

Introduction

Conservation helps prevent the wasteful destruction and neglect of San Rafael's natural resources, particularly scarce resources. The City recognizes that natural resources must be maintained for their economic and recreational use as well as for their ecological value. The Conservation Element policies address water, air quality and wildlife and cover the topics of Wetlands; Diked Baylands; Creeks and Drainageways; Native Plants, Animals and Habitat; and Resource Management.

San Rafael's Habitats

San Rafael is rich with diverse habitats, such as creeks and drainageways, seasonal freshwater wetlands, tidal wetlands and riparian areas that are valued resources for San Rafael's wildlife. Protection, restoration or enhancement of damaged habitats is important for the continued health of San Rafael's natural environment.

Habitats have been damaged by the spread of non-native invasive plants. The City must build on its efforts to manage undesirable invasive species. Landscaping with native species should be encouraged for restoration projects.

Protection of the creeks and drainageways and wetlands, and the plants and animals that live in and near them, can be achieved by managing public access along these areas and by minimizing encroachment by new development to only that which is unavoidable. This can be accomplished by preserving buffer areas along creeks and drainageways, associated riparian areas and wetlands. Another way to protect creeks is to improve public access points so that uncontrolled foot traffic does not damage these sensitive habitats.



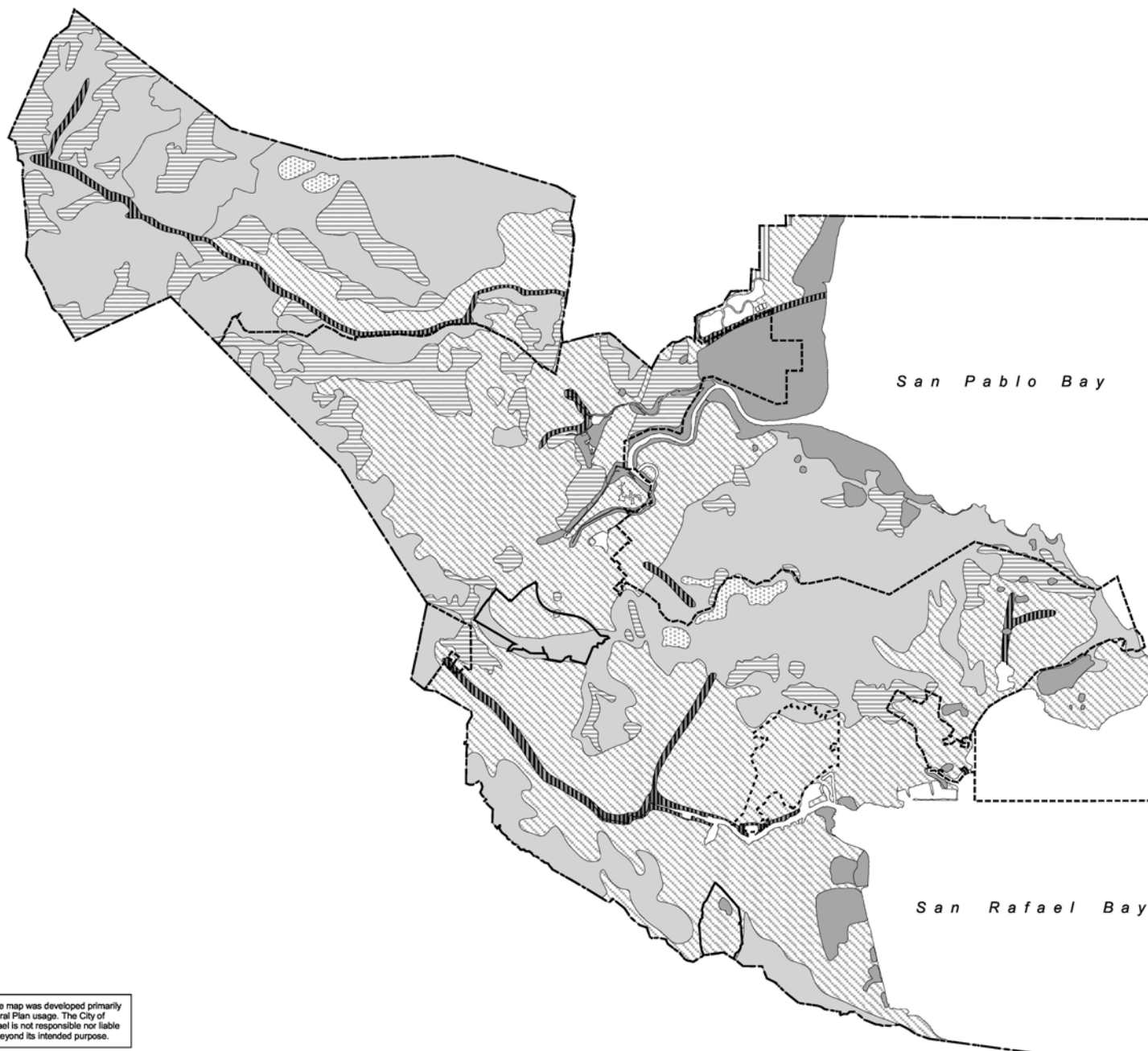
The endangered Salt Marsh Harvest Mouse in his (or her) Pickleweed habitat.

