



Memorandum

TO: Steering Committee Members

FROM: Winston Rhodes, AICP, Planning Manager

SUBJECT: Draft Natural Resources and Open Space Element

DATE: August 10, 2009

On July 28, 2009 the Natural Resources and Open Space Element Subcommittee discussed the Draft Element. A clean copy of the Draft Element is attached as well as version that reflects the discussion. Please review the information and share your thoughts about any substantive changes that you think are needed.

Attachments

- A. Draft Natural Resources and Open Space Element (without edits)
- B. Draft General Plan Update Introduction, Summary, with edits and modifications from the Natural Resources and Open Space Element Subcommittee shown.

NATURAL RESOURCES AND OPEN SPACE

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NATURAL RESOURCES AND OPEN SPACE

VISION STATEMENT

Pinole has set a major goal to preserve, enhance and strengthen natural resources and open space.

Natural resources will be reflected in the built environment and in the surrounding open space areas. Ridgelines, creek corridors, trees, open space areas, and the bayfront will enhance the City's community character and quality of life.

Open space will complement both the City's natural assets and the traditional park system.

INTRODUCTION

Natural resources and open space areas within Pinole provide the opportunity for humans to interact with nature in an urban setting. Ensuring appropriate management and protection of the City's numerous natural resources, including biological, water, and visual resources, will positively contribute to Pinole's environmental health and quality of life for residents. This element provides the framework within which the City will manage existing natural resources and open spaces to ensure long-term sustainability while exploring new opportunities for conservation and preservation.

Recreation facilities, Parks and Trails are addressed in the Community Services and Facilities Element (Chapter 4).


The Natural Resources and Open Space Element address issues of open space preservation and natural resource conservation

Open space land is any parcel or area of land or water which is essentially unimproved and devoted to an open space use... and which is designated on a local, regional or state open space plan as: (1) Open space for the preservation of natural resources, (2) Open space used for the managed production of resources. (3) Open space for outdoor recreation, or (4) Open space for public health and safety...

PURPOSE

The Natural Resources and Open Space Element, a legally required element, is included in this General Plan to address and establish policies addressing the issues of natural resource conservation and open space preservation within the City limits. Pinole's natural resources and open spaces are some of the City's greatest assets. They serve to strengthen community identity, create a sense of place, and enhance Pinole's quality of life. This Element addresses resource conservation concerns within Pinole, including enhancement of the environment through resource conservation and preservation of biological resources. Policies addressing water and

energy conservation are included in the Community Services and Facilities Element. This Element identifies the need to protect and preserve existing open space and natural recreational areas, the need to maintain those areas and create additional open space and natural recreation areas for the enjoyment of residents and the protection of the environment. It also expresses a vision for the future where "sustainable development"¹ and conservation practices

¹ Sustainable development practices refer to the use of architectural and planning methods that address the needs of the present without compromising the ability of future generations to meet their own needs. Specific examples include the use of solar panels for energy conservation, placing jobs near housing to reduce vehicle trips, and infill development in urban areas to reduce the consumption of agricultural land. Policies related to Sustainability are identified with a  symbol.

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While it is the Natural Resources and Open Space Element that primarily addresses issues of biological, visual, and water resources, several other elements, particularly the Sustainability, Land Use and Economic Development, Community Services and Facilities, Health and Safety and Community Character, elements, are also concerned with the community's open space and natural resources.

provide for the needs of existing residents and businesses while preserving choices for future generations. Of particular importance to the Pinole Community are the preservation and enhancement of the Pinole Creek and Watershed, access and use of the Shoreline along San Pablo Bay, protection of the ridgelines around Pinole and the addition of a portion of the Bay Trail in Pinole. The goals, policies, and implementation actions in this Element will foster the preservation of Pinole's many valuable natural resources, including wildlife, habitat, water resources, soils, and mineral resources.

ISSUES AND CONSIDERATIONS

NATURAL RESOURCES SETTING

Located on the edge of San Pablo Bay, Pinole's natural resources include the San Pablo Bay shoreline, creeks and ridges. These open spaces provide environmental protection and conservation to numerous biotic resources. While Pinole's open space is dispersed throughout the City, it is also fragmented and discontinuous. A more contiguous system of protected



open space and habitat for natural communities is a desirable outcome of this General Plan.

PLANT AND ANIMAL HABITAT

The geography and climate of Pinole have resulted in the establishment of numerous distinct habitat types, ranging from tall riparian forest and well established coast live oak-bay forest to open grassland and salt marsh. A total of 9 habitat types were identified within the site, including annual grasslands, saline emergent wetlands (salt marsh), coastal oak woodland, and coastal scrub (see **Figure 7.1**). In addition, several potential habitat types for special status species have been assessed within the site. The Characteristics of these observed plant and animal habitats can be found in the Background Report. The acreages of habitat types mapped within the City are detailed in **Table 7.1**.

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Figure 7.1 Habitat Map

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Figure 7.1, page 2

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Table 7.1
Existing Habitats Found within the City of Pinole

Habitats Mapped In the City of Pinole	Acreage of Each Habitat Type Mapped in the City of Pinole (acres)
Annual Grassland	716.71
Saline Emergent Wetland (Salt Marsh)	9.69
Estuarine (Tidal Flats)	57.87
Coastal Scrub	9.52
Coastal Oak Woodland	498.76
Perennial Creek (Pinole Creek)	31.96
Open Water (San Pablo Bay Conservation Area)	157.22
Urban	1,964.61
Total Acreage Delineated	3,489.55 acres

Source: PMC, Baseline Biological Report, 2006

Soils Resources

There are 23 mapped soil series within the City of Pinole. These soil units can be seen in and the map presented as **Figure 7.3**. The soils themselves are described in the Background Report.

OPEN SPACE SETTING

Open spaces, trails, and natural resources provide active and passive recreation opportunities for residents and visitors. Providing a protected open space network for the future of Pinole is a cornerstone of sustainable community development. Pinole's existing open spaces include lands held by the City of Pinole as parkland and trails, and lands help by the East Bay Regional Park District as regional parklands. These lands provide City residents with an array of recreational opportunities, complemented by City-owned and maintained neighborhood parks.

The City is poised to grow its open space system. At this time, a study of potential future land acquisitions has not been undertaken. Strategic open space planning will be necessary for identify opportunities for open space system expansion.

Please refer to Chapter 4: Community Services and Facilities for a full discussion on parks, trails and recreational facilities.

Existing Open Space

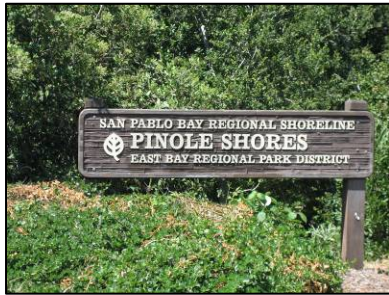
Residents of Pinole benefit from substantial open space and natural resources in various forms of ownership. The City itself has large holdings, while other parcels are held by homeowners associations, the West Contra Costa Unified School District, and the Contra Costa County Flood Control District, EBMUD, as well



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as private landowners. There is also an extensive array of regional open space lands in and adjacent to the City. These, combined with marsh and wetland sites along the Bay frontage add to the availability of recreational open space in Pinole.

Despite the abundance of parks and open space in and adjacent to the City, the current system is fragmented and does not function as an integrated community-wide open space and recreation system or contiguous wildlife habitat. Policies contained in this Plan provide an organizing framework for Pinole's open space resources.



Regional Open Space Preserves

City-Owned Unimproved Parkland

Residents in Pinole use existing open space areas to walk, appreciate the area's natural beauty, hike, bird-watch, jog, and to socialize with friends.² There are several unimproved open public space areas in the City of Pinole. These preserves cover approximately 19.5 acres in the City limits (see **Table 7.2**).

Table 7.2
Unimproved Open Public Space Areas in Pinole

Open Space Area	Location	Size of Area (acres)	Description
Hugh Young Park	3760 Victor Street	1	Undeveloped open public area.
Sarah Drive Park	1850 Sarah Drive	11	Natural habitat for deer and wildlife; undeveloped open public area.
View Park	2021 Henry Avenue	2.5	Walking trail up to reservoir; undeveloped open public area.
Amber Swartz Park	3450 Savage Avenue	5	Undeveloped open space parcel; gazebo and walking path to Pinole Valley Park
TOTAL AREA		19.5	

Source: *City of Pinole Recreation Department, February 2009*

Additional land has been preserved in Pinole Valley Park and the Crown Ridge Subdivision (Marsten Ranch).

The Fire and Public Works Departments are responsible for the maintenance of open space and parks in Pinole. The Fire Department's maintenance responsibilities and costs for any City-owned open space includes fire prevention, weed control, litter and safety patrol, and cleaning of drains and culverts. The Public Works Department is responsible for the maintenance of other open space facilities. The City considers long-term expenses when priorities are set for acquiring land and developing recreational facilities.

² June, 2007 General Plan Update Survey for Pinole Parks and Open Space.

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Figure 7.2 Recorded Occurrence of Special-Status Species within the City of Pinole

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Figure 7.2, page 2

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Figure 7.3: Soils Map

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Figure 7.3, page 2

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Regional and Local Trails

City of Pinole Trails

Residents in Pinole use the City's trails to run, bike, walk, and to find solitude. The City of Pinole Recreation Department maintains both regional and local pedestrian and hiking trails for recreational use by residents and visitors. Pinole's paved pedestrian trails include:

- Pinole Creek Trail (from I-80 to Bayfront Park);
- Portions of the Bay Trail (1/6 of a mile) located at the end of Pinole Shores Drive;
- (1/4 of a mile) around Bayfront Park; and
- Sarah Drive Trail (1/6 of a mile) leading to Hoke Court and Stewart Elementary School.



The City of Pinole Recreation Department does not maintain an inventory of trails in unimproved parks. The Parks and Recreation Department plans to conduct research on all types of trails and their feasibility to be included in the City's list. The City anticipates the end product to be a brief list and description of trails with an overview map and directions to each trail. As of January 2009, the Recreation Department is continuing to assess trail resources in the City.



Trails, including the San Francisco Bay Trail, are discussed further in the Circulation Element, (Chapter 5) and the

Sustainability Element (Chapter 9)

VISUAL RESOURCES

The diverse open space system in Pinole contributes to the community's unique visual qualities. The City's San Pablo Bay shoreline, creeks (particularly Pinole Creek), ridgelines and other areas, as well as the historic qualities of Old Town, are focal points recognizable from many locations in the City. Preservation of existing and future open space areas will ensure the continuation of the City's unique visual qualities.

Chapter 10: Community Character discusses built visual resources in Pinole and their contribution to the community's character.

ISSUES THIS ELEMENT ATTEMPTS TO SOLVE

During public workshops and discussions with the Steering Committee and City Staff the goals, policies, many issues were raised regarding Natural Resources and Open Space. The policies and implementation actions in this Element attempt to address and solve these issues.

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- Existing public access to Pinole Creek and the Shoreline is limited. Efforts to restore Pinole Creek, implement the Bay Water Trail launch and the San Francisco Bay Trail will help to maximize recreational opportunities in Pinole's natural areas.
- Long-term strategic protection of resources, including additional open spaces, is needed to ensure that Pinole's high quality of life is maintained. Additional coordination with regional and state-wide conservation organizations and agencies is needed to ensure long-term protection.
- Opportunities for riparian habitat protection and restoration should build on the foundation provided by the Pinole Creek Restoration project. Cooperation with other agencies will be needed to accomplish creek restoration goals.
- Existing creek and bayshore setbacks (100 feet from bayshore and 50 feet from creek) need to be expanded to protect and mitigate against the impact of new development near sensitive resources.
- Ridgelines are currently threatened and should be protected from development so they may serve the residents of Pinole as recreational and open space resources, community separators and visual resources.
- Pinole's wetlands are threatened by impacts from development and loss of wetlands areas.
- Open space areas are challenged by lack of adequate funding to assure that facilities are properly maintained.
- Passive and active recreation needs should be addressed in open space areas.

GOALS, POLICIES, AND IMPLEMENTATION ACTIONS

The goals of this element are as follows and are listed subsequently with corresponding policies and implementation actions.

GOALS

- Goal OS1: Preserve natural resources.
- Goal OS2: Sustain and enhance natural communities.
- Goal OS3: Protect, preserve, and restore open spaces.
- Goal OS4: A network of trails linking open spaces and providing opportunities for recreation.
- Goal OS5: Community stewardship of open spaces.
- Goal OS6: Protection of visual resources.

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- Goal OS7: Adequate funding for open space preservation and stewardship.
- Goal OS8: Excellent Water Quality and Secure Water Supply for Human and Natural Communities.

POLICIES AND IMPLEMENTATION ACTIONS*

*See Table X (Implementation Actions) on page 7.0-27 for detailed description of each implementation action.

