, e.g., NR-WSP, NR-AG, NR-TPZ.]

RC-2e **Review and approval of projects affecting streamside protection areas.** Applications for development on any parcel which is located partially or wholly within an SPA shall be subject to the requirements of Policy RC-1 and RC-2.

RC-2f **Conservation easement.** Dedication of a conservation easement, or equivalent deed restriction, encompassing the area within the EBA shall be required as a condition of approval of any discretionary planning permit, including design review, when any portion of the project site falls within an EBA. Such easements may be conveyed to the City of Arcata, to another governmental agency which shall manage the easement to protect the EBA's functions, or to an appropriate non-profit entity.

RC-2g **Maintenance of streams as natural drainage systems.** Arcata's creeks carry a significant amount of the City's stormwater. Drainage controls shall be enforced through implementation of the Drainage Master Plan, to protect water quality, and minimize erosion, sedimentation and flood impacts to City creeks. A comprehensive stream maintenance program shall be prepared to augment stormwater utility rehabilitation projects designed to improve flow capacity, minimize channel erosion, and enhance riparian habitat.

RC-2h **Restoration of degraded creek resources.** Portions of Janes, Jolly Giant, Campbell, and Grotzman Creeks are culverted or covered, causing degradation of creek resources. ~~Streams such as Janes Creek have t~~Tide gates on creek systems ~~which~~ can be~~are~~ barriers that prevent anadromous salmonids from accessing critical habitat. Furthermore, recreational use can~~has~~ degrade~~d~~ riparian vegetation along upland reaches of certain creeks (e.g., Jolly Giant, Campbell, and Jacoby Creeks) within Redwood Park and the Community Forest. Lack of vegetation along creek courses can cause erosion, resulting in water and airborne impacts. Restoration activities for improving degraded stream resources shall include:

1. Uncovering of creek courses in public rights-of-way, as part of public works improvement projects.
2. Encouraging landowners to restore degraded EBA and stream resources, including native riparian vegetation establishment and exotic species removal, as part of a new development or renovation.
3. Controlling uses that are damaging to upland reaches of creeks in the Community Forest and Redwood Park.
4. Removing or modifying barriers such as tide gates that prevent migrating anadromous salmonids which are federally listed endangered species from reaching their critical habitat.
5. Exclusionary fencing to keep livestock out of the EBA.

~~The Streams Management Plan shall be implemented to provide guidance for rehabilitation and management of creeks that flow through Arcata. The SMP addresses new and modified development along creeks, and existing activities in creek zones.~~ Stream rehabilitation projects shall be designed to maintain or improve flow capacity, trap sediments and other pollutants which decrease water quality, minimize channel erosion, prevent new sources of pollutants from entering the stream, and enhance instream and riparian habitat.

~~[Policies RC-2b, c, f, & h revised by Ordinance No. 1377, September 2008]~~

POLICY RC-3 WETLANDS MANAGEMENT

Objective. To protect existing wetlands areas and their functional capacities and values, maintain a standard of "no net loss" in area and value, restore degraded wetland areas, enhance wetlands functions, and create additional wetland areas to replace historical losses.

RC-3a **Requirement for wetland delineation and study.** All proposed development applications shall include a site plan that shows the precise location of any wetlands that exist on the subject property. Any application for development on a parcel where wetlands may be present shall include a wetland reconnaissance or delineation report as follows:

1. The reconnaissance or wetlands delineation and report shall be based upon field investigations and shall be prepared by a professional or technical expert qualified in wetlands biology or plant ecology.
2. For purposes of this plan, wetlands shall include coastal zone lands where one or more of the following three characteristics are present or non-coastal zoned lands where two or more of the following three characteristics are present:
   a. source of water (surface or subsurface) which is present for sufficient periods to promote hydric soils formation or growth of hydrophytic plant species;
   b. hydric soils; or
   c. hydrophytic plants.
3. Where a reconnaissance indicates the probable existence of wetlands, marsh reeds detailed wetland delineation shall be required, including a map with the best available contour information showing where each of the three factors are present and the precise boundaries of any areas which are determined to be wetlands.
4. If wetlands of any size are found to exist on the property, an analysis of the potential functional or habitat value of the wetlands shall be provided.

RC-3b **Filling of wetlands.** The following shall apply:

1. Filling of wetlands shall be prohibited in the Coastal Zone, unless it can be demonstrated that:
   a. the wetland restrictions, if imposed, would render a parcel, not subject to the Public Trust, unusable for any use permitted by the land use plan;
   b. there is no feasible, environmentally superior alternative to wetland fill for development of a permitted use; and
   c. the fill is the least amount necessary to allow development of permitted uses.
2. Filling of wetlands outside the Coastal Zone may be permitted only when the following has been demonstrated by the project proponent:
   a. the fill is the least amount necessary to allow a reasonable and harmonious configuration of development on the parcel;

b. the wetlands proposed to be filled are small and isolated, and have limited functional value when compared to larger, contiguous wetland areas.

3. Filling of wetlands shall only be authorized if appropriate mitigation, resulting in "no net loss" in area and value of wetlands, is provided. Mitigation may consist of creating and maintaining a new wetland of equal or greater functional capacity and value than the wetland proposed to be filled, restoration of previously degraded wetlands, or enhancement of existing wetland areas.