Exhibit 35



Major Biotic Habitats

- Grasslands
- Agricultural
- Wetlands
- Chaparral
- Oak Savanna/Woodlands
- Riparian
- Urbanized/Developed



San Pablo Bay

San Rafael Bay



0 500 1000 1500 Meters

0 0.5 1 1.5 Miles

This base map was developed primarily for General Plan usage. The City of San Rafael is not responsible nor liable for use beyond its intended purpose.

\\sdc\apps\planning\GIS\Bioscience\Bioscience\GeneralPlan\2020\Technical\Data\Products\Map02_2020

GOAL 33: PROTECTED HABITAT

It is the goal of San Rafael to have enhanced habitat for native plants and animals, and special protection for species that are listed as threatened or endangered.

San Rafael is rich in wildlife and native plant habitats, such as wetlands, creeks, shorelines, oak woodlands and riparian areas, as well as wildlife corridors between them, and these habitats are being protected or restored as necessary.

CON-1. Protection of Environmental Resources.

Protect or enhance environmental resources, such as ridgelines, wetlands, diked baylands, creeks and drainageways, shorelines and habitat for threatened and endangered species.

CON-1a. Plans for Environmental Protection.

Complete the implementation of Mahon Creek Final Conceptual Plan and the Shoreline Park Master Plan.

Responsibility: Public Works

Timeframe: Long Term

Resources: Grants, Contributions

See LU-2a (Development Review).



Wetlands

Wetlands are defined as: "Areas under the jurisdiction of the US Army Corps of Engineers that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support a prevalence of vegetation that is typically adaptive for life in saturated soils conditions. Wetlands generally include but are not limited to seasonal wetlands, marshes, vernal pools and bogs." Wetlands are fragile, natural resources subject to flooding, erosion, soil-bearing capacity limitations and other hazards. In addition they are resources of special significance due to the modulation of flood waters, water quality and habitat functions they perform, and resulting values identified by man such as control of flood velocities, floodwater storage, floodwater passage, aquifer recharge, erosion control, pollution control, wildlife habitat, education, scientific study, open space and recreation.

Marshlands are valuable habitat for many local and migratory birds.

CON-2. Wetlands Preservation.

Require appropriate public and private wetlands preservation, restoration and/or rehabilitation through compensatory mitigation in the development process for unavoidable impacts. Support and promote acquisition of fee title and/or easements from willing property owners.

CON-2a. Wetlands Overlay District. Continue to implement wetlands policy through the Wetlands Overlay zoning district and development review.

Responsibility: Community Development

Timeframe: Ongoing

Resources: Fees

See also OS-1a (Open Space Inventory), OS-1b (Preservation Opportunities), and OS-1c (Cluster Development).