GOAL OS1 Preserve natural resources

POLICY OS1.1 Habitat Preservation. The City shall protect and preserve open space and natural areas. Preserve oak/woodland, riparian vegetation, creeks, fisheries, saltwater and freshwater marsh, native bunchgrass grasslands, wildlife corridors and sensitive nesting sites. Loss of these habitats should be fully offset through creation of habitat of equal value. Compensation rate for habitat re-creation shall be determined by a qualified biologist.

Action OS.1.1.1 Habitat Protection Ordinance.

Action OS.1.1.2 Riparian and Stream Restoration Programs.

Action OS.1.1.3 Open Space Plan.

Action OS.1.1.4 Resource Protection

Action OS.1.1.5 Restoration Objectives

POLICY OS1.2 Agency Cooperation. Work in cooperation with Federal, State and local regulatory and trustee agencies to promote the long-term sustainability of local natural resources.

Action OS.1.2.1 Consultation on Fish and Wildlife Impacts

Action OS.1.2.2 Resource Protection

Action OS.1.2.3 Early Agency Consultation

POLICY OS 1.3 Hillsides and Ridgelines. Retain sensitive hillside and ridgeline habitat.

Action OS.1.3.1 Consultation on Fish and Wildlife Impacts

Action OS.1.3.2 Resource Protection

Action OS.1.3.3 Early Agency Consultation

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POLICY OS1.4 Protect Wetlands. Protect wetlands through careful environmental review of proposed development applications. The City shall recognize the U.S. Army Corps of Engineers as the designated permitting agency that regulates wetlands.

Action OS.1.4.1 Wetland Data

Action OS.1.4.2 Wetland Avoidance

Action OS.1.4.3 Wetland Permits

Action OS.1.4.4 Wetland Mitigation

Action OS.1.4.5 Wetlands Mitigation Standards

Action OS.1.4.6 Drainage Management

Action OS.1.4.7 Restore Waterway Function

Action OS.1.4.8 Wetlands access

POLICY OS1.5 Wetland Mitigation. Establish and implement criteria to mitigate wetland losses to ensure there is a no net loss of wetlands in a regional context in accordance with the U.S. Army Corps of Engineers.

Action OS.1.5.1 Wetland Mitigation

Action OS.1.5.2 Wetlands Mitigation Standards

POLICY OS1.6 Integrated Management. Work toward integrated management of tidal areas and drainages within the City limits.

Action OS.1.6.1 Drainage Management

POLICY OS1.7 Access to Wetlands. Provide appropriate access to wetlands.

Action OS.1.7.1 Wetlands access

POLICY OS1.8 Transitional Zones. The City will condition or modify development approvals to ensure that natural transitions along the edges of different habitat types are preserved and enhanced because of their importance to wildlife. Maintain proper buffers between sensitive habitat and conflicting land uses. Habitat types of particular concern are those along the margins of riparian corridors, marshlands, and oak woodlands. Preserves and areas with special conservation status must have compatible surrounding land uses.

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Action OS.1.8.1 Habitat Protection Ordinance

Action OS.1.8.2 Creek Setbacks

Action OS.1.8.3 Development Limitations

Action OS.1.8.4 Limit Impacts

POLICY OS1.9 Habitat Restoration. The City shall implement a re-vegetation plan which aims to identify and prioritize areas planned for habitat restoration. Areas planned for restoration may provide special-status species habitat, connectivity of wildlife corridors, transitional zones in between natural areas and incompatible land uses, or expansion of ecological functions such as flood management and water quality.

Action OS.1.9.1 Habitat Protection Ordinance

Action OS.1.9.2 Restoration Objectives

Action OS.1.9.3 Riparian Habitat Restoration

GOAL OS2: Sustain and enhance natural communities.

POLICY OS2.0 Protection of Native Vegetation. Protect, preserve and create the conditions that will promote the preservation of significant trees and other vegetation, particularly native to California and the region.

Action OS.2.0.1 Tree Preservation Ordinance

Action OS.2.0.2 Heritage Tree Program

Action OS.2.0.3 Invasive Species Removal

Action OS.2.0.4 Landscape Plans

Action OS.2.0.5 Landscaping Requirements

POLICY OS2.1 Noxious Weed Ordinance. The City shall adopt and maintain a Noxious Weed Ordinance. The Noxious Weed Ordinance shall include regulatory standards for construction activities that occur adjacent to natural areas to inhibit the establishment of noxious weeds through accidental seed import.

POLICY OS2.2 Invasive Species. Develop ordinance to protect against invasive species. Replace invasive, non-native vegetation with native vegetation. The City and private development will protect and enhance habitat by removing invasive,

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non-native vegetation that detracts from habitat values and be replanting it with native California plant species.

Action OS.2.2.1 Invasive Species Removal

Action OS.2.2.2 Landscape Plans

Action OS.2.2.3 Landscaping Requirements

POLICY OS2.3 Landscape Plans. New development should incorporate native vegetation into landscape plans and discourage the use of invasive, non-native plant species.

Action OS.2.3.1 Landscape Plans

Action OS.2.3.2 Landscaping Requirements

Riparian Areas

POLICY OS2.4 Riparian Areas and Creek Setbacks. Lands adjacent to riparian areas should be protected as public or private permanent open space through dedication or easements. Require new development adjacent to creeks and major drainages to provide adequate building setbacks from creek banks, provision of access of easements for creek maintenance purposes, and creek improvements such as bank stabilization. Riparian vegetation outside the setback should also be protected. Until such time as Program OS1-1 (Habitat Protection Ordinance) is completed, creeks and major drainages include: (1) Pinole Creek (2) Catty Creek (3) Duncan Canyon/Cole Creek; (4) Shady Draw; (5) Faria Creek and (6) Roble Creek.

Action OS.2.4.1 Riparian and Stream Restoration Programs

Action OS.2.4.2 Creek Setbacks

Action OS.2.4.3 Riparian Habitat Restoration

POLICY OS2.5 Riparian Mitigation. Impacts to riparian habitats should be mitigated at a net loss of existing function and value based on field survey and analysis of the riparian habitat to be impacted. No net loss may be accomplished by avoidance of the habitat, restoration of existing habitat, or creation of new habitat, or through some combination of the above.

Action OS.2.5.1 Wetlands Mitigation Standards

POLICY OS2.6 Integrated Creek Management. The City will encourage and cooperate with Contra Costa County and other responsible agencies to plan and implement

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an integrated management plan for the long-term conservation and restoration of the riparian corridor along the Pinole Creek

Wildlife Corridors

POLICY OS2.7 Maintain and Improve Wildlife Movement Corridors. Continuous wildlife habitat, including corridors free of human disruption, shall be preserved and where necessary created by interconnecting open spaces, wildlife habitat and corridors.

Action OS.2.7.1 Open Space Plan

Action OS.2.7.2 Open Space Management Plans

POLICY OS2.8 Wildlife Movement Corridor Mitigation. The City will condition development permits in accordance with applicable mitigation measures to ensure that important corridors for wildlife movement and dispersal are protected. Features of particular importance to wildlife include riparian corridors, wetlands, bay shorelines, and protected natural areas with cover and water. Linkages and corridors shall be provided to maintain connections between habitat areas.

Action OS.2.8.1 Open Space Management Plans

POLICY OS2.9 Continuous Wildlife Habitat. Continuous wildlife habitat, including corridors free of human disruption, shall be preserved and where necessary, created by interconnecting open spaces, wildlife habitat and corridors. The City shall encourage creation of habitat preserves that are immediately adjacent to each other in order to provide interconnected open space areas for wildlife movement.

Action OS.2.9.1 Open Space Plan

GOAL OS3: Protect, preserve, and restore open spaces.

POLICY OS3.0 Continuous Open Space Planning. Plan for connectivity of open spaces and wildlife habitat and corridors using species area plans, neighborhood plans, subdivision maps or other applicable planning processes, consistent with Open Space Guidelines.

Action OS.3.0.1 Open Space Plan

POLICY OS3.1 Regional Planning. Coordinate with Contra Costa County and adjoining jurisdictions, federal and state agencies to assure regional connectivity of open space and wildlife corridors.

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Action OS.3.1.1 Open Space Plan

POLICY OS3.2 Cluster Development. Encourage cluster development and other creative site planning techniques to preserve open space, trails and visual, habitat, recreation and archaeological resources.

Action OS.3.2.1 Open Space Plan

POLICY OS3.3 Conserve Sensitive Resources. The City shall adopt policies to conserve and enhance the City's biological resources in a manner which facilitates orderly development and reflects the sensitivities and constraints of these resources. The City shall direct development away from "sensitive biological resource" areas, unless effective mitigation measures can be implemented.

Action OS.3.3.1 Development Limitations

Action OS.3.3.2 Limit Impacts

POLICY OS3.4 Buffers for Sensitive Resources. When activities close to open space resources within or outside the urban area could harm these resources, the City will require buffers between the activities and the resources. The City will actively encourage individuals, organizations and other agencies to follow this policy. Buffers associated with new development shall be on the site of the development, rather than on neighboring land containing the open space resource. Buffers provide distance in the form of setbacks, within which certain features or activities are not allowed or conditionally allowed. Buffers shall also use techniques such as planting and wildlife-compatible fencing. Buffers shall be adequate for the most sensitive species in the protected area, as determined by a qualified professional and shall complement the protected area's habitat values. Buffers shall be required in the following situations:

- Between urban development – including parks and public facilities – and natural habitat such as creeks, wetlands, rocky outcrops and grassland features to address noise, lighting, storm runoff, spread of invasive, non-native species, and access by people and pets.
- Between agricultural operations and natural habitat, to address noise, chemical use, sediment transport, and livestock access.

Action OS.3.4.1 Creek Setbacks

POLICY OS3.5 Minimize Environmental Impacts. Encourage development patterns which minimize impacts on the City's biological, visual, and cultural resources, and integrate development with open space areas.

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Action OS.3.5.1 Wetlands Mitigation

Action OS.3.5.2 Wetlands Mitigation Standards

Action OS.3.5.3 Development Limitations

Action OS.3.5.4 Limit Impacts

POLICY OS3.6 Preserve Natural Features. Retain sensitive habitat areas in their natural state, where possible, and protect from inappropriate development and landscaping. New development shall incorporate natural features present on the site such as a creek, steep topography or natural vegetation, where feasible, unless appropriate mitigation measures can be incorporated.

Action OS.3.6.1 Consultation on Fish and Wildlife Impacts

Action OS.3.6.2 Environmental Assessment

Action OS.3.6.3 Development Limitations

Action OS.3.6.4 Limit Impacts

Action OS.3.6.5 Environmental Review

Action OS.3.6.6 Early Agency Consultation

POLICY OS3.8 Protect Listed and Non-listed Special-status Species. Limit development in areas which support special-status species. If development of these areas must occur, any loss of habitat should be fully compensated on-site. If off-mitigation is necessary, it should occur within the Pinole planning area whenever possible, and must be accompanied by plans and a monitoring program prepared by a qualified biologist.

Action OS.3.8.1 Limit Impacts

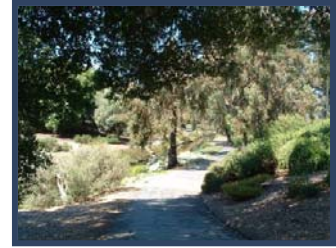
Action OS.3.8.2 Early Agency Consultation

POLICY OS3.9 Biological Resource Evaluation. The City shall require a biological resources evaluation for private and public development projects in areas identified to contain or possibly contain listed plant and/or wildlife species based upon the City's biological resource mapping provided in the General Plan EIR or other technical materials. This evaluation shall be conducted prior to the authorization of any ground disturbance.

Action OS.3.9.1 Environmental Assessment

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POLICY OS3.10 Mitigation for Special-status Species. For those areas in which special-status species are found or likely to occur or where the presence of species can be reasonably inferred, the City shall require mitigation of impacts to those species. Mitigation shall be designed by the City in coordination with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG), and shall emphasize a multi-species approach to the maximum extent feasible. This may include development or participation in a habitat conservation plan.



Action OS.3.10.1 Protect Biodiversity

Education

POLICY OS3.11 Environmental Education. Promote community involvement with development of increased environmental awareness and encourage the development of public environmental education through signage, school programs, restoration and clean-up workdays, and events.

Action OS.3.11.1 Environmental Education Programs

Action OS.3.11.2 Informational Signage

POLICY OS3.12 Balance Recreation and Habitat Needs in Open Space. Provide for a variety of recreational activities in open space areas within the City of Pinole while ensuring the protection of important habitat.

Action OS.3.12.1 Environmental Education Programs

Action OS.3.12.2 Open Space Plan

Action OS.3.12.3 Open Space Management Plans

POLICY OS3.13 Public Use and Access to Open Space. Clearly delineate public access areas from those areas to be protected from human disturbance through adequate signage and enforcement of regulations.

Action OS.3.13.1 Environmental Education Programs

Action OS.3.13.2 Open Space Plan

Action OS.3.13.3 Open Space Management Plans

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POLICY OS3.14 Open Space Preservation and Management. Maintain and effectively manage an integrated pattern of open space areas.