RC-3c **Designation of Environmental Buffer Areas (EBA).** An EBA shall be established to separate all permitted development from adjacent existing wetlands which are to be preserved in a natural state and new wetland areas which are created as a mitigation. The EBA's purpose is to remain in a natural state in order to protect wetland ecosystems and their associated habitat areas from destruction or degradation. The extent of the EBA shall be established based upon analyses and recommendations contained in a site-specific wetland delineation ~~study, but~~study but shall include the wetland area and a setback area which shall generally range from a 50 foot minimum to a 100 foot maximum. Specific findings, based on evidence provided for City review, shall be required for setbacks less than 100 feet.

RC-3d **Allowable uses and activities in Environmental Buffer Areas.** The following compatible land uses and activities may be permitted in EBAs, subject to all other policies in this Element, including those requiring avoidance of impacts and other mitigation requirements:

1. Resource restoration or enhancement projects.
2. Farming, consistent with policy RC-3l.
3. Outdoor recreation activities, such as bird watching, hiking, boating, horseback riding, and similar activities.
4. Education, scientific research, and use of nature trails.
5. Drainage ditches when compatible with wetland function.
6. Minor modification of existing, serviceable structures.
7. Fencing to prevent livestock from degrading wetlands and riparian vegetation.

Any use, construction, grading, or removal of vegetation which is not listed above shall be prohibited.

RC-3e **Wetland and Stream Protection Combining (:WSP) Zone.** The :WSP zone of the City's Land Use Code shall be applied to all Wetland Protection Areas.

RC-3f **Review and approval of projects affecting Environmental Buffer Areas.** Applications for development on any parcel which is located partially or wholly within an EBA shall be subject to the requirements of Policy RC-1 and RC-3.

RC-3g **Conservation easements.** Dedication of a conservation easement, or equivalent deed restriction, encompassing the area within the EBA shall be required as a condition of approval of any discretionary action, including design review, when any portion of the project site falls within an EBA. Such easements may be conveyed to the City of Arcata, another governmental agency, or City-approved non-profit entity which shall manage the easement to protect the EBA's functions.

RC-3h **Designation of wetland protection zones.** The :WSP Zone shall be applied to wetlands, wetland setbacks, wetland buffer areas and modified wetland buffer areas, as defined in the City's Land Use Code, at the time of development review and approval.

A wetlands map, maintained by the City, will show the general location of wetlands, riparian corridors, and uplands within the City limits and urban services zone. All development within or adjacent to the areas identified on the map as wetlands or riparian corridors shall comply with City Wetlands Development Standards and shall include the following:

1. A wetland delineation.
2. A mitigation plan for impacted areas.
3. Setback areas from delineated wetlands.
4. Easements for onsite delineated wetlands.
5. Permitted and protected uses/activities within delineated wetland areas.
6. Fencing to prevent livestock from degrading wetlands and riparian vegetation.

A Wetlands Buffer Area shall be required to protect the areas shown as wetlands on the Wetlands Map. All development within the buffer areas shall comply with the Wetlands -Buffer Area Development Standards of the Coastal Land Use and Development Guide.

RC-3i **Management of Arcata Marsh for wetlands values as well as wastewater treatment.** The Arcata ~~m~~Marsh and ~~w~~Wildlife ~~s~~Sanctuary serves a variety of purposes and functions, including providing wetland habitat for a variety of species, wastewater treatment, and recreational use. These purposes shall be balanced for the benefit of all users.

RC-3j **Minimum mitigation requirements for wetland impacts.** Diking or filling of a wetland that is otherwise in accordance with the policies of this General Plan, shall, at a minimum, require the following mitigation measures, monitoring program, and funding.

1. A detailed restoration plan, monitoring program, and funding source for each site shall be required as part of the project application. The restoration plan shall include provisions for restoration to equal or greater wetland biological productivity. The monitoring program shall include reporting requirements that document mitigation success. Dedication of the land to a public agency, purchase, or other stewardship method which permanently restricts the use of the site to habitat and open space purposes, shall be required. The site shall be ~~-~~dedicated, purchased, or other stewardship agreed upon, and mitigation funding shall be provided, prior to any permitted diking or filling.
2. Areas adequate to maintain functional capacity shall be opened to tidal action, or other sources of surface water shall be provided. This provision shall apply to diked or filled areas which themselves are not environmentally sensitive habitat areas, but would become so if, as part of a restoration program, they are opened to tidal action or provided with other sources of surface water. All of the provisions for restoration, purchase (if necessary), and dedication described under part 1 shall apply to any program or activity performed pursuant to this policy.
3. Mitigation shall, to the maximum extent feasible, be of the same type as the wetland to be filled (e.g., freshwater marsh for freshwater marsh, saltwater marsh for saltwater marsh, etc.).
4. Where no suitable private or public restoration or enhancement sites are available, or where a wetlands mitigation bank in Arcata's Planning Area has been established that provides suitable replacement area, an in-lieu fee may be required to be paid. The fees shall be paid to an appropriate public agency for use in the restoration or enhancement of an area of equivalent productive value or surface area, or to the entity managing the wetlands mitigation bank.