CON-3. Wetland Protection and Mitigation.

In order to protect and preserve valued wetlands, loss of wetlands due to filling shall be avoided, unless it is not possible or practical. When it is demonstrated that it is not possible or practical to avoid filling a wetland because of site constraints and conditions such as the geographic location of the wetlands, site configuration and size, require that the wetland be replaced on-site, and in-kind at a minimum ratio of 2:1 (e.g., 2 acres for each acre lost). If it is determined that on-site mitigation is not possible or practical, off-site mitigation shall be required at a minimum replacement ratio of 3:1. As assessed and determined on a case-by-case basis, the City may

waive this policy for fill of small wetlands (0.1 acre or less in size), provided that: (1) the wetland is isolated meaning that it is not within, a part of, directly connected with or hydrologically-linked by natural flow to a creek, drainageway, wetland or submerged tidlands; (2) it is demonstrated by a wetland expert that the preservation of the wetland is not practical as it would not result in a functioning, biological resource because of its isolation; (3) the City has determined that filling would result in a more appropriate and desirable site plan for the project; and (4) the City consults with and considers comments received from the appropriate resource agencies with wetland oversight (State of California Department of Fish and Game and/or the California Regional Water Quality Control Board).

Wetland Definitions

Wetland Restoration – To bring a wetland back into existence in an area where wetlands had historically occurred, but were lost due to the actions of man or through natural process.

Wetland Enhancement – The modification of a natural or created wetland to enhance one or more functions. Enhancement of some wetland functions may negatively affect other functions.

Wetland Creation – To bring a wetland into existence, whether by accident or intentionally, where none existed previously; this includes the creation of wetlands for mitigation, habitat, and water quality purposes.

Mitigation – Actions taken to avoid, reduce, or compensate for the effects of human-induced environmental damage.

a. **Creation of Wetlands.** The creation of wetlands shall be (1) of a similar habitat type to that of the existing wetlands and (2) of at least equal functional quality. The wetlands should be created or restored on or adjacent to the site, where possible. If on-site creation is infeasible due to technical constraints, compensatory habitat may be created off-site, preferably in the same drainage basin. Restoration of former filled, drained or diked wetland habitat is preferred over creation of wetlands on lands that were historically uplands. Plans for this habitat shall be prepared by a qualified wetland restoration ecologist in consultation with appropriate federal and state

resource agencies. Mitigation plans shall require an annual monitoring for a period of time as specified by a qualified biologist to determine mitigation success. Contingency measures to deal with the potential for a lack of success should also be included in the plan.

b. **Timing of Restoration or Creation.** Restoration or creation of wetlands should be completed prior to construction of the development. Where construction activities would adversely impact wetland restoration or creation, wetlands restoration or creation may be completed after construction of the development, as determined through development review.

CON-3a. Project Mitigation. Continue the City's practice of requiring mitigation for projects that would affect wetlands, in conjunction with recommendations of State and Federal agencies.

Responsibility: Community Development

Timeframe: Ongoing
Resources: Fees

CON-4. Wetland Setbacks.

Maintain a minimum 50-foot development-free setback from wetlands, including, but not limited to, paving or structures. Setbacks of greater than 50 feet may be required on lots of two or more acres as determined through development review. The City may waive this requirement for minor encroachments if it can be demonstrated that the proposed setback adequately protects the functions of the wetland to the maximum extent feasible and resulting values to the satisfaction of the City after review by the appropriate regulatory agencies.

See CON-2a (Wetlands Overlay District).

CON-5. Diked Baylands.

Protect seasonal wetlands and associated upland habitat contained within undeveloped diked baylands, or restore to tidal action. Support and promote acquisition from willing property owners.

See LU-2a (Development Review).

CON-6. Creek and Drainageway Setbacks.

Require development-free setbacks, except for specific access points as approved per policy CON-7 (Public Access to Creeks), from existing creeks and drainageways that will maintain the functions and resulting values of these habitats. Appropriate erosion control and roadway crossings may encroach into the development setback. In the absence of vegetation, promote new growth of natural habitat.