Action OS.3.14.1 Open Space Management Plans

POLICY OS3.15 Open Space Plan. Develop plan for preservation of natural resources, visual resources, and for recreational use the open space areas.

Action OS.3.15.1 Open Space Plan

POLICY OS3.16 Preservation through the Development Review Process. Maximize open space preservation through the private development review process and other approaches that minimize ongoing City costs and liability exposure and still achieve City open space goals.

Action OS.3.16.1 Habitat Protection Ordinance

Action OS.3.16.2 Open Space Plan

Action OS.3.16.3 Open Space Management Plans

GOAL OS4: A network of trails linking open spaces and providing opportunities for recreation.

POLICY OS4.1 Coordinate with other City-wide and regional trail planning efforts to establish a comprehensive network of trails in Pinole.

Action OS.4.1.1 Open Space Plan



GOAL OS5 Community stewardship of open spaces.

POLICY OS5.1 Encourage community engagement in open space stewardship through strategies outlined in the Open Space Plan.

Action OS.5.1.1 Open Space Plan

Action OS.5.1.2 Open Space Management Plans

POLICY OS5.2 Develop an Interpretive Signage Plan within the Open Space Plan.

Action OS.5.2.1 Open Space Plan

Action OS.5.2.2 Open Space Management Plans

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Action OS.5.2.3 Informational Signage.

POLICY OS5.3 Coordinate with local educational institutions to encourage environmental education using open space lands.

Action OS.5.3.1 Open Space Plan

GOAL OS6 Protection of visual resources.

POLICY OS6.1 Protect Visual Resources. Enhance the City of Pinole's character by protecting key visual resources.

Action OS.6.1.1 Scenic Easements.

Action OS.6.1.2 Ridgeline Preservation Ordinance

Action OS.6.1.3 Tree Preservation Ordinance

Action OS.6.1.4 Open Space Plan

POLICY OS6.2 Scenic Resources. Preserve significant knolls, stands of trees, rock outcrops and ridgelines within the city that further the image of Pinole.

Action OS.6.2.1 Scenic Easements.

Action OS.6.2.2 Ridgeline Preservation Ordinance

Action OS.6.2.3 Tree Preservation Ordinance

Action OS.6.2.4 Open Space Plan

POLICY OS6.3 View Protection. Preserve prominent views of scenic resources and the bay, and consider visual access and view corridors when reviewing development proposals.

Action OS.6.3.1 Scenic Easements.

Action OS.6.3.2 Ridgeline Preservation Ordinance

Action OS.6.3.3 Critical Public Views and Ridgelines

POLICY OS6.4 Open Space Separators. Maintain a continuous open space separator between Pinole and the cities of Hercules (Pinole Ridge), and El Sobrante/Richmond (El Sobrante Ridge).

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Action OS.6.4.1 Scenic Easements.

Action OS.6.4.2 Ridgeline Preservation Ordinance

Action OS.6.4.3 Open Space Plan

POLICY OS6.5 Major and Minor Ridgelines. Preserve major and minor ridgelines. Where possible, properties shall provide for a ridgeline setback of 400 feet horizontally from major ridgelines, 100 feet from minor ridgelines and a vertical setback of 100 feet from both.

Action OS.6.5.1 Scenic Easements.

Action OS.6.5.2 Ridgeline Preservation Ordinance

Action OS.6.5.3 Open Space Plan

POLICY OS6.6 Ridgeline Protection. Natural contours and vegetation on ridgelines should be maintained. Locate and design structures and other public and private improvements so as to minimize cut and fill areas that will impact public views, safety and surrounding uses, and avoid building profiles (silhouettes) being located above the ridgeline when viewed from public streets and designated public access areas.

Action OS.6.6.1 Scenic Easements.

Action OS.6.6.2 Ridgeline Preservation Ordinance

Action OS.6.6.3 Tree Preservation Ordinance

Action OS.6.6.4 Open Space Plan

GOAL OS7 Adequate funding for open space preservation and stewardship.

POLICY OS7.1 Funding for Maintenance. Ensure a sustainable open space system through adequate funding for maintenance and management of open space.

Action OS.7.1.1 Open Space Plan

Action OS.7.1.2 Open Space Management Plans

GOAL OS8 Excellent water quality and secure water supply for human and natural communities.

NATURAL RESOURCES AND OPEN SPACE

- POLICY OS8.1** Management of Water Use. Manage water sustainably through planning, conservation, reclamation and recycling.
- Action OS.8.1.1** Water Resource Management Coordination
- Action OS.8.1.2** Water Resource Consideration in other Planning efforts.
- POLICY OS8.2** Water Conservation. Encourage water conservation and the use of reclaimed water.
- Action OS.8.2.1** Reclaimed Water Infrastructure
- Action OS.8.2.2** Funding for Water Conservation.
- Action OS.8.2.3** Wastewater Reuse
- Action OS.8.2.4** Reclaimed Water In-lieu Fee
- POLICY OS8.3** Low Impact Development. Encourage Low Impact Development (LID) practices in all new development to reduce, treat, infiltrate and manage runoff flows caused by storms, urban runoff and impervious surfaces.
- Action OS.8.3.1** Low Impact Development Ordinance
- POLICY OS8.4** Groundwater Recharge. Encourage natural groundwater recharge and groundwater recharge opportunities, where appropriate.
- Action OS.8.4.1** Groundwater Recharge Opportunities
- POLICY OS8.5** Groundwater Quality. Collaborate with local and regional water resource managers to identify and monitor areas where hazardous waste and other pollutants may negatively impact groundwater quality.
- Action OS.8.5.1** Groundwater Quality Protection.
- POLICY OS8.6** Prevent Water Pollution. Take actions to prevent water pollution, consistent with federal and state water policies and standards.
- Action OS.8.6.1** Water Pollution Prevention
- POLICY OS8.7** Water for Riparian Communities. Protect water sources for water-dependent species and the health of riparian communities.
- Action OS.8.7.1** Open Space Plan

NATURAL RESOURCES AND OPEN SPACE

POLICY OS8.8 Interagency Water Resource Projects. Help implement interagency projects, such as expansion of wastewater treatment capacity, joint development of new treatment or distribution infrastructure, water exchanges, and reclaimed water sales.

Action OS.8.8.1 Water Resource Management Coordination

Action OS.8.8.2 Water Resource Consideration in other Planning efforts.

Action OS.8.8.3 Funding for Water Conservation.

Action OS.8.8.4 Wastewater Reuse

NATURAL RESOURCES AND OPEN SPACE

NATURAL RESOURCES AND OPEN SPACE IMPLEMENTATION ACTIONS

The table below contains detailed descriptions of each implementation action, referenced above.

Policy Numbers	Implementation Action and Description
OS.1.1.1 OS.1.8.1 OS.1.9.1 OS.3.16.1	Habitat Protection Ordinance. The City shall adopt of a habitat protection ordinance that would identify and protect areas of biological value, including streams, creeks and wetlands. The ordinance would include setbacks from creeks, guidelines for avoidance of filling of creeks or wetlands and destruction of riparian vegetation, standards for compensation of habitat loss (as established by a qualified biologist), and requirements for mitigation, monitoring and habitat enhancement plans. It would also cover implementation and enforcement of specific criteria to ensure that safety, natural resources and aesthetic values of Pinole Creek, other creeks and major drainages are protected and enhanced.
OS.1.1.2 OS.2.4.1	Riparian and Stream Restoration Programs. Establish riparian and stream restoration programs that include erosion control measures, stream clean-up projects, and revegetation plans for denuded areas.
OS.3.11.1 OS.3.12.1 OS.3.13.1	Environmental Education Programs. Establish public information/education programs to enhance public knowledge about environmental protection and conservation measures.
OS.6.1.1 OS.6.2.1 OS.6.3.1 OS.6.4.1 OS.6.5.1 OS.6.6.1	Scenic Easements. Require scenic easements on landforms or parcels with key visual resources that are subject to development.
OS.6.1.2 OS.6.2.2 OS.6.3.2 OS.6.4.2 OS.6.5.2 OS.6.6.2	Ridgeline Preservation Ordinance. Create a ridgeline preservation ordinance which includes an enforcement mechanism
OSIP-6	Street Tree Master Plan. Develop a street tree master plan for major streets. The plan should promote the use of indigenous species and be guided by the concept of interconnected open space in Pinole, linked visually via dense street tree planting. The plan should include special planting at creek crossings and gateways to the city.
OS.2.0.1 OS.6.1.3 OS.6.2.3 OS.6.6.3	Tree Preservation Ordinance. Adopt a tree preservation ordinance that will protect significant trees that are 6 inches in diameter at breast height (DBH) or greater. Significant trees are those making substantial contributions to natural habitat or to the urban landscape due to their species, size, or rarity. Significant trees, particularly native species, shall be protected. Trees with a 6-inch DBH or greater shall be replaced at a ratio of 2:1 (two trees for every one removed).
OS.6.3.3	Critical Public Views and Ridgelines. Require assessment of critical public views and ridgelines as pan of the project review process to assure that projects protect natural resources through proper site planning, building design and landscaping.
OS1.1.3 OS.2.7.1 OS.2.9.1	Open Space Plan. A comprehensive Open Space Plan should be developed. The Open Space Plan will contain strategies to preserve and protect open space which may include: <ul style="list-style-type: none"> Acquisition of land by Pinole, with funding and/or financing provided by the following mechanisms:

NATURAL RESOURCES AND OPEN SPACE

Policy Numbers	Implementation Action and Description
OS.3.0.1 OS.3.1.1 OS.3.2.1 OS.3.12.2 OS.3.13.2 OS.3.15.1 OS.3.16.2 OS.4.1.1 OS.5.1.1 OS.5.2.1 OS.5.3.1 OS.6.1.4 OS.6.2.4 OS.6.4.3 OS.6.5.3 OS.6.6.4 OS.7.1.1 OS.8.7.1	<ul style="list-style-type: none"> – Formation of Special Assessment District – Issuance of General Obligation Bonds • Partnership with local or national land trusts for initial acquisition of property, with long term strategy for transfer of ownership to the City • Development of Transfer of Development Rights Program • Long-term easements • Conservation Easements or similar restrictive deeds • Development and Land Use Regulation • Preferential tax assessment programs. <p>The Open Space Plan should also include a Comprehensive Funding Plan as well as a prioritized Implementation Plan.</p>
OS.2.7.2 OS.2.8.1 OS.3.12.3 OS.3.13.3 OS.3.14.1 OS.3.16.3 OS.5.1.2 OS.5.2.2 OS.7.1.2	<p>Open Space Management Plans. Open Space Management Plans should be developed for all open space lands. Management Plans should address:</p> <ul style="list-style-type: none"> • Public Access Guidelines/Use Controls • Recreation Guidelines • Habitat and Native Plants • Grazing and agricultural uses • Forestry • Health and Safety Hazards • User conflicts • Adjacent Private Property Issues • Scenic viewsheds • Water quality and watercourse preservation • Support Facilities/Amenities • Maintenance
OS.1.2.1 OS.1.3.1 OS.3.6.1	<p>Consultation on Fish and Wildlife Impacts. The City will continue to notify and consult with the California Department of Fish and Game and the Army Corps of Engineers when development projects are proposed in locations where there may be impacts to fish and wildlife and their habitats.</p>
OS.1.1.4 OS.1.2.2 OS.1.3.2	<p>Resource Protection. Protect sensitive biological resources and habitat corridors through environmental review of development applications in compliance with CEQA provisions, participation in comprehensive habitat management programs with other local and resource agencies, and continued acquisition and management of open space lands that provide for permanent protection of important natural habitats.</p>
OS.1.1.5 OS.1.9.2	<p>Restoration Objectives. Where reasonably possible, restore lost or damaged habitat. Support restoration objectives for local habitat types identified in regional environmental planning documents.</p>