RC-3k **Wetland functional capacity maintenance requirement.** Diking, filling, or dredging of a wetland or estuary shall maintain or enhance the functional capacity of these resources. Functional capacity means the ability of the wetland or estuary to be physically and biologically self-sustaining and to maintain natural species diversity. In order to establish that the functional capacity is being maintained, all of the following must be demonstrated:

1. Presently-occurring plant and animal populations in the ecosystem will not be altered in a manner that would impair the long-term stability of the ecosystem (i.e., natural species diversity, abundance and composition are essentially unchanged as the result of the project).
2. A species that is rare or endangered will not be significantly adversely affected.
3. Consumptive (e.g., fishing, aquaculture and hunting) or non-consumptive (e.g., water quality and research opportunity) values of the wetland or estuary ecosystem will not be significantly reduced.

RC-3l **Uses allowed in diked/reclaimed former tidelands.** Allowable uses and- development in grazed or farmed wetlands are limited to uses compatible with the Public Trust. These uses are specified in Land Use Element Policy LU-6 and are summarized below.

1. Agricultural operations limited to accessory structures, apiaries, field and truck crops, livestock raising, greenhouses (provided they are not located on slab foundations and crops are grown in the existing soil on site), and orchards.
2. Farm-related structures, including barns, sheds, and farmer-occupied housing, necessary for the performance of agricultural operations. Such structures may be located on an existing grazed or farmed wetland parcel only if no alternative upland location is available for such purpose and the structures are sited and designed to minimize adverse environmental effects on Public Trust resources and uses. No more than one primary and one secondary residential unit shall be allowed per parcel.
3. Restoration projects.
4. Nature study, aquaculture, and similar resource-dependent activities compatible with Public Trust resources and uses.
5. Incidental public service purposes which may temporarily impact the resources of the area (such as burying cables or pipes).

Expanding farming operations into non-farmed wetlands, by diking or otherwise altering the functional capacity of the wetland is not permitted. Farm-related structures (including barns, sheds, and farm-owner occupied housing) necessary for the continuance of the existing operation of the farmed wetlands may be located on an existing farmed wetland parcel, only if no alternative upland location is viable for such purpose and the structures are sited and designed to minimize the adverse environmental effects on the farmed wetland. Clustering and other construction techniques to minimize both the land area covered by such structures and the amount of fill necessary to protect such structures will be required.

~~[Policies RC-3a, c, d, f, & g revised by Ordinance No. 1377, September 2008]~~

POLICY RC-4 OPEN WATERS OF ARCATA BAY & TIDELANDS

Objective. Maintain existing Bay wetlands and tide lands, protect them from urban and agricultural encroachments, or degradation, and manage the open waters of Arcata Bay for their wildlife, fisheries, navigation and ecological values and recreation and tourism uses.

RC-4a **Protection of open waters /tideland areas of Arcata Bay.**

The tidal and water areas of Arcata Bay constitute a fragile Public Trust resource and access shall be controlled to avoid resource degradation, while maintaining the public's right to navigation. Tidal marshes shall be enhanced and maintained, especially in the areas of McDaniel, Gannon, and Butcher's Sloughs, to protect wetland values.

RC-4b **Access to Arcata Bay.** The following routes are designated as Public Access Corridors and are to be properly signed and identified as approved Bay access points.

1. "I" Street from Samoa Boulevard, south through the Arcata Marsh and Wildlife Sanctuary to the boat launching facility on Arcata Bay.
2. South -"G" Street south of "H" Street, to Highway 101.
3. ~~Highway 101~~Humboldt Bay Trail from Samoa Boulevard (Highway 255), south to Bayside Cutoff.
4. Samoa Boulevard from Highway 101 west to Mad River Slough.

A system of foot trails and interpretive sites shall be established along the Arcata Bay shore westward to the City limit, subject to the following guidelines.

5. All planning and development in the area that is both ~~S~~south of Samoa Boulevard and west of ~~State Route~~Highway 101 and which is identified as tidelands, former tidelands, wetlands or riparian corridor on the adopted Wetlands Map shall be reviewed by the ~~Creeks &~~ Wetlands and~~&~~ Creeks Committee, and coordinated with California Department of Fish and ~~Game~~Wildlife.
6. Development in the area bounded by Butcher's Slough and Gannon Slough should occur in conjunction with management of the USFWS National Wildlife Refuge, ~~and the~~ Arcata Marsh and Wildlife Sanctuary and the Jacoby Creek Gannon Slough Wildlife Area.
7. Motorized vehicles shall be restricted to paved roads and parking lots.
8. Pedestrians shall be restricted to designated trails and facilities.
9. Valid scientific and educational studies of wetlands and tidelands are encouraged.

RC-4c **Coastal-dependent and public trust uses of Arcata's tidelands.** Tidelands of Arcata Bay support a variety of wildlife as well as human activities. The following provisions shall be made for managing tideland areas.