- a. **Creek Setback.** Maintain a minimum 25-foot development-free setback from the top of creek banks for all new development (including, but not limited to, paving and structures), except for Miller Creek and its tributaries, where a minimum 50-foot setback shall be maintained. Setbacks up to 100 feet may be required on lots or development projects two or more acres in size where development review determines a wider setback is needed to maintain functions and resulting habitat values and in areas where high quality riparian habitat exists.

D i k e d B a y l a n d s

Diked baylands serve as a buffer between urban and tidal areas and contribute to improved water quality in the Bay by trapping or removing pollutants from runoff and wastewater. They also act as interim storage basins for stormwater runoff and flood waters that coincide with high tides, buffer land areas from storms, high tides and erosion; habitat areas for threatened and endangered species; and can serve as possible mitigation areas. Their partial or complete flooding in the winter rainy season provides needed shallow wetland habitat for many species and flocks of migratory ducks and shorebirds.

C r e e k s a n d D r a i n a g e w a y s

Creeks are perennial or intermittent watercourses that have defined bed and bank, i.e., the channel bed is incised into the substrate. Creeks are identified on Exhibit 36, based on the latest United States Geologic Survey (USGS) topographic maps. Creeks, with a defined bed and bank and with an unbroken riparian corridor of 50 feet or more not shown on the map are presumed to exist, and shall be identified through project review and protected under the policies of this plan.

Drainageways are open drainage swales, or localized depressions that lack defined banks where intermittent or ephemeral runoff may concentrate, and open improved drainage channels with stabilized or improved banks. Drainageways do not support significant riparian habitat. Drainageways exist throughout San Rafael. During the development review process, drainage capacity and habitat value of any drainageways on a site shall be assessed, and appropriate setbacks determined.

The City may waive this requirement for minor encroachments if it can be demonstrated that the proposed setback adequately protects the functions of the creek to the maximum extent feasible and resulting values to the satisfaction of the City after review by the appropriate regulatory agencies.

- b. **Drainageway Setbacks.** Drainageway setbacks shall be established through individual development review, taking into account existing habitat functions and resulting values.

CON-6a. Municipal Code Compliance. Ensure that the San Rafael Municipal Code complies with local, state, and federal regulatory agencies requirements for erosion control.

Responsibility: Community Development

Timeframe: Ongoing

Resources: Short Term

See LU-2a (Development Review).

CON-7. Public Access to Creeks.

Provide pedestrian access to points along creeks throughout the City where such access will not adversely affect habitat values.

CON-7a. Creek Access Points. Proactively identify and create desirable access points to creeks on public lands.

Responsibility: Public Works

Timeframe: Ongoing

Resources: Staff Time

CON-7b. Public Access. Through the development review process, identify and secure areas appropriate for access points to creeks.

Responsibility: Community Development

Timeframe: Ongoing

Resources: Fees

CON-7c. Website Publicity. Use the City's website to publicize information about protecting and accessing San Rafael's creeks and waterways.

Responsibility: Community Development, Public Works

Timeframe: Long Term

Resources: Staff Time

CON-7d. Creek Signage. Develop a program to provide attractive signage identifying creeks.