NATURAL RESOURCES AND OPEN SPACE

Policy Numbers	Implementation Action and Description
OS.1.4.1	<p>Wetland Data. Require development proponents to submit detailed assessments of sites with wetlands pursuant to CEQA and to demonstrate compliance with State and Federal regulations. Assessments shall be conducted by a qualified professional to determine wetland boundaries and the presence of sensitive resources including endangered and special status species and their habitat, to assess the potential impacts, and to identify measures for protecting the resource and surrounding buffer habitat. Assessments will delineate and map waters of the U.S., wetlands, open-water habitats, and upland habitats and will make recommendations for avoidance. Wetlands and waters of the U.S. shall be identified in delineations approved by the U.S. Army Corps of Engineers.</p>
OS.1..4.2	<p>Wetland Avoidance. Restrict or modify proposed development in areas that contain wetlands, as defined by U.S. Army Corps of Engineers delineations, as necessary to ensure the continued health and survival of special status species and sensitive areas. Development projects shall preferably be modified to avoid impacts on sensitive resources, or to adequately mitigate impacts by providing on-site replacement or (as a lowest priority) off-site replacement at a higher ratio.</p>
OS.1.4.3	<p>Wetland Permits. The City shall require the project proponent to obtain all necessary permits pertaining to affected waters of the United States, including wetland habitat and stream channel and pond habitat regulated by the California Department of Fish and Game and/or the San Francisco Bay Regional Water Quality Control Board prior to construction. Grading or other construction activities within streambeds or ponds may require streambed alteration agreements from the California Department of Fish and Game. Discharge of fill into waters of the United States will require a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers and Clean Water Act Section 401 certification from the San Francisco Bay Regional Water Quality Control Board. The permitting process will also require compensation for construction impacts.</p>
OS.1.4.4 OS.1.5.1 OS.3.5.1	<p>Wetland Mitigation. Where complete avoidance of wetlands loss due to filling is not possible, require provision of replacement habitat on-site through restoration and/or habitat creation at a 2:1 ratio, provided that no net loss of wetland acreage, function, and habitat values occurs. Allow restoration of wetlands off-site only when an applicant has demonstrated that no net loss of wetlands would occur and that on-site restoration is not practical or would result in isolated wetlands of extremely limited value. Off-site wetland mitigation preferably will consist of the same habitat type as the wetland area that would be lost.</p>

NATURAL RESOURCES AND OPEN SPACE

Policy Numbers	Implementation Action and Description
OS.1.4.5 OS.1.5.2 OS.2.5.1 OS.3.5.2	<p>Wetlands Mitigation Standards. Amend the zoning ordinance to implement the following wetland mitigation standards:</p> <p>No net losses shall occur in wetland acreage, functions, and values. This should include both direct impacts on wetlands and essential buffers, and consideration of potential indirect effects of development due to changes in available surface water and non-point water quality degradation. Detailed review of the adequacy of a proposed mitigation plan shall be performed as part of environmental review of the proposed development project to allow for a thorough evaluation of both the anticipated loss and replacement acreage, functions and values.</p> <ul style="list-style-type: none"> • Mitigation should be implemented prior to and/or concurrently with the project activity causing the potential adverse impact to minimize any short-term loss and modification to wetlands. • An area of adjacent upland habitat should be protected to provide an adequate buffer for wetland species that require such habitat. Setbacks should provide for minimum filtration functions to intercept sediments and prevent degradation of adjacent wetlands. Flexibility should be included in the criteria based on site constraints and opportunities to ensure the avoidance of sensitive wetlands, and associated resources such as special-status species, and the feasibility of alternative mitigation options for already developed properties. • Minor redevelopment involving less than 25 percent of a structure on a developed parcels that is already filled and at least 50 percent developed may be allowed without any additional buffer, provided that redevelopment occurs away from the wetland and no additional filling occurs. • Mitigation sites should be permanently protected and managed for open space and wildlife habitat purposes. • Restoration of wetlands is preferred to creation of new replacement wetlands, due to the greater likelihood of success. • Mitigation projects should minimize the need for on-going maintenance and operational manipulation (dredging, artificial water level controls, etc.) to ensure long-term success. Self-sustaining projects with minimal maintenance requirements are encouraged. • All plans to mitigate or minimize adverse impacts to wetland environments shall include provisions to monitor the success of the restoration project. The measures taken to avoid adverse impacts may be modified if the original plans prove unsuccessful. • Mitigation must be commensurate with adverse impacts of the wetland alteration and consist of providing similar values and greater wetland acreage than those of the wetland area adversely affected. All restored or created wetlands shall be provided at a minimum 2:1 replacement ratio and shall have the same or increased habitat values as the wetland proposed to be destroyed.
OS.1.4.6 OS.1.6.1	<p>Drainage Management. As part of the review of discretionary applications, identify the overlapping governmental jurisdictions of existing marsh and tidal areas, including flood flow management areas, and design management approaches that limit maintenance requirements by integrating effective natural components of tidal and drainage systems.</p>
OS.1.4.7	<p>Restore Waterway Function. Restore waterways' natural functions as occasion permits. Keep drainageways open and daylight culverted drainageways whenever possible.</p>
OS.1.4.8 OS.1.7.1	<p>Wetlands access. Design public access to avoid or minimize disturbance to wetlands, necessary buffer areas, and associated wildlife habitat, while facilitating public use, enjoyment, and appreciation of wetlands.</p>

NATURAL RESOURCES AND OPEN SPACE

Policy Numbers	Implementation Action and Description
OS.2.0.2	<p>Heritage Tree Program. The City shall develop a Heritage Tree Program prepare a list of trees that - because of their age, size, type, historical association or horticultural value - are of special importance to the City. Upon recommendation, the City Council may designate a tree as a Heritage Tree provided the tree's health, aerial space, and open ground area for the root system have been certified as sufficient. No tree on private property can be designated without the consent of the property owner. The ordinance further states that it is unlawful for any person, without a prior written permit from the City, to remove, destroy, cut, prune, break or injure any Heritage Tree. No Heritage Tree can be removed without the consent of the City Council.</p>
OS.2.0.3 OS.2.2.1	<p>Invasive Species Removal. Work with public and private landowners to make attempts to contain and prevent the spread of highly invasive and noxious weeds.</p>
OS.2.0.4 OS.2.2.2 OS.2.3.1	<p>Landscape Plans. Prepare lists of appropriate native landscape species and inappropriate invasive exotic species for use by property owners in developing landscape plans or enhancing existing landscaping, and include in the Design Guidelines. Prepare the lists with input from the California Department of Fish and Game, Agricultural Commissioner, University of California Cooperative Extension, California Native Plant Society, and other appropriate sources to verify suitability.</p>
OS.2.0.5 OS.2.2.3 OS.2.3.2	<p>Landscaping Requirements. As part of the discretionary review of proposed development prohibit the use of highly invasive species in landscaping and require the removal of invasive exotic species. Encourage use of native or compatible nonnative plant species indigenous to the site vicinity as part of the discretionary review of project landscaping. Additionally, require that landscaping improvements for community parks, trails, and other public areas include the use of native plant materials and species that recognize and enhance the natural resource setting of the City.</p>
OS.1.8.2 OS.2.4.2 OS.3.4.1	<p>Creek Setbacks. The City will maintain creek setbacks to include an appropriate separation from the physical top of bank, the appropriate floodway, native riparian plants or wildlife habitat. In addition creek/river setbacks should be consistent with the following:</p> <p>The following items would be at least 100 feet from a wetland, creek, or riparian habitat: buildings, streets, driveways, parking lots, above-ground utilities, and outdoor commercial storage or work area.</p> <p>Development approvals should respect the separation from creek/river banks and protection of floodways and natural features.</p> <p>Features which normally would be outside the creek/river setback may be permitted to encroach where there is no practical alternative, to allow reasonable development of a parcel, consistent with the Conservation and Open Space Element.</p>
OS.1.9.3 OS.2.4.3	<p>Riparian Habitat Restoration. The City will develop a plan to encourage the restoration and enhancement of the riparian corridor along the Pinole Creek. The plan will identify and prioritize areas in need of restoration to restore the function of the riparian corridor as viable wetlands, ecosystems and habitat for resident and migratory wildlife..</p>
OS.3.6.2 OS.3.9.1	<p>Environmental Assessment. Require applicants to provide an environmental assessment in compliance with CEQA provisions for development proposed on sites that may contain sensitive biological or wetland resources. Require the assessment to be conducted by a qualified professional to determine the presence of any sensitive resources, to assess the potential impacts, and to identify measures for protecting the resource and surrounding habitat.</p>
OS.1.8.3 OS.3.3.1 OS.3.5.3 OS.3.6.3	<p>Development Limitations. Amend the Zoning Ordinance to establish specific development limitations on land uses that may occur adjacent to habitats with sensitive biological or wetlands resources. Limitations may include restrictions on the amount of impervious surfaces or building construction within a specified distance from the sensitive habitat area, requirements for vegetative screening, and only allowing land uses that minimize noise or lighting disturbances.</p>

NATURAL RESOURCES AND OPEN SPACE

Policy Numbers	Implementation Action and Description
OS.1.8.4 OS.3.3.2 OS.3.5.4 OS.3.6.4 OS.3.8.1	Limit Impacts. As part of the development review process, restrict or modify proposed development in areas that contain essential habitat for special-status species, sensitive natural communities or wetlands as necessary to ensure the continued health and survival of these species and sensitive areas. Development projects preferably shall be modified to avoid impacts on sensitive resources, or impacts shall be mitigated by providing on-site or (as a lowest priority) off-site replacement.
OS.3.6.5	Environmental Review. Continue to require environmental review of development applications pursuant to CEQA to assess the impact of proposed development on species and habitat diversity, particularly special-status species, sensitive natural communities, wetlands, and habitat connectivity. Require adequate mitigation measures for ensuring the protection of sensitive resources and achieving "no net loss" of sensitive habitat acreage, values and function.
OS.1.2.3 OS.1.3.3 OS.3.6.6 OS.3.8.2	Early Agency Consultation. Require early consultation with all trustee agencies and agencies with review authority pursuant to CEQA for projects in areas supporting special-status species, sensitive natural communities or wetlands that may be adversely affected by development.
OS.3.10.1	Protect Biodiversity. Protect areas known to support a high degree of biological diversity and that may contain species known to be rare or protected under the State or Federal Endangered Species Acts. These include the City's tidal wetlands, freshwater wetlands and riparian forest. Include standards in the updated Zoning Ordinance limiting development within these areas, and limiting public access to particularly sensitive habitats that contain species known to be rare or protected.
OS.3.11.2 OS.5.2.3	Informational Signage. Establish interpretive and informational signage in marsh and tidal land areas that encourages low-impact, passive recreational and educational uses.
OS.8.1.1 OS.8.8.1	Water Resource Management Coordination. Collaborate with local, regional and state water suppliers and water resource managers to comprehensively plan for ensuring a sustainable water supply.
OS.8.1.2 OS.8.8.2	Water Resource Consideration in Other Planning Efforts. Coordinate water resource management planning with other conservation planning efforts, such as open space and park planning, and creek restoration.
OS.8.2.1	Reclaimed Water Infrastructure. Work with the East Bay Municipal Water District to create a master plan for reclaimed water infrastructure (a "purple pipe" system) in Pinole.
OS.8.2.2 OS.8.8.3	Funding for Water Conservation. Seek funding to develop a water conservation program to collect baseline data and provide education and outreach and strategic direction for water conservation.
OS.8.2.3 OS.8.8.4	Wastewater Reuse. Coordinate with wastewater system operators to identify and implement programs for the reuse of treated wastewater, particularly in landscaping and public facilities.
OS.8.2.4	Reclaimed Water In-lieu Fee. Require development to install infrastructure to transport existing or future supplies of reclaimed water ("purple pipe") or pay an in-lieu fee equal to the cost of installation, to be used toward the implementation of the Citywide system.
OS.8.3.1	Low Impact Development Ordinance. Amend the Zoning Ordinance to establish LID development standards.
OS.8.4.1	Groundwater Recharge Opportunities. Identify opportunities to combine groundwater recharge with habitat protection and recreational land uses, as part of other conservation planning efforts such as open space and park planning and creek restoration.
OS.8.5.1	Groundwater Quality Protection. Require appropriately designated filters adjacent to all manmade storm drainage channels.

NATURAL RESOURCES AND OPEN SPACE

Policy Numbers	Implementation Action and Description
OS.8.6.1	Water Pollution Prevention. Employ pollution prevention techniques in all City operations and maintenance activities, consistent with Contra Costa County Clean Water Program regulations.

NATURAL RESOURCES AND OPEN SPACE

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NATURAL RESOURCES AND OPEN SPACE

VISION STATEMENT

Pinole has set a major goal to preserve, enhance and strengthen natural resources and open space.

~~Natural resources will be reflected in the built~~ ~~The built environment will be sensitive and complementary to Pinole's natural resources, environment and in the surrounding open space areas.~~ ~~Ridgelines, creek corridors, trees, open space areas, and the bayfront will enhance the City's community character and quality of life.~~

45).

Open space land is any parcel or area of land or water which is essentially unimproved and devoted to an open space use... and which is designated on a local, regional or state open space plan as: (1) Open space for the preservation of natural resources, (2) Open space used for the managed production of resources. (3) Open space for outdoor recreation, or (4) Open space for public health and safety...

INTRODUCTION

Natural resources and open space areas within Pinole provide the opportunity for humans to interact with nature in an urban setting. Ensuring appropriate management and protection of the City's numerous natural resources, including biological, water, and visual resources, will positively contribute to Pinole's environmental health and quality of life for residents. This element provides the framework within which the City will manage existing natural resources and open spaces to ensure long-term sustainability while exploring new opportunities for conservation and preservation.