1. New development shall not restrict access to the shoreline. Access to coastal areas shall be required for new development.
2. Tidelands and water areas of Arcata Bay shall be designated Natural Resource-Public Trust Lands [NR-PTL], and identified as passive use recreational areas.
3. The Arcata Marsh and Wildlife Sanctuary shall be designated as Natural Resource [NR] and the recreational component of the project identified as a passive use recreational area.
4. The continued use of the tideland for scientific and educational studies is encouraged.
5. The Arcata Marsh and Wildlife Sanctuary ~~(AMWS)~~ shall be maintained and new facilities shall be consistent with the ~~AMWS~~ Arcata Marsh and Wildlife Sanctuary plan adopted by the City Council.
6. The South "I" Street boat launch shall be enhanced or relocated~~and maintained~~ to accommodate small watercraft and windsurfing.

7. The placement of interpretative sites along the Arcata Bay shore, including Nature and Wildlife Centers, shall be coordinated with other agencies, and serve as an educational focal point for Arcata's natural resource areas.
8. Access on the levee from the Arcata Marsh and Wildlife Sanctuary ~~AMWS~~ westward to the City limit will be provided for passive recreation and nature observation.

RC-4d **Diking, dredging, filling, and shoreline structures.** Diking, filling, or dredging of Bay waters, wetlands, and estuaries ~~shall be~~is discouraged and only permitted where it has been demonstrated that the Public Trust resources and values are being protected, and mitigation measures have been provided, which minimize adverse environmental effects, for the following limited uses.

1. Incidental public service purposes including, but not limited to, burying cables and pipes, and maintaining existing dikes and public facilities.
2. Maintaining a channel adequate to serve the boat ramp at current levels of use.
3. Resource restoration purposes.
4. Nature study, aquaculture, or similar Public Trust resource dependent activities.
5. Agriculture as currently practiced within existing ~~farmed wetlands~~diked former tidelands but not including the expansion thereof.

In order to protect existing development, shoreline structures (such as dikes or tide gates) that may alter the natural shoreline, may be permitted only when they do not ~~effect~~affect any federally listed species and no other feasible, less environmentally-damaging alternative is available, and only when not located within a wetland, unless the wetland will be the primary beneficiary of the structure.

The ~~disposal~~ placement of dredge ~~spoils~~ material on existing wetlands shall not be permitted unless such ~~disposal~~ placement is necessary for either a Public Trust resource restoration project or for the maintenance of existing agricultural operations in ~~farmed wetlands~~diked former tidelands. Fill will be allowed for aquaculture projects if it can be shown that it is necessary for the project, is required to be located within the wetland, and there is no other feasible, less environmentally damaging, alternative.

RC-4e **Aquaculture use of coastal wetlands/tidelands.** To protect aquaculture activities in Arcata Bay, the City shall:

1. Ensure that its wastewater discharge does not aggravate existing coliform loading problems in Arcata Bay.
2. Take measures to reduce coliform loading of perennial streams within its jurisdiction, as part of a stream maintenance program. These measures shall include controlling identified sources of coliform loading such as septic tank leachate and runoff from agricultural operations.

Aquaculture shall not adversely impact natural ecological processes nor native wildlife or fisheries or their habitat in the Bay. No new aquaculture uses shall be permitted unless it can be demonstrated that adequate precautions will be taken to prevent new adverse impacts to natural ecological processes. The City shall continue its management of:

1. Integrated wetland enhancement and wastewater treatment.
2. The tidelands, for commercial and native oyster harvesting.

RC-4f **Management of bayfront and marsh areas for coastal access, recreation, and tourism.** Tidelands and water areas of Arcata Bay shall be designated Natural Resource-Public Trust Land [NR-PTL] and protected from uncontrolled access. The following guidelines shall be used when permitting access to these areas:

1. Motorized vehicles shall be restricted to paved roads and parking lots.
2. Pedestrians shall be restricted to designated trails and facilities.
3. Valid scientific and educational studies of the wetlands and tidelands shall be encouraged.

New development shall not restrict public access to the shoreline. Public access to the shoreline shall be required of new development. Where consistent with the Humboldt Bay National Wildlife Refuge's Management Plan, controlled public access to the Refuge's Jacoby Creek Unit shall be developed along Arcata Bay from the AMWS to the City's westward limit.

POLICY RC-5 AGRICULTURAL RESOURCES MANAGEMENT

Objective. Protect and enhance agricultural uses on prime agricultural lands within the City, and encourage more productive agricultural use of agriculturally suitable lands.

RC-5a **Promotion of and participation in agricultural production within the City.** Diverse and intensive agricultural production and increased participation shall be promoted, in order to maintain the value of agricultural lands, improve the economic base, and increase employment and food production. The City does not, however, advocate more intensive agricultural uses and practices that would have adverse environmental impacts. Agricultural operations, such as Community Supported Agriculture (CSA) are strongly encouraged.

~~RC-5b **Agricultural Advisory Committee.** The City shall appoint an Agricultural Advisory Committee to advise on agricultural issues and programs. The responsibilities of the committee shall include, but are not limited to:~~

~~1. Development of a Community and Farm Protection Ordinance, as well as conflict resolution protocol.~~

~~2. Development of programs (educational, leasing, and purchase) that will encourage responsible productive uses of agricultural lands.~~
~~3. Identification of lands for preservation and/or acquisition programs.~~
~~4. Maintain a database of resources available to farmers, such as Williamson Act advantages, conservation easements, organic farming practices, and marketing strategies.~~

RC-~~5c~~ 5b **Community and farm protection.** Maintaining a compatible relationship between agricultural and residential uses will be based on:

1. Recognizing the rights of owners of productive agricultural land to make agricultural use of their land.
2. Identifying and minimizing potential conflicts between agricultural operations and adjacent residential, commercial, and community facility uses.
3. ~~A Community and Farm Protection Ordinance shall provide a foundation for minimizing conflicts, educating the community, and a protocol for mediating unresolved disputes. Once adopted, the ordinance shall be mailed to all owners of agricultural and adjacent lands and disclosed to affected property owners at the time of parcel transfer~~.