Responsibility: Public Works

Timeframe: Long Term

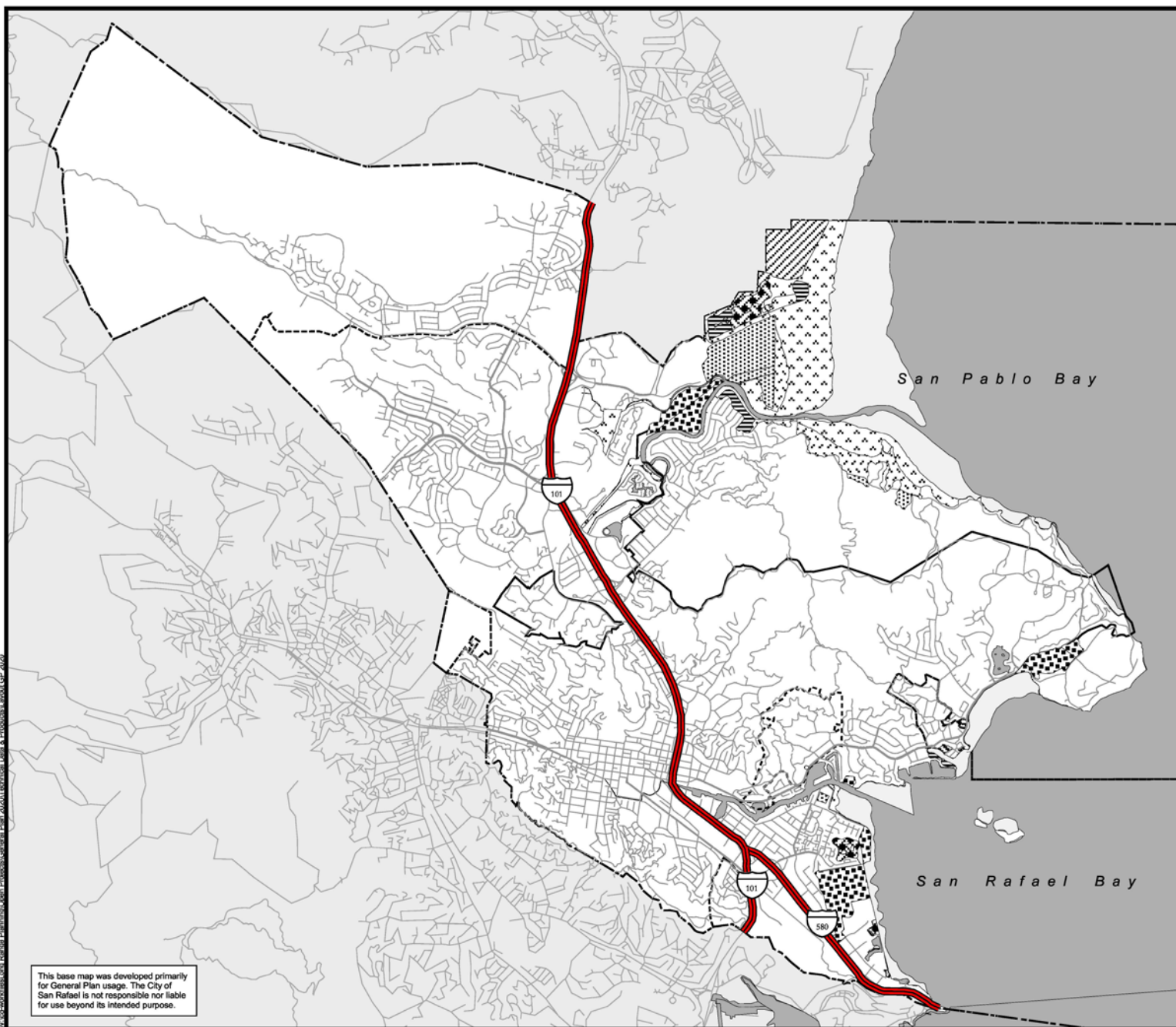
Resources: Staff Time

See LU-2a (Development Review).

Baylands

- Bay Flat
- Channel Flat
- Diked Marsh
- Farmed Bayland
- Managed Marsh
- Muted Tidal Marsh
- Old High Tidal Marsh
- Ruderal Bayland
- Storage or Treatment Basin
- Young High Tidal Marsh
- Bay Waters

NOTE: This Exhibit shows information about baylands available from the San Francisco Estuary Institute. For detailed site environmental information, see Exhibit 34 'Major Biotic Habitats'.
Source: San Francisco Estuary Institute, 1999



This base map was developed primarily for General Plan usage. The City of San Rafael is not responsible nor liable for use beyond its intended purpose.



0 500 1000 1500 Meters