Recreation facilities, Parks and Trails are addressed in the Community Services and Facilities Element (Chapter

The Natural Resources and Open Space Element address issues of open space preservation and natural resource conservation

PURPOSE

NATURAL RESOURCES AND OPEN SPACE

The Natural Resources and Open Space Element, a legally required element, is included in this

While it is the Natural Resources and Open Space Element that primarily addresses issues of biological, visual, and water resources, several other Elements, particularly the Sustainability, Land Use and Economic Development, Community Services and Facilities, Health and Safety, Growth Management and Community Character Elements, are also

General Plan to address and establish policies addressing the issues of natural resource conservation and open space preservation within the City limits. Pinole's natural resources and open spaces are some of the City's greatest assets. They serve to strengthen community identity, create a sense of place, and enhance Pinole's quality of life. This Element addresses resource conservation concerns within Pinole, including enhancement of the environment through resource conservation and preservation of biological resources. Policies addressing water and energy conservation are included in the Community Services and Facilities Element. This Element

identifies the need to protect and preserve existing open space and natural recreational areas, the need to maintain those areas and create additional open space and natural recreation areas for the enjoyment of residents and the protection of the environment. It also expresses a vision for the future where "sustainable development"¹ and conservation practices provide for the needs of existing residents and businesses while preserving choices for future generations. Of particular importance to the Pinole Community are the preservation and enhancement of the Pinole Creek and Watershed, access and use of the Shoreline along San Pablo Bay, protection of the ridgelines around Pinole and the addition of a portion of the Bay Trail in Pinole. The goals, policies, and implementation actions in this Element will foster the preservation of Pinole's many valuable natural resources, including wildlife, habitat, water resources, soils, and mineral resources. ~~Fix font spacing in box.~~




ISSUES AND CONSIDERATIONS

NATURAL RESOURCES SETTING

Located on the edge of San Pablo Bay, Pinole's natural resources include the San Pablo Bay shoreline, creeks and ridges. These open spaces provide environmental protection and conservation to numerous biotic resources. While Pinole's open space is dispersed throughout the City, it is also fragmented and discontinuous. A more contiguous system of protected open space and habitat for natural communities is a desirable outcome of this General Plan.



¹ Sustainable development practices refer to the use of architectural and planning methods that address the needs of the present without compromising the ability of future generations to meet their own needs. Specific examples include the use of solar panels for energy conservation, placing jobs near housing to reduce vehicle trips, and infill development in urban areas to reduce the consumption of agricultural land. Policies related to Sustainability are identified with a  symbol.

NATURAL RESOURCES AND OPEN SPACE

PLANT AND ANIMAL HABITAT

The geography and climate of Pinole have resulted in the establishment of numerous distinct habitat types, ranging from tall riparian forest and well established coast live oak-bay forest to open grassland and salt marsh. A total of 9 habitat types were identified within the site, including annual grasslands, saline emergent wetlands (salt marsh), coastal oak woodland, and coastal scrub (see **Figure 78.1**). In addition, several potential habitat types for special status species have been assessed within the site. The Characteristics of these observed plant and animal habitats can be found in the Background Report. The acreages of habitat types mapped within the City are detailed in **Table 78.1**.

Comment [c1]: Go through element and make references to trail map as goal in Comm. Services. Also map of city limits with open water acreage on Figure 7.0.1

View of Pinole Creek

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NATURAL RESOURCES AND OPEN SPACE

Figure 78.1 Habitat Map

Comment [c2]: Sub-committee comment: Pinole Creek by PVSC should have riparian forest. Ex: footbridge, bowling alley, etc. Consulting with PMC Biologist on this.

NATURAL RESOURCES AND OPEN SPACE

Figure 87.1, page 2

NATURAL RESOURCES AND OPEN SPACE

Table 78.1
Existing Habitats Found within the City of Pinole

Habitats Mapped In the City of Pinole	Acreage of Each Habitat Type Mapped in the City of Pinole (acres)
Annual Grassland	716.71
Saline Emergent Wetland (Salt Marsh)	9.69
Estuarine (Tidal Flats)	57.87
Coastal Scrub	9.52
Coastal Oak Woodland	498.76
Perennial Creek (Pinole Creek)	31.96
Open Water (San Pablo Bay Conservation Area)	157.22
Urban	1,964.61
Total Acreage Delineated	3,489.55 acres

Source: PMC, Baseline Biological Report, 2006

Soils Resources

There are 23 mapped soil series within the City of Pinole. These soil units can be seen in and the map presented as **Figure 78.32**. The soils themselves are described in the Background Report.

OPEN SPACE SETTING

Open spaces, trails, and natural resources provide active and passive recreation opportunities for residents and visitors. Providing a protected open space network for the future of Pinole is a cornerstone of sustainable community development. Pinole's existing open spaces include lands held by the City of Pinole as parkland and trails, and lands help by the East Bay Regional Park District as regional parklands. These lands provide City residents with an array of recreational opportunities, complemented by City-owned and maintained neighborhood parks.

The City is poised to grow its open space system. At this time, a study of potential future land acquisitions has not been undertaken. Strategic open space planning will be necessary for identify opportunities for open space system expansion.

Please refer to **Chapter 4: the Community Services and Facilities Element (Chapter 5)** for a full discussion on parks, trails and recreational facilities.



Part of the Bay Trail in Pinole

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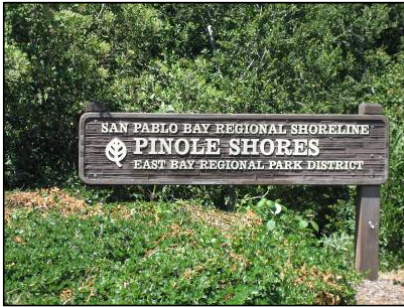
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NATURAL RESOURCES AND OPEN SPACE

Existing Open Space

Residents of Pinole benefit from substantial open space and natural resources in various forms of ownership. The City itself has large holdings, while other parcels are held by homeowners associations, the West Contra Costa Unified School District, and the Contra Costa County Flood Control District, EBMUD, as well as private landowners. There is also an extensive array of regional open space lands in and adjacent to the City. These, combined with marsh and wetland sites along the Bay frontage add to the availability of recreational open space in Pinole.

Despite the abundance of parks and open space in and adjacent to the City, the current system is fragmented and does not function as an integrated community-wide open space and recreation system or contiguous wildlife habitat. Policies contained in this Plan provide an organizing framework for Pinole's open space resources.



Regional Open Space Preserves

City-Owned Unimproved Parkland

Residents in Pinole use existing open space areas to walk, appreciate the area's natural beauty, hike, bird-watch, jog, and to socialize with friends.² There are several unimproved open public space areas in the City of Pinole. These preserves cover approximately

19.5 acres in the City limits (see **Table 78.2**).

Table 78.2
Unimproved Open Public Space Areas in Pinole

Open Space Area	Location	Size of Area (acres)	Description
Hugh Young Park	3760 Victor Street	1	Undeveloped open public area.
Sarah Drive Park	1850 Sarah Drive	11	Natural habitat for deer and wildlife; undeveloped open public area.
View Park	2021 Henry Avenue	2.5	Walking trail up to reservoir; undeveloped open public area.
Amber Swartz Park	3450 Savage Avenue	5	Undeveloped open space parcel; gazebo and walking path to Pinole Valley Park
TOTAL AREA		19.5	

Source: City of Pinole Recreation Department, February 2009

Additional land has been preserved in Pinole Valley Park and the Crown Ridge Subdivision (Marsten Ranch).

² June, 2007 General Plan Update Survey for Pinole Parks and Open Space.

NATURAL RESOURCES AND OPEN SPACE

The Fire and Public Works Departments are responsible for the maintenance of open space and parks in Pinole. The Fire Department's maintenance responsibilities and costs for any City-owned open space includes fire prevention, weed control, litter and safety patrol, and cleaning of drains and culverts. The Public Works Department is responsible for the maintenance of other open space facilities. The City considers long-term expenses when priorities are set for acquiring land and developing recreational facilities.

Comment [c3]: Make this agree with the changes talked about in the BG Report.

NATURAL RESOURCES AND OPEN SPACE

Figure 7.2 Recorded Occurrence of Special-Status Species within the City of Pinole

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Figure 7.2, page 2

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Figure [78.32](#): Soils Map

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Figure 78.32, page 2

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The Recreation and Facility Master Plan identifies three park categories, including undeveloped parks. Undeveloped parks are defined as open space with no amenities. The Recreation Park and Facility Master Plan does not provide standards, guidelines or management plans for the undeveloped parks. Without standards, guidelines or management plans for undeveloped parks, Pinole's City-owned open spaces may not be permanently protected. Additionally, the lack of management plans makes it difficult for the City to appropriately balance the competing needs of natural resources, people and varying recreational uses in open spaces. Policies contained in this element provide a framework for beginning to protect open spaces independent of other City park lands, and balance the needs of habitat *and* people on open space lands.

City-Owned North West Region of the East Bay Regional Park District Marshes and Wetlands (does not show any city owned marshes or wetlands).

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(Source: <http://www.ebparks.org/parks#se> accessed 2/16/09)

NATURAL RESOURCES AND OPEN SPACE

Regional and Local Trails

City of Pinole Trails

Residents in Pinole use the City's trails to run, bike, walk, and to find solitude. The City of Pinole Recreation Department maintains both regional and local pedestrian and hiking trails for recreational use by residents and visitors. Pinole's paved pedestrian trails include:

- Pinole Creek Trail (from I-80 to Bayfront Park);
- Portions of the Bay Trail (1/6 of a mile) located at the end of Pinole Shores Drive;
- (1/4 of a mile) around Bayfront Park; and
- Sarah Drive Trail (1/6 of a mile) leading to Hoke Court and Stewart Elementary School.



The City of Pinole Recreation Department does not maintain an inventory of trails in unimproved parks. ~~The Parks and Recreation Department plans to conduct research on all types of trails and their feasibility to be included in the City's list. The City anticipates the end product to be a brief list and description of trails with an overview map and directions to each trail. Verify that this is still true. As of January 2009, the~~ Recreation Department ~~is continuing to assess trail resources in the City does not currently have a trail map.~~



Trails, including the San Francisco Bay Trail, are discussed further in the Circulation Element, (Chapter [56](#)) and the Sustainability Element (Chapter [109](#))

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VISUAL RESOURCES

The diverse open space system in Pinole contributes to the community's unique visual qualities. The City's San Pablo Bay shoreline, creeks (particularly Pinole Creek), ridgelines and other areas, as well as the historic qualities of Old Town, are focal points recognizable from many locations in the City. Preservation of existing and future open space areas will ensure the continuation of the City's unique visual qualities.

~~Chapter 10: The~~ -Community Character [Element \(Chapter 3\)](#) discusses built visual resources in Pinole and their contribution to the community's character.

ISSUES THIS ELEMENT ATTEMPTS TO SOLVE-ADDRESS ~~(GLOBAL CHANGE)~~

During public workshops and discussions with the Steering Committee and City Staff, ~~the goals, policies,~~ many issues were raised regarding Natural Resources and Open Space. The ~~goals, policies and implementation actions in this Element attempt to address and solve~~ these issues.

NATURAL RESOURCES AND OPEN SPACE

- Existing public access to Pinole Creek and the Shoreline is limited. Efforts to restore Pinole Creek, implement the Bay Water Trail launch and the San Francisco Bay Trail will help to maximize recreational opportunities in Pinole's natural areas.
- Long-term strategic protection of resources, including additional open spaces, is needed to ensure that Pinole's high quality of life is maintained. Additional coordination with regional and state-wide conservation organizations and agencies is needed to ensure long-term protection.
- ~~The Pinole Creek Restoration project provides plans for Opportunities needed for~~ riparian habitat protection and restoration ~~should build on the foundation provided by the Pinole Creek Restoration project. Re-phrase.~~ —Cooperation with other agencies [and organizations](#) will be needed to accomplish creek restoration goals. [Additional opportunities for riparian habitat protection and restoration should be explored and implemented.](#)
- Existing creek and bayshore setbacks (100 feet from bayshore and 50 feet from creek) need to be expanded to protect and mitigate against the impact of new development near sensitive resources.
- Ridgelines are currently threatened and should be protected from development so they may serve the residents of Pinole as recreational and open space resources, community ~~separators~~ [buffers](#) and visual resources.
- Pinole's wetlands are threatened by impacts from development and loss of wetlands areas.
- Open space areas are challenged by lack of adequate funding to assure that facilities are properly maintained.
- Passive and active recreation needs should be addressed in open space areas.

GOALS, POLICIES, AND IMPLEMENTATION ACTIONS

The goals of this element are as follows and are listed subsequently with corresponding policies and implementation actions.

GOALS

- Goal OS1: Preserve natural resources.
- Goal OS2: Sustain and enhance natural communities.
- Goal OS3: Protect, preserve, and restore open spaces.
- Goal OS4: A network of trails linking open spaces and providing opportunities for recreation.
- Goal OS5: Community stewardship of open spaces.

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- Goal OS6: Protection of visual resources.
- Goal OS7: Adequate funding for open space preservation and stewardship.
- Goal OS8: Excellent Water Quality and Secure Water Supply for Human and Natural Communities.