RC-~~5d~~ 5c **Permanent protection for agricultural lands.** Protection of agricultural resources shall be secured through the purchase of conservation easements, development rights, and outright acquisition. The City shall work in conjunction with other entities such as land trusts, whenever possible, to preserve agricultural buffers and maintain and enhance agricultural uses on prime agricultural soils.

POLICY RC-6 FOREST RESOURCES MANAGEMENT

Objective. Protect and enhance private and public forest lands (Arcata Community ~~and Jacoby Creek~~Forest Tracts) to maintain the resiliency and integrity of the ecosystem while providing timber production, recreation, ~~and~~ habitat values, and opportunities for education and research.

RC-6a **Management of Arcata Community Forest ~~(Not applicable in Coastal Zone)~~.** The City's forest management plan includes the following policies:

1. **Recreation and aesthetics resource management** - The community forest will emphasize dispersed, day-use opportunities. Recreational use shall not be allowed to impact other resources such as fish, wildlife, or watershed.
2. **Timber resource management** - To ensure the sustainable and long-term production of forest products, the rate of harvesting must not exceed the rate of production. Long-term productivity refers to the continuing ability of the forest to produce timber while retaining the associated values of watershed, wildlife, soils,

recreation and aesthetics. This is dependent upon the use of management practices that do not allow for the deterioration or impairment of soil productivity ~~or the alteration of the natural landscape beyond its ability to recover~~. For planning purposes, long term means that exceeding fifty years.

3. **Watershed resource management** - Water quality, soil, riparian, and aquatic biological productivity shall be maintained and enhanced through the application of City forest management standards and the implementation of watershed improvement projects.
4. **Wildlife resource management** - Wildlife habitat is managed to promote species diversity and to ensure that populations of indigenous species are maintained. This can best be achieved through the maintenance and enhancement of habitat values. Habitat values which lead to species diversity include the following elements: breeding, foraging, watering, rearing, hiding and thermal cover.
5. **Vegetation and botanical resources** - Maintain the native ~~component~~ biodiversity of species found in a~~the~~ redwood forest habitat, both by controlling exotics and managing for a species mix that would ~~be found~~ naturally occur in a~~the~~ redwood forest habitat.

RC-6b **Management of Jacoby Creek Forest ~~(Not applicable in Coastal Zone)~~.** The management policies for the Jacoby Creek Forest are the same as those for the Arcata Community Forest, listed above, except that the Jacoby Creek Forest is not open to recreational use.

RC-6c **Allocation of forest fund ~~revenue~~s ~~(Not applicable in Coastal Zone)~~.** ~~At least twenty percent of net f~~Forest fund revenues, derived from timber ~~cutting~~harvest and carbon projects shall be deposited into a special revenue account within the City to be utilized for forest management purposes. Excess net forest fund revenues, ~~,~~ when available, may be ~~shall be~~ directed towards park acquisition, maintenance, and development. This can include acquisition of stream corridors, and riparian and greenbelt areas. These areas contribute to the diversity of parks and, in the case of linear parks along stream corridors, provide passive recreation areas compatible with the environment. The acquisition of open space shall be emphasized as an appropriate use for the remaining revenues.

RC-6d **Management practices for private timberlands ~~(Not applicable in Coastal Zone)~~.** The management of private timberlands shall be encouraged to use current principles of sustainable forestry for all aspects of forest use and function: recreation; timber production; biodiversity; air and water quality; and carbon storage. Timber owners are encouraged to apply for conservation easements, certified forestry, or compensation for carbon storage.

RC-6e **Timber harvest plans ~~(Not applicable in Coastal Zone)~~.** The City, in cooperation with California Department of Forestry, shall request review of all Timber Harvest Plans (THP) within the Planning Area. The City shall review THPs for measures that protect

water quality, control erosion and flooding, and preserve the City viewshed. The city shall recommend that THPs which do not include these measures not be approved.

RC-6f **Urban conversions ~~(Not applicable in Coastal Zone)~~.** The sustainable management of timber resources, and related uses, shall be encouraged, so that the long-~~-~~term economic return from productive timber production will provide sufficient incentives to prevent urban conversions. Urban conversions are discouraged within the Urban Services Boundary.

RC-6g **Setbacks ~~(Not applicable in Coastal Zone)~~.** Development adjacent to the Community Forest boundary shall be setback at least 150 feet, unless this would make the use of the parcel infeasible for its designated purpose. However, larger setbacks may be required to prevent exposure to potential hazards and to maintain forest integrity.