POLICIES AND IMPLEMENTATION ACTIONS*

*See Table ~~X-8.3~~ (Implementation Actions) on page ~~78~~.0-27 for detailed description of each implementation action.

GOAL OS1 Preserve natural resources

POLICY OS1.1 Habitat Preservation. The City shall protect and preserve open space and natural areas. Preserve oak/woodland, riparian vegetation, creeks, fisheries, saltwater and freshwater marsh, native bunchgrass grasslands, wildlife corridors and sensitive nesting sites. Loss of these habitats should be fully offset through creation of habitat of equal value. Compensation rate for habitat re-creation shall be determined by a qualified biologist.

Action OS.1.1.1 Habitat Protection Ordinance.

Action OS.1.1.2 Riparian and Stream Restoration Programs.

Action OS.1.1.3 Open Space Plan.

Action OS.1.1.4 Resource Protection

Action OS.1.1.5 Restoration Objectives

POLICY OS1.2 Agency Cooperation. Work in cooperation with Federal, State and local regulatory and trustee agencies to promote the long-term sustainability of local natural resources.

Action OS.1.2.1 Consultation on Fish and Wildlife Impacts

Action OS.1.2.2 Resource Protection










Action OS.1.2.3 Early Agency Consultation

POLICY OS 1.3 Hillside and Ridgelines. Retain sensitive hillside and ridgeline habitat [as shown in the Land Use and Economic Development Element in Figure 4.7](#).

Action OS.1.3.1 Consultation on Fish and Wildlife Impacts

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NATURAL RESOURCES AND OPEN SPACE

-  **Action OS.1.3.2** Resource Protection
- Action OS.1.3.3** Early Agency Consultation
-  **POLICY OS1.4** Protect Wetlands. Protect wetlands through careful environmental review of proposed development applications. The City shall recognize the U.S. Army Corps of Engineers as the designated permitting agency that regulates wetlands.
- Action OS.1.4.1** Wetland Data
- Action OS.1.4.2** Wetland Avoidance
- Action OS.1.4.3** Wetland Permits
-  **Action OS.1.4.4** Wetland Mitigation
- Action OS.1.4.5** Wetlands Mitigation Standards
- Action OS.1.4.6** Drainage Management
- Action OS.1.4.7** Restore Waterway Function
-  **Action OS.1.4.8** Wetlands access
-  **POLICY OS1.5** Wetland Mitigation. Establish and implement criteria to mitigate wetland losses to ensure there is a no net loss of wetlands in a regional context in accordance with the U.S. Army Corps of Engineers.
-  **Action OS.1.5.1** Wetland Mitigation
- Action OS.1.5.2** Wetlands Mitigation Standards
- POLICY OS1.6** Integrated Management. Work toward integrated management of tidal areas and drainages within the City limits.
- Action OS.1.6.1** Drainage Management
-  **POLICY OS1.7** Access to Wetlands. Provide appropriate access to wetlands.
-  **Action OS.1.7.1** Wetlands access
-  **POLICY OS1.8** Transitional Zones. The City will condition or modify development approvals to ensure that natural transitions along the edges of different habitat types are preserved and enhanced because of their importance to wildlife. Maintain proper buffers between sensitive habitat and conflicting land uses. Habitat

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types of particular concern are those along the margins of riparian corridors, marshlands, and oak woodlands. Preserves and areas with special conservation status must have compatible surrounding land uses.

-  **Action OS.1.8.1** Habitat Protection Ordinance
-  **Action OS.1.8.2** Creek Setbacks
-  **Action OS.1.8.3** Development Limitations
-  **Action OS.1.8.4** Limit Impacts

-  **POLICY OS1.9** Habitat Restoration. The City shall implement a re-vegetation plan which aims to identify and prioritize areas planned for habitat restoration. Areas planned for restoration may provide special-status species habitat, connectivity of wildlife corridors, transitional zones in between natural areas and incompatible land uses, or expansion of ecological functions such as flood management and water quality.

-  **Action OS.1.9.1** Habitat Protection Ordinance
- Action OS.1.9.2** Restoration Objectives
-  **Action OS.1.9.3** Riparian Habitat Restoration
-  **GOAL OS2:** Sustain and enhance natural communities.
-  **POLICY OS2.0** Protection of Native Vegetation. Protect, preserve and create the conditions that will promote the preservation of significant trees and other vegetation, particularly native to California and the region.

-  **Action OS.2.0.1** Tree Preservation Ordinance
-  **Action OS.2.0.2** Heritage Tree Program
- Action OS.2.0.3** Invasive Species Removal
- Action OS.2.0.4** Landscape Plans
- Action OS.2.0.5** Landscaping Requirements

- POLICY OS2.1** Noxious Weed Ordinance. The City shall adopt and maintain a Noxious Weed Ordinance. The Noxious Weed Ordinance shall include regulatory standards for construction activities that occur adjacent to natural areas to inhibit the establishment of noxious weeds through accidental seed import.


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POLICY OS2.2 Invasive Species. Develop ordinance to protect against invasive species. Replace invasive, non-native vegetation with native vegetation. The City and private development will protect and enhance habitat by removing invasive, non-native vegetation that detracts from habitat values and be replanting it with native California plant species.

Action OS.2.2.1 Invasive Species Removal

Action OS.2.2.2 Landscape Plans


Action OS.2.2.3 Landscaping Requirements


 **POLICY OS2.3** Landscape Plans. New development should incorporate native vegetation into landscape plans and discourage the use of invasive, non-native plant species.

Action OS.2.3.1 Landscape Plans

Action OS.2.3.2 Landscaping Requirements


Riparian Areas

 **POLICY OS2.4** Riparian Areas and Creek Setbacks. Lands adjacent to riparian areas should be protected as public or private permanent open space through dedication or easements. Require new development adjacent to creeks and major drainages to provide adequate building setbacks from creek banks, provision of access ~~of~~ easements for creek maintenance purposes, and creek improvements such as bank stabilization. Riparian vegetation outside the setback should also be protected. Until such time as Program OS1-1 (Habitat Protection Ordinance) is completed, creeks and major drainages include: (1) Pinole Creek (2) Catty Creek (3) Duncan Canyon/Cole Creek; (4) Shady Draw; (5) Faria Creek and (6) Roble Creek.

 **Action OS.2.4.1** Riparian and Stream Restoration Programs

 **Action OS.2.4.2** Creek Setbacks

 **Action OS.2.4.3** Riparian Habitat Restoration

 **POLICY OS2.5** Riparian Mitigation. Impacts to riparian habitats should be mitigated at a no net loss of existing function and value based on field survey and analysis of the riparian habitat to be impacted. No net loss may be accomplished by avoidance of the habitat, restoration of existing habitat, or creation of new habitat, or through some combination of the above.

Action OS.2.5.1 Wetlands Mitigation Standards

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- POLICY OS2.6 Integrated Creek Management. The City will encourage and cooperate with Contra Costa County and other responsible agencies to plan and implement an integrated management plan for the long-term conservation and restoration of the riparian corridor along the Pinole Creek

Wildlife Corridors

- POLICY OS2.7 Maintain and Improve Wildlife Movement Corridors. Continuous wildlife habitat, including corridors free of human disruption, shall be preserved and where necessary created by interconnecting open spaces, wildlife habitat and corridors.

- ACTION OS.2.7.1 Open Space Plan

- ACTION OS.2.7.2 Open Space Management Plans

- POLICY OS2.8 Wildlife Movement Corridor Mitigation. The City will condition development permits in accordance with applicable mitigation measures to ensure that important corridors for wildlife movement and dispersal are protected. Features of particular importance to wildlife include riparian corridors, wetlands, bay shorelines, and protected natural areas with cover and water. Linkages and corridors shall be provided to maintain connections between habitat areas.

- ACTION OS.2.8.1 Open Space Management Plans

- POLICY OS2.9 Continuous Wildlife Habitat. Continuous wildlife habitat, including corridors free of human disruption, shall be preserved and where necessary, created by interconnecting open spaces, wildlife habitat and corridors. The City shall encourage creation of habitat preserves that are immediately adjacent to each other in order to provide interconnected open space areas for wildlife movement.





- ACTION OS.2.9.1 Open Space Plan

- GOAL OS3: Protect, preserve, and restore open spaces.

- POLICY OS3.0 Continuous Open Space Planning. Plan for connectivity of open spaces and wildlife habitat and corridors using species area plans, neighborhood plans, subdivision maps or other applicable planning processes, consistent with Open Space Guidelines.

- ACTION OS.3.0.1 Open Space Plan

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-  **POLICY OS3.1** Regional Planning. Coordinate with Contra Costa County and adjoining jurisdictions, federal and state agencies to assure regional connectivity of open space and wildlife corridors.
-  **Action OS.3.1.1** Open Space Plan
-  **POLICY OS3.2** Cluster Development. Encourage cluster development and other creative site planning techniques to preserve open space, trails and visual, habitat, recreation and archaeological resources.
-  **Action OS.3.2.1** Open Space Plan
-  **POLICY OS3.3** Conserve Sensitive Resources. The City shall ~~adopt policies to~~ conserve and enhance the City's biological resources in a manner which facilitates orderly development and reflects the sensitivities and constraints of these resources. The City shall direct development away from "sensitive biological resource" areas, unless effective mitigation measures can be implemented.
-  **Action OS.3.3.1** Development Limitations
-  **Action OS.3.3.2** Limit Impacts
-  **POLICY OS3.4** Buffers for Sensitive Resources. When activities close to open space resources within or outside the urban area could harm these resources, the City will require buffers between the activities and the resources. The City will actively encourage individuals, organizations and other agencies to follow this policy. Buffers associated with new development shall be on the site of the development, rather than on neighboring land containing the open space resource. Buffers provide distance in the form of setbacks, within which certain features or activities are not allowed or conditionally allowed. Buffers shall also use techniques such as planting and wildlife-compatible fencing. Buffers shall be adequate for the most sensitive species in the protected area, as determined by a qualified professional and shall complement the protected area's habitat values. Buffers shall be required in the following situations:
- Between urban development – including parks and public facilities – and natural habitat such as creeks, wetlands, rocky outcrops and grassland features to address noise, lighting, storm runoff, spread of invasive, non-native species, and access by people and pets.
 - Between agricultural operations and natural habitat, to address noise, chemical use, sediment transport, and livestock access.
- Action OS.3.4.1** Creek Setbacks

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- POLICY OS3.5 Minimize Environmental Impacts. Encourage development patterns which minimize impacts on the City's biological, visual, and cultural resources, and integrate development with open space areas.



A trail in Pinole

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- Action OS.3.5.1 Wetlands Mitigation
- Action OS.3.5.2 Wetlands Mitigation Standards
- Action OS.3.5.3 Development Limitations
- Action OS.3.5.4 Limit Impacts

- POLICY OS3.6 Preserve Natural Features. Retain sensitive habitat areas in their natural state, where possible, and protect from inappropriate development and landscaping. New development shall incorporate natural features present on the site such as a creek, steep topography or natural vegetation, where feasible, unless appropriate mitigation measures can be incorporated.

- Action OS.3.6.1 Consultation on Fish and Wildlife Impacts

- Action OS.3.6.2 Environmental Assessment

- Action OS.3.6.3 Development Limitations

- Action OS.3.6.4 Limit Impacts

- Action OS.3.6.5 Environmental Review

- Action OS.3.6.6 Early Agency Consultation

- POLICY OS3.8 Protect Listed and Non-listed Special-status Species. Limit development in areas which support special-status species. If development of these areas must occur, any loss of habitat should be fully compensated on-site. If off-mitigation is necessary, it should occur within the Pinole planning area whenever possible, and must be accompanied by plans and a monitoring program prepared by a qualified biologist.

- Action OS.3.8.1 Limit Impacts

- Action OS.3.8.2 Early Agency Consultation

- POLICY OS3.9 Biological Resource Evaluation. The City shall require a biological resources evaluation for private and public development projects in areas identified to

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contain or possibly contain listed plant and/or wildlife species based upon the City's biological resource mapping provided in the General Plan EIR or other technical materials. This evaluation shall be conducted prior to the authorization of any ground disturbance.

Action OS.3.9.1 Environmental Assessment

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POLICY OS3.10 ~~_____~~ Mitigation for Special-status Species. For those areas in which special-status species are found or likely to occur or where the presence of species can be reasonably inferred, the City shall require mitigation of impacts to those species. Mitigation shall be designed by the City in coordination with the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG), and shall emphasize a multi-species approach to the maximum extent feasible. This may include development or participation in a habitat conservation plan.


Action OS.3.10.1 Protect Biodiversity

Education

POLICY OS3.11 Environmental Education. Promote community involvement with development of increased environmental awareness and encourage the development of public environmental education through signage, school programs, restoration and clean-up workdays, and events.

Action OS.3.11.1 Environmental Education Programs


Action OS.3.11.2 Informational Signage

 **POLICY OS3.12** Balance Recreation and Habitat Needs in Open Space. Provide for a variety of recreational activities in open space areas within the City of Pinole while ensuring the protection of important habitat.