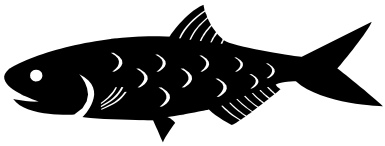
RC-6h **Monitoring ~~(Not applicable in Coastal Zone)~~.** Monitoring of forest practices, to ensure consistency with adopted management and harvest plans, shall be carried out as an implementation measure of this Element. The general objectives of the monitoring will be to:

1. Determine the effectiveness of management practices at multiple scales (i.e., individual sites to watersheds).
2. Validate ecosystem functions and processes have been maintained as predicted.

POLICY RC-7 WATER RESOURCES MANAGEMENT

Objective. Manage Arcata's water resources from a watershed perspective, to maintain surface and subsurface water quality and quantity. Runoff will be managed for the benefit of aquatic habitats.

C-7a **Protection of surface waters from point and nonpoint pollution sources.** The use of natural stormwater drainage systems, which preserve and enhance natural features, shall include the following:



1. Efforts to acquire land or obtain easements for drainage and other public uses of floodplains, where desirable to maintain stream courses in a natural state, shall be supported.
2. Recreational opportunities and aesthetics shall be considered in the design of stormwater detention/retention and conveyance facilities.
3. Sound soil conservation practices shall be required, and impacts of proposed developments, with regard to water quality and effects on watersheds, wetlands and drainage courses, shall be carefully examined.
4. The quality of runoff from urban and suburban development shall be improved through use of appropriate and feasible mitigation measures including, but not

limited to, artificial wetlands, grassy swales, infiltration/sedimentation basins, riparian setbacks, oil/grit separators, and other best management practices (BMPs).

5. New development shall be required to mitigate to the maximum extent feasible increases in stormwater peak flows and/or volume. Mitigation measures should take into consideration impacts on the Mad River, Arcata Bay, and adjoining lands in the City and Planning Area.
6. New project designs shall minimize drainage concentrations, maximize permeable surfaces (such as unpaved parking areas) and maintain, to the extent feasible, natural site drainage conditions.
7. New projects that affect the quantity and quality of surface water runoff shall be required to allocate land necessary for detaining post-project flows and/or for incorporating measures to mitigate water quality impacts related to urban runoff. To the maximum extent feasible, new development shall not produce a net increase in peak stormwater runoff.
8. All development shall comply with the City's post construction stormwater management program (MS4 General Permit) which may include measures for site design, source control, runoff reduction, stormwater treatment, or baseline hydromodification as applicable based on project type and size.

RC-7b **Protection of groundwater sources.** Septic systems and onsite disposal of toxic substances are the leading causes of groundwater contamination. Septic systems within the Urban Services Boundary shall not be permitted, and incidents of onsite toxics disposal shall be referred to the appropriate county and state agencies.

RC-7c **Watershed and urban runoff management.** To protect structures, critical facilities, existing habitat values and water quality, flooding shall be managed on a watershed basis, using a combination of biotechnical solutions, flood protection practices, and Drainage Master Plan's management practices.

RC-7d **Water quality monitoring.** Water quality and quantity shall be monitored on a regular basis to ensure that City policies are being adhered to.

POLICY RC-8 ENERGY RESOURCES MANAGEMENT

Objective. Reduce ~~the net emissions of greenhouse gases from Arcata; reduce other negative impacts of~~ energy ~~production and~~ use through conservation and efficiency practices, ~~including risks from nuclear power, air emissions, fuel spills, and wildlife and habitat destruction;~~ reduce energy costs to the city and its residents, and increase the percent of energy purchases from renewable sources ~~within our region~~; increase ~~the city's and nation's~~ energy security and reduce our vulnerability to ~~changes in energy availability~~ outages and increased price; increase public awareness of energy issues and encourage an energy conservation ethic.~~;~~ ~~monitor the cost and effectiveness of Arcata's actions so we and others can learn from them; and implement Arcata's Advisory Proposition B.~~

~~***Advisory Proposition B***~~
~~***Approved by Arcata Voters April 8, 1980***~~

~~*"In accordance with America's renewed determination to be energy self reliant, be it resolved that the citizens of Arcata and their City government are committed to the enactment of conscientious energy conservation measures and the accelerated development and active promotion of safe and economical alternative renewable energy sources for our community.*~~

~~*Be it further resolved that the City government of Arcata support complete independence from nuclear power including the permanent closure of the Humboldt Bay nuclear power plant and its replacement by safe, clean and efficient generating sources more compatible with the resources and health and safety of the Northcoast, such as conservation, solar power and generation from wood waste."*~~

The City will actively participate in Redwood Coast Energy Authority's primary guiding document the Humboldt County Comprehensive Action Plan for Energy (CAPE) and RePower Humboldt, a community-wide effort to define a vision and Strategic Plan for achieving energy independence and energy security in Humboldt County

RC-8a **Encouragement of appropriate energy alternatives.** ~~In making~~The City will participate in Redwood Coast Energy Authority's Community Choice Energy (CCE) program, supporting renewable energy purchases over non-renewable sources. ~~', the City shall consider how suppliers meet the objectives of this policy. The City shall choose suppliers that provide good tradeoffs among these objectives, giving due consideration to investment in energy conservation as an alternative use of energy funds.~~

~~In addition, the City shall attempt to purchase at least 10% of its electrical energy (in energy units, not cost) from renewable sources within Humboldt County by the year 2020. The City shall take measures to encourage the availability to, and use by, residents of energy suppliers that best meet the objectives of this policy. The City shall convert City vehicle fleets to a mix of fuels that best meets the objectives of this policy.~~

RC-8b **Encouragement of energy efficiency and conservation.** The City shall ~~coordinate with energy suppliers and agencies~~disseminate Redwood Coast Energy Authority information to educate residents, property owners, and business operators about the need for and benefits of conserving energy. ~~The City shall maintain and distribute current~~This includes information about building insulation; energy efficient appliances, lighting, and heating; other conservation measures and materials; and home power alternatives.

The City shall continuously seek and implement cost-effective steps to reduce City energy use. ~~The City shall attempt to reduce the City's total consumption of purchased energy by at least 20% (in energy units, not cost) by the year 2010.~~

The City shall adopt national "Energy Star Program" ~~the~~ goals ~~of the national "Energy Star Program"~~ (or its successor programs) for all City construction projects and all construction projects assisted by grants for which the City is an applicant. These goals include achieving a minimum of 15% greater energy efficiency than would a building designed with existing Title 24 standards.

Explore and, if appropriate, adopt energy efficiency standards for existing residential and commercial buildings upon substantial remodel. Consider requiring energy efficiency inspections, disclosure, and retrofits at change of ownership based on cost-effective and commercially available energy efficiency measures.

RC-8c **Promotion of energy efficiency in transportation.** ~~The City shall give strong consideration to energy conservation and the goals of this policy in all transportation and traffic management decisions. It is City policy to r~~Reduce ~~the need for~~ motor vehicle trips within the city and between the city and other destinations, and ~~to~~ reduce per-trip energy consumption; this policy applies to trips by residents, non-residents, and city staff. Such measures as bike and pedestrian paths, public transportation, shared parking ~~and traffic management~~, and ~~encouraging use of~~ alternative-fueled vehicles shall be used to make these reductions.

RC-8d **Restoration for Greenhouse Gases Absorption.** Foster and restore forests and other terrestrial ecosystems that offer significant carbon mitigation potential, consistent with the Humboldt County Climate Action Plan.
~~[Policies RC-8b & d revised by Ordinance No. 1377, September 2008]~~

RC-8e **City Electrification Ordinance**. Prepare and pass an 'all electric' Ordinance that phases out natural gas infrastructure and use.

POLICY RC-9 SOILS AND MINERAL RESOURCES

Objective. Conserve and manage soil and mineral resources.

RC-9a **Erosion control measures on slopes and other areas of instability.** General Plan Public Safety Element Policy PS-3 - Other Geologic Hazards ~~in the General Plan Public Safety Element~~ includes ~~provisions~~ protections for ~~protecting~~ steep and unstable slopes, ~~and~~ to minimize ~~ing~~ erosion, ~~and~~ sedimentation and landslides. This policy shall be followed as a safety precaution and also to conserve soil resources.

RC-9b **Protection of productive soils and soils with limitations.** Local soils range from productive soil types capable of supporting agriculture and forestry, to those susceptible to shrink-swell and erosion. Clay soils are the most susceptible to shrink-swell, caused by fluctuations in moisture content. According to available soils information, the Bayside series is the only soil type in the Arcata area with identified clay content. Building construction on this soil type shall include measures to avoid damage from shrink-swell.

Certain areas of the City have high liquefaction potential during seismic events. Policy PS-2 - Seismic Hazards, in the General Plan Public Safety Element, addresses mitigation of liquefaction hazards. This policy shall be followed as a safety precaution, and also to manage related soil limitations. Policy RC-5, relating to agricultural soils, shall also be followed to conserve productive soils. The continued research, identification, and protection of productive soils by the Natural Resource Conservation Service and educational institutions shall be encouraged.

RC-9c **Management of mineral resource extraction, processing and transport (gravel).** Areas along the Mad River, within and upstream of the City's Sphere of Influence, are currently used for aggregate resource extraction. The City shall encourage Humboldt County to limit the quantity of aggregate extracted to an amount that is mean annual recruitment; and request that Policy RC-1and RC-2 be applied to protect natural biological diversity and ecosystem functions along the river. The City shall also request that the County not approve or renew permits for commercial mineral resource extraction in A-E designated lands of the City's Planning Area. Mineral resource operations shall not result in additional soil runoff and shall be consistent with the City's seismic safety policies (see Policy PS-2 in Public Safety Element).