Action OS.3.12.1 Environmental Education Programs

 **Action OS.3.12.2** Open Space Plan


Action OS.3.12.3 Open Space Management Plans

 **POLICY OS3.13** Public Use and Access to Open Space. Clearly delineate public access areas from those areas to be protected from human disturbance through adequate signage and enforcement of regulations.

Action OS.3.13.1 Environmental Education Programs

 **Action OS.3.13.2** Open Space Plan

Action OS.3.13.3 Open Space Management Plans

 **POLICY OS3.14** Open Space Preservation and Management. Maintain and effectively manage an integrated pattern of open space areas.

Action OS.3.14.1 Open Space Management Plans

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- **POLICY OS3.15** Open Space Plan. Develop plan for preservation of natural resources, visual resources, and for recreational use the open space areas.
- **Action OS.3.15.1** Open Space Plan
- **POLICY OS3.16** Preservation through the Development Review Process. Maximize open space preservation through the private development review process and other approaches that minimize ongoing City costs and liability exposure and still achieve City open space goals.
- **Action OS.3.16.1** Habitat Protection Ordinance
- **Action OS.3.16.2** Open Space Plan
- **Action OS.3.16.3** Open Space Management Plans
- **GOAL OS4:** A network of trails linking open spaces and providing opportunities for recreation.
- **POLICY OS4.1** Coordinate with other City-wide and regional trail planning efforts to establish a comprehensive network of trails in Pinole.
- **Action OS.4.1.1** Open Space Plan
- **POLICY OS4.2** The Recreation Department should create a trail map showing all trails in the Pinole community.
- **GOAL OS5** Community stewardship of open spaces.
- **POLICY OS5.1** Encourage community engagement in open space stewardship through strategies outlined in the Open Space Plan.
- **Action OS.5.1.1** Open Space Plan
- **Action OS.5.1.2** Open Space Management Plans
- **POLICY OS5.2** Develop an Interpretive Signage Plan within the Open Space Plan.
- **Action OS.5.2.1** Open Space Plan
- **Action OS.5.2.2** Open Space Management Plans
- **Action OS.5.2.3** Informational Signage.



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POLICY OS5.3 Coordinate with local educational institutions to encourage environmental education using open space lands.

 **Action OS.5.3.1** Open Space Plan

 **GOAL OS6** Protection of visual resources.

POLICY OS6.1 Protect Visual Resources. Enhance the City of Pinole's character by protecting key visual resources.

 **Action OS.6.1.1** Scenic Easements.

 **Action OS.6.1.2** Ridgeline Preservation Ordinance

 **Action OS.6.1.3** Tree Preservation Ordinance

 **Action OS.6.1.4** Open Space Plan

POLICY OS6.2 Scenic Resources. Preserve significant knolls, stands of trees, rock outcrops and ridgelines within the city that further the image of Pinole.

Action OS.6.2.1 Scenic Easements.

 **Action OS.6.2.2** Ridgeline Preservation Ordinance

 **Action OS.6.2.3** Tree Preservation Ordinance


 **Action OS.6.2.4** Open Space Plan

POLICY OS6.3 View Protection. Preserve prominent views of scenic resources and the bay, and consider visual access and view corridors when reviewing development proposals.

Action OS.6.3.1 Scenic Easements.














 **Action OS.6.3.2** Ridgeline Preservation Ordinance

Action OS.6.3.3 Critical Public Views and Ridgelines

 **POLICY OS6.4** Open Space Separators. Maintain a continuous open space separator between Pinole and the cities of Hercules (Pinole Ridge), and El Sobrante/Richmond (El Sobrante Ridge).


Action OS.6.4.1 Scenic Easements.


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-  **Action OS.6.4.2** Ridgeline Preservation Ordinance
-  **Action OS.6.4.3** Open Space Plan
-  **POLICY OS6.5** Major and Minor Ridgelines. Preserve major and minor ridgelines. Where possible, properties shall provide for a ridgeline setback of 400 feet horizontally from major ridgelines, 100 feet from minor ridgelines and a vertical setback of 100 feet from both.
- Action OS.6.5.1** Scenic Easements.
-  **Action OS.6.5.2** Ridgeline Preservation Ordinance
-  **Action OS.6.5.3** Open Space Plan
-  **POLICY OS6.6** Ridgeline Protection. Natural contours and vegetation on ridgelines should be maintained. Locate and design structures and other public and private improvements so as to minimize cut and fill areas that will impact public views, safety and surrounding uses, and avoid building profiles (silhouettes) being located above the ridgeline when viewed from public streets and designated public access areas.
- Action OS.6.6.1** Scenic Easements.
-  **Action OS.6.6.2** Ridgeline Preservation Ordinance
-  **Action OS.6.6.3** Tree Preservation Ordinance
-  **Action OS.6.6.4** Open Space Plan
-  **GOAL OS7** Adequate funding for open space preservation and stewardship.
- POLICY OS7.1** Funding for Maintenance. Ensure a sustainable open space system through adequate funding for maintenance and management of open space.
-  **Action OS.7.1.1** Open Space Plan
- Action OS.7.1.2** Open Space Management Plans
-  **GOAL OS8** Excellent water quality and secure water supply for human and natural communities.
-  **POLICY OS8.1** Management of Water Use. Manage water sustainably through planning, conservation, reclamation and recycling.


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Action OS.8.1.1 Water Resource Management Coordination

 **Action OS.8.1.2** Water Resource Consideration in other Planning efforts.


 **POLICY OS8.2** Water Conservation. Encourage water conservation and the use of reclaimed water.

 **Action OS.8.2.1** Reclaimed Water Infrastructure


 **Action OS.8.2.2** Funding for Water Conservation.

 **Action OS.8.2.3** Wastewater Reuse


Action OS.8.2.4 Reclaimed Water In-lieu Fee

 **POLICY OS8.3** Low Impact Development. Encourage Low Impact Development (LID) practices in all new development to reduce, treat, infiltrate and manage runoff flows caused by storms, urban runoff and impervious surfaces.


Action OS.8.3.1 Low Impact Development Ordinance

 **POLICY OS8.4** Groundwater Recharge. Encourage natural groundwater recharge and groundwater recharge opportunities, where appropriate.


Action OS.8.4.1 Groundwater Recharge Opportunities

 **POLICY OS8.5** Groundwater Quality. Collaborate with local and regional water resource managers to identify and monitor areas where hazardous waste and other pollutants may negatively impact groundwater quality.


 **Action OS.8.5.1** Groundwater Quality Protection.

 **POLICY OS8.6** Prevent Water Pollution. Take actions to prevent water pollution, consistent with federal and state water policies and standards.

 **Action OS.8.6.1** Water Pollution Prevention



 **POLICY OS8.7** Water for Riparian Communities. Protect water sources for water-dependent species and the health of riparian communities.

 **Action OS.8.7.1** Open Space Plan

 **POLICY OS8.8** Interagency Water Resource Projects. Help implement interagency projects, such as expansion of wastewater treatment capacity, joint development of

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new treatment or distribution infrastructure, water exchanges, and reclaimed water sales.

- Action OS.8.8.1** Water Resource Management Coordination
-  **Action OS.8.8.2** Water Resource Consideration in other Planning efforts.
- Action OS.8.8.3** Funding for Water Conservation.
-  **Action OS.8.8.4** Wastewater Reuse

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NATURAL RESOURCES AND OPEN SPACE IMPLEMENTATION ACTIONS

The table below contains detailed descriptions of each implementation action, referenced above.

Comment [c5]: Cross check policies/goals/actions with table.

Policy Numbers	Implementation Action and Description
OS.1.1.1 OS.1.8.1 OS.1.9.1 OS.3.16.1	Habitat Protection Ordinance. The City shall adopt of a habitat protection ordinance that would identify and protect areas of biological value, including streams, creeks and wetlands. The ordinance would include setbacks from creeks, guidelines for avoidance of filling of creeks or wetlands and destruction of riparian vegetation, standards for compensation of habitat loss (as established by a qualified biologist), and requirements for mitigation, monitoring and habitat enhancement plans. It would also cover implementation and enforcement of specific criteria to ensure that safety, natural resources and aesthetic values of Pinole Creek, other creeks and major drainages are protected and enhanced.
OS.1.1.2 OS.2.4.1	Riparian and Stream Restoration Programs. Establish riparian and stream restoration programs that include erosion control measures, stream clean-up projects, and revegetation plans for denuded areas.
OS.3.11.1 OS.3.12.1 OS.3.13.1	Environmental Education Programs. Establish public information/education programs to enhance public knowledge about environmental protection and conservation measures.
OS.6.1.1 OS.6.2.1 OS.6.3.1 OS.6.4.1 OS.6.5.1 OS.6.6.1	Scenic Easements. Require scenic easements on landforms or parcels with key visual resources that are subject to development. See Land Use and Economic Development Element's Figure 4.7 Resource Zone Map which depicts areas of visual resources.
OS.6.1.2 OS.6.2.2 OS.6.3.2 OS.6.4.2 OS.6.5.2 OS.6.6.2	Ridgeline Preservation Ordinance. Create a ridgeline preservation ordinance which includes an enforcement mechanism
OSIP-6	Street Tree Master Plan. Develop a street tree master plan for major streets. The plan should promote the use of indigenous species and be guided by the concept of interconnected open space in Pinole, linked visually via dense street tree planting. The plan should include special planting at creek crossings and gateways to the city.
OS.2.0.1 OS.6.1.3 OS.6.2.3 OS.6.6.3	Tree Preservation Ordinance. Adopt a tree preservation ordinance that will protect significant trees that are 6 inches in diameter at breast height (DBH) or greater. Significant trees are those making substantial contributions to natural habitat or to the urban landscape due to their species, size, or rarity. Significant trees, particularly native species, shall be protected. Trees with a 6-inch DBH or greater shall be replaced at a ratio of 2:1 (two trees for every one removed). Tree preservation ordinance has been adopted. Reflect this. Implement Pinole tree preservation ordinance.
OS.6.3.3	Critical Public Views and Ridgelines. Require assessment of critical public views and ridgelines as pan of the project review process to assure that projects protect natural resources through proper site planning, building design and landscaping.
OS1.1.3 OS.2.7.1	Open Space Plan. A comprehensive Open Space Plan should be developed. The Open Space Plan will contain strategies to preserve and protect open space which may include:

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Policy Numbers	Implementation Action and Description
OS.2.9.1	• Acquisition of land by Pinole, with funding and/or financing provided by the following mechanisms:
OS.3.0.1	– Formation of Special Assessment District
OS.3.1.1	– Issuance of General Obligation Bonds
OS.3.2.1	• Partnership with local or national land trusts for initial acquisition of property, with long term strategy for transfer of ownership to the City
OS.3.12.2	• Development of Transfer of Development Rights Program
OS.3.13.2	• Development of Transfer of Development Rights Program
OS.3.15.1	• <u>Long term easements What is a long term easement?</u>
OS.3.16.2	• Conservation Easements or similar restrictive deeds
OS.4.1.1	• <u>Land Management Agency to hold and manage easement for preservation of intended use.</u>
OS.5.1.1	– Development and Land Use Regulation
OS.5.2.1	•
OS.5.3.1	• <u>density restrictions</u>
OS.6.1.4	• <u>setback/buffer area requirements</u>
OS.6.2.4	• <u>cluster development together</u>
OS.6.4.3	• Preferential tax assessment programs.
OS.6.5.3	The Open Space Plan should also include a Comprehensive Funding Plan as well as a prioritized Implementation Plan.
OS.6.6.4	
OS.7.1.1	<u>Grant funding</u>
OS.8.7.1	<u>Trails??</u>
	<u>Fill this out more with more detail on mechanisms and plans.</u>
OS.2.7.2	Open Space Management Plans. An Open Space Management Plans should be developed for all open space lands. The Management Plans should address:
OS.2.8.1	
OS.3.12.3	• Public Access Guidelines/Use Controls
OS.3.13.3	• Recreation Guidelines
OS.3.14.1	• Habitat and Native Plants
OS.3.16.3	• Grazing and agricultural uses
OS.5.1.2	• Forestry
OS.5.2.2	• Health and Safety Hazards
OS.7.1.2	• User conflicts
	• Adjacent Private Property Issues
	• Scenic viewsheds
	• Water quality and watercourse preservation
	• Support Facilities/Amenities
	• Maintenance <u>(Turn over to EBRPDMP, if feasible)</u>
	• <u>Done in conjunction with other agencies and organizations.</u>
	• <u>EBMUD partner?</u>
OS.1.2.1	Consultation on Fish and Wildlife Impacts. The City will continue to notify and consult with the California Department of Fish and Game and the Army Corps of Engineers, <u>BCDC and any other trustee agencies</u> when development projects are proposed in locations where there may be impacts to fish and wildlife and their habitats.
OS.1.3.1	
OS.3.6.1	

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NATURAL RESOURCES AND OPEN SPACE