4.6 IMPLEMENTATION MEASURES

#	IMPLEMENTATION MEASURE DESCRIPTION	RESPONSIBLE PARTY	TIME FRAME
RC -1	**Creeks & Wetlands Management Plan** ~~Regularly u~~Update the City Creeks Management Plan~~, at least every five years,~~ to include wetlands and continue to implement current provisions for maintaining biological integrity of entire watercourses. The Creeks & Wetlands Management Plan will also include updated provisions for education and restoration programs for degraded creeks.	Environmental Services Dept./Wetlands & Creeks ~~Advisory~~ Committee	~~Year 1 then e~~Every 5 years

#	IMPLEMENTATION MEASURE DESCRIPTION	RESPONSIBLE PARTY	TIME FRAME
RC -2	**Community Forest Management Plan** Update the Community Forest Management Plan, at least every ten years, to implement current provisions for managing recreation, aesthetic, timber, watershed, wildlife, and vegetation resources. The Management Plan will also include updated provisions for allocation of forest fund revenues and urban conversions, as well as setbacks from the Community Forest boundary and a monitoring program for forest practices.	Environmental Services Dept./Forest Management Committee	~~Year 5 then e~~Every 10 years
RC -3	**Energy Efficiency and Conservation Program** Conduct a continuous program to identify and purchase appropriate energy supplies, implement and evaluate energy conservation measures, provide energy education and public information, and promote energy efficiency in transportation. Establish a funding mechanism to assure that a significant portion of the savings are used to fund energy programs and as a reward for savings.	Environmental Services Dept./ Energy ~~Task Force~~Committee	~~Year 1 then every 5 years~~Ongoing
RC -4	**Non-native Plant ~~and Animal~~ Species Removal Program** The City shall continue to provide public information that explains why invasive species are a problem. The City shall maintain a program that recommends effective but non-toxic eradication measures, and eradicates non-native plant species on public lands where they are displacing native species.	Environmental Services Dept.~~/ Agricultural Advisory Committee~~	~~Year 1 then every 5 years~~Ongoing
~~RC -5~~	~~**SPAs, :WSP Combining Zone, Resource Setbacks and Energy Conservation Measures (PLUC Amendment)** Revise the PLUC (formerly LUDG) regulations to be consistent with the General Plan policies for SPAs, the :WSP combining Zone, natural resource (forest) area setbacks and energy conservation techniques.~~	~~Environmental Services Dept./ Planning Commission~~	~~Year 1 then every 5 years~~
RC -~~6~~5	**Surface Water Quality Ordinance** ~~Prepare and adopt a water quality ordinance using water quality standards established in the Drainage Master Plan. The ordinance shall address the physical, biological, and chemical parameters of water quality, include monitoring provided through the MOU with HSU, and shall be updated at least every five years~~Implement the City's Municipal Separate Storm Sewer System (MS4) requirements for post-construction activities~~.~~ including Ordinance No. 1463 that sets forth standards for discharge into the stormwater drainage facilities for the City of Arcata, and establishes a stormwater pollution control program in compliance with the Clean Water Act.	Environmental Services Department	~~Year 1 then every 5 years~~Ongoing
RC -~~7~~6	**Jacoby Creek Gannon Slough Wildlife Area~~Wetlands~~ Management Plan** Prepare a long-term management plan for the Jacoby Creek Gannon Slough Wildlife Area ~~Wetlands Management Plan~~ that includes habitat mapping ~~of all known wetland areas~~, guidelines for ~~wetlands~~ management, ~~setbacks,~~ and restoration goals and objectives~~, and review and approval requirements for wetland alterations~~.	Environmental Services Dept./Wetlands & Creeks ~~Advisory~~ Committee	Year 2
RC -~~8~~7	**Sensitive Habitat Mapping** Using the sensitive habitat definition from Policy RC-1d, prepare and regularly update a map of sensitive habitat in the City.	Environmental Services Dept.	~~Year 1~~Ongoing
RC -~~9~~8	**Pesticide Ordinance** Regularly update the City's Pesticide Ordinance.	Environmental Services Dept.	Every 5 years

#	IMPLEMENTATION MEASURE DESCRIPTION	RESPONSIBLE PARTY	TIME FRAME
~~RC -10~~	~~**Create Agricultural Advisory Committee**~~ ~~This City shall appoint a committee to be an impartial forum for addressing agricultural issues between property owners and agricultural operators. The committee will also be responsible for preparing the agricultural operations ordinance, researching incentives for continued agricultural operations, and advising the Planning Commission on any proposed development that would affect agricultural productivity.~~	~~City Council~~	~~Year 1~~
~~RC -11~~	~~**Participate in Humboldt Bay Management Plan**~~ ~~The City shall designate a representative to attend meetings, review documents, and represent the City's interest during the preparation of the Humboldt Bay Management Plan.~~	~~City Council appoints a representative~~	~~Year 1~~
~~RC -12~~	~~**Community and Farm Protection Ordinance**~~ ~~The Agricultural Advisory Committee shall develop and maintain a Community and Farm Protection Ordinance, which shall provide a foundation for minimizing conflicts, educating the community, and a protocol for mediating unresolved disputes.~~	~~Agricultural Advisory Committee~~	~~Year 1~~
RC -~~13~~9	**Biocides and Other Compounds Alternatives** The City shall implement a program to foster the reduction in private use of pesticides. This shall include maintaining and making available a current list of alternative, environmentally safe products for controlling unwanted vegetation and pests, growing crops and enhancing production of animal products. The use of substances and compounds which can accumulate to toxic levels is restricted by the City (Pesticide Ordinance).	Environmental Services Dept.	~~Year 1~~Ongoing
RC-10	**Electrification Ordinance and Program** Prepare and adopt an electrification ordinance for new construction. Create an electrification program for phase out of natural gas including short-term, mid-term, and long-term actions, including educational and promotional materials.	Environmental Services Dept.	