Policy Numbers	Implementation Action and Description
OS.1.1.4 OS.1.2.2 OS.1.3.2	Resource Protection. Protect sensitive biological resources and habitat corridors through environmental review of development applications in compliance with CEQA provisions, participation in comprehensive habitat management programs with other local and resource agencies, and continued acquisition and management of open space lands that provide for permanent protection of important natural habitats.
OS.1.1.5 OS.1.9.2	Restoration Objectives. Where reasonably possible, restore lost or damaged habitat. Support restoration objectives for local habitat types identified in regional environmental planning documents.
OS.1.4.1	Wetland Data. Require development proponents to submit detailed assessments of sites with wetlands pursuant to CEQA and to demonstrate compliance with State and Federal regulations. Assessments shall be conducted by a qualified professional to determine wetland boundaries and the presence of sensitive resources including endangered and special status species and their habitat, to assess the potential impacts, and to identify measures for protecting the resource and surrounding buffer habitat. Assessments will delineate and map waters of the U.S., wetlands, open-water habitats, and upland habitats and will make recommendations for avoidance. Wetlands and waters of the U.S. shall be identified in delineations approved by the U.S. Army Corps of Engineers.
OS.1.4.2	Wetland Avoidance. Restrict or modify proposed development in areas that contain wetlands, as defined by U.S. Army Corps of Engineers delineations, as necessary to ensure the continued health and survival of special status species and sensitive areas. Development projects shall preferably be modified to avoid impacts on sensitive resources, or to adequately mitigate impacts by providing on-site replacement or (as a lowest priority) off-site replacement at a higher ratio.
OS.1.4.3	Wetland Permits. The City shall require the project proponent to obtain all necessary permits pertaining to affected waters of the United States, including wetland habitat and stream channel and pond habitat regulated by the California Department of Fish and Game and/or the San Francisco Bay Regional Water Quality Control Board prior to construction. Grading or other construction activities within streambeds or ponds may require streambed alteration agreements from the California Department of Fish and Game. Discharge of fill into waters of the United States will require a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers and Clean Water Act Section 401 certification from the San Francisco Bay Regional Water Quality Control Board. The permitting process will also require compensation for construction impacts.
OS.1.4.4 OS.1.5.1 OS.3.5.1	Wetland Mitigation. Where complete avoidance of wetlands loss due to filling is not possible, require provision of replacement habitat on-site through restoration and/or habitat creation at a 2:1 ratio, provided that no net loss of wetland acreage, function, and habitat values occurs. Allow restoration of wetlands off-site only when an applicant has demonstrated that no net loss of wetlands would occur and that on-site restoration is not practical or would result in isolated wetlands of extremely limited value. Off-site wetland mitigation preferably will consist of the same habitat type as the wetland area that would be lost.

NATURAL RESOURCES AND OPEN SPACE

Policy Numbers	Implementation Action and Description
OS.1.4.5 OS.1.5.2 OS.2.5.1 OS.3.5.2	<p>Wetlands Mitigation Standards. Amend the zoning ordinance to implement the following wetland mitigation standards:</p> <p>No net losses shall occur in wetland acreage, functions, and values. This should include both direct impacts on wetlands and essential buffers, and consideration of potential indirect effects of development due to changes in available surface water and non-point water quality degradation. Detailed review of the adequacy of a proposed mitigation plan shall be performed as part of environmental review of the proposed development project to allow for a thorough evaluation of both the anticipated loss and replacement acreage, functions and values.</p> <ul style="list-style-type: none"> • Mitigation should be implemented prior to and/or concurrently with the project activity causing the potential adverse impact to minimize any short-term loss and modification to wetlands. • An area of adjacent upland habitat should be protected to provide an adequate buffer for wetland species that require such habitat. Setbacks should provide for minimum filtration functions to intercept sediments and prevent degradation of adjacent wetlands. Flexibility should be included in the criteria based on site constraints and opportunities to ensure the avoidance of sensitive wetlands, and associated resources such as special-status species, and the feasibility of alternative mitigation options for already developed properties. • Minor redevelopment involving less than 25 percent of a structure on-a-developed-parcel <u>on a developed parcel</u> that is already filled and at least 50 percent developed may be allowed without any additional buffer, provided that redevelopment occurs away from the wetland and no additional filling occurs. • Mitigation sites should be permanently protected and managed for open space and wildlife habitat purposes. • Restoration of wetlands is preferred to creation of new replacement wetlands, due to the greater likelihood of success. • Mitigation projects should minimize the need for on-going maintenance and operational manipulation (dredging, artificial water level controls, etc.) to ensure long-term success. Self-sustaining projects with minimal maintenance requirements are encouraged. • All plans to mitigate or minimize adverse impacts to wetland environments shall include provisions to monitor the success of the restoration project. The measures taken to avoid adverse impacts may be modified if the original plans prove unsuccessful. • Mitigation must be commensurate with adverse impacts of the wetland alteration and consist of providing similar values and greater wetland acreage than those of the wetland area adversely affected. All restored or created wetlands shall be provided at a minimum 2:1 replacement ratio and shall have the same or increased habitat values as the wetland proposed to be destroyed.
OS.1.4.6 OS.1.6.1	<p>Drainage Management. As part of the review of discretionary applications, identify the overlapping governmental jurisdictions of existing marsh and tidal areas, including flood flow management areas, and design management approaches that limit maintenance requirements by integrating effective natural components of tidal and drainage systems.</p>
OS.1.4.7	<p>Restore Waterway Function. Restore waterways' natural functions as occasion permits. Keep drainageways open and daylight culverted drainageways whenever possible.</p>
OS.1.4.8 OS.1.7.1	<p>Wetlands access. Design public access to avoid or minimize disturbance to wetlands, necessary buffer areas, and associated wildlife habitat, while facilitating public use, enjoyment, and appreciation of wetlands.</p>

NATURAL RESOURCES AND OPEN SPACE

Policy Numbers	Implementation Action and Description
OS.2.0.2	<p>Heritage Tree Program. The City shall develop a Heritage Tree Program prepare a list of trees that – because of their age, size, type, historical association or horticultural value – are of special importance to the City. Upon recommendation, the City Council may designate a tree as a Heritage Tree provided the tree’s health, aerial space, and open ground area for the root system have been certified as sufficient. No tree on private property can be designated without the consent of the property owner. The ordinance further states that it is unlawful for any person, without a prior written permit from the City, to remove, destroy, cut, prune, break or injure any Heritage Tree. No Heritage Tree can be removed without the consent of the City Council.</p>
OS.2.0.3 OS.2.2.1	<p>Invasive Species Removal. Work with public and private landowners to make attempts to contain and prevent the spread of highly invasive and noxious weeds.</p>
OS.2.0.4 OS.2.2.2 OS.2.3.1	<p>Landscape Plans. Prepare lists of appropriate native landscape species and inappropriate invasive exotic species for use by property owners in developing landscape plans or enhancing existing landscaping, and include in the Design Guidelines. Prepare the lists with input from the California Department of Fish and Game, Agricultural Commissioner, University of California Cooperative Extension, California Native Plant Society, and other appropriate sources to verify suitability.</p>
OS.2.0.5 OS.2.2.3 OS.2.3.2	<p>Landscaping Requirements. As part of the discretionary review of proposed development prohibit the use of highly invasive species in landscaping and require the removal of invasive exotic species. Encourage use of native or compatible nonnative plant species indigenous to the site vicinity as part of the discretionary review of project landscaping. Additionally, require that landscaping improvements for community parks, trails, and other public areas include the use of native plant materials and species that recognize and enhance the natural resource setting of the City.</p>
OS.1.8.2 OS.2.4.2 OS.3.4.1	<p>Creek Setbacks. The City will maintain creek setbacks to include an appropriate separation from the physical top of bank, the appropriate floodway, native riparian plants or wildlife habitat. In addition creek/river setbacks should be consistent with the following: The following items would be at least 100 feet from a wetland, creek, or riparian habitat: buildings, streets, driveways, parking lots, above-ground utilities, and outdoor commercial storage or work area. Development approvals should respect the separation from creek/river banks and protection of floodways and natural features. Features which normally would be outside the creek/river setback may be permitted to encroach where there is no practical alternative, to allow reasonable development of a parcel, consistent with the Conservation and Open Space Element.</p>
OS.1.9.3 OS.2.4.3	<p>Riparian Habitat Restoration. The City will develop a plan to encourage the restoration and enhancement of the riparian corridor along the Pinole Creek. The plan will identify and prioritize areas in need of restoration to restore the function of the riparian corridor as viable wetlands, ecosystems and habitat for resident and migratory wildlife..</p>
OS.3.6.2 OS.3.9.1	<p>Environmental Assessment. Require applicants to provide an environmental assessment in compliance with CEQA provisions for development proposed on sites that may contain sensitive biological or wetland resources. Require the assessment to be conducted by a qualified professional to determine the presence of any sensitive resources, to assess the potential impacts, and to identify measures for protecting the resource and surrounding habitat.</p>
OS.1.8.3 OS.3.3.1 OS.3.5.3 OS.3.6.3	<p>Development Limitations. Amend the Zoning Ordinance to establish specific development limitations on land uses that may occur adjacent to habitats with sensitive biological or wetlands resources. Limitations may include restrictions on the amount of impervious surfaces or building construction within a specified distance from the sensitive habitat area, requirements for vegetative screening, and only allowing land uses that minimize noise or lighting disturbances.</p>

NATURAL RESOURCES AND OPEN SPACE

Policy Numbers	Implementation Action and Description
OS.1.8.4 OS.3.3.2 OS.3.5.4 OS.3.6.4 OS.3.8.1	Limit Impacts. As part of the development review process, restrict or modify proposed development in areas that contain essential habitat for special-status species, sensitive natural communities or wetlands as necessary to ensure the continued health and survival of these species and sensitive areas. Development projects preferably shall be modified to avoid impacts on sensitive resources, or impacts shall be mitigated by providing on-site or (as a lowest priority) off-site replacement.
OS.3.6.5	Environmental Review. Continue to require environmental review of development applications pursuant to CEQA to assess the impact of proposed development on species and habitat diversity, particularly special-status species, sensitive natural communities, wetlands, and habitat connectivity. Require adequate mitigation measures for ensuring the protection of sensitive resources and achieving "no net loss" of sensitive habitat acreage, values and function.
OS.1.2.3 OS.1.3.3 OS.3.6.6 OS.3.8.2	Early Agency Consultation. Require early consultation with all trustee agencies and agencies with review authority pursuant to CEQA for projects in areas supporting special-status species, sensitive natural communities or wetlands that may be adversely affected by development.
OS.3.10.1	Protect Biodiversity. Protect areas known to support a high degree of biological diversity and that may contain species known to be rare or protected under the State or Federal Endangered Species Acts. These include the City's tidal wetlands, freshwater wetlands and riparian forest. Include standards in the updated Zoning Ordinance limiting development within these areas, and limiting public access to particularly sensitive habitats that contain species known to be rare or protected.
OS.3.11.2 OS.5.2.3	Informational Signage. Establish interpretive and informational signage in marsh and tidal land areas that encourages low-impact, passive recreational and educational uses.
OS.8.1.1 OS.8.8.1	Water Resource Management Coordination. Collaborate with local, regional and state water suppliers and water resource managers to comprehensively plan for ensuring a sustainable water supply.
OS.8.1.2 OS.8.8.2	Water Resource Consideration in Other Planning Efforts. Coordinate water resource management planning with other conservation planning efforts, such as open space and park planning, and creek restoration.
OS.8.2.1	Reclaimed Water Infrastructure. Work with the East Bay Municipal Water District to create a master plan for reclaimed water infrastructure (a "purple pipe" system) in Pinole.
OS.8.2.2 OS.8.8.3	Funding for Water Conservation. Seek funding to develop a water conservation program to collect baseline data and provide education and outreach and strategic direction for water conservation.
OS.8.2.3 OS.8.8.4	Wastewater Reuse. Coordinate with wastewater system operators to identify and implement programs for the reuse of treated wastewater, particularly in landscaping and public facilities.
OS.8.2.4	Reclaimed Water In-lieu Fee. Require development to install infrastructure to transport existing or future supplies of reclaimed water ("purple pipe") or pay an in-lieu fee equal to the cost of installation, to be used toward the implementation of the Citywide system.
OS.8.3.1	Low Impact Development Ordinance. Amend the Zoning Ordinance to establish LID development standards.
OS.8.4.1	Groundwater Recharge Opportunities. Identify opportunities to combine groundwater recharge with habitat protection and recreational land uses, as part of other conservation planning efforts such as open space and park planning and creek restoration.
OS.8.5.1	Groundwater Quality Protection. Require appropriately designated filters adjacent to all manmade storm drainage channels.

NATURAL RESOURCES AND OPEN SPACE

Policy Numbers	Implementation Action and Description
OS.8.6.1	Water Pollution Prevention. Employ pollution prevention techniques in all City operations and maintenance activities, consistent with Contra Costa County Clean Water Program regulations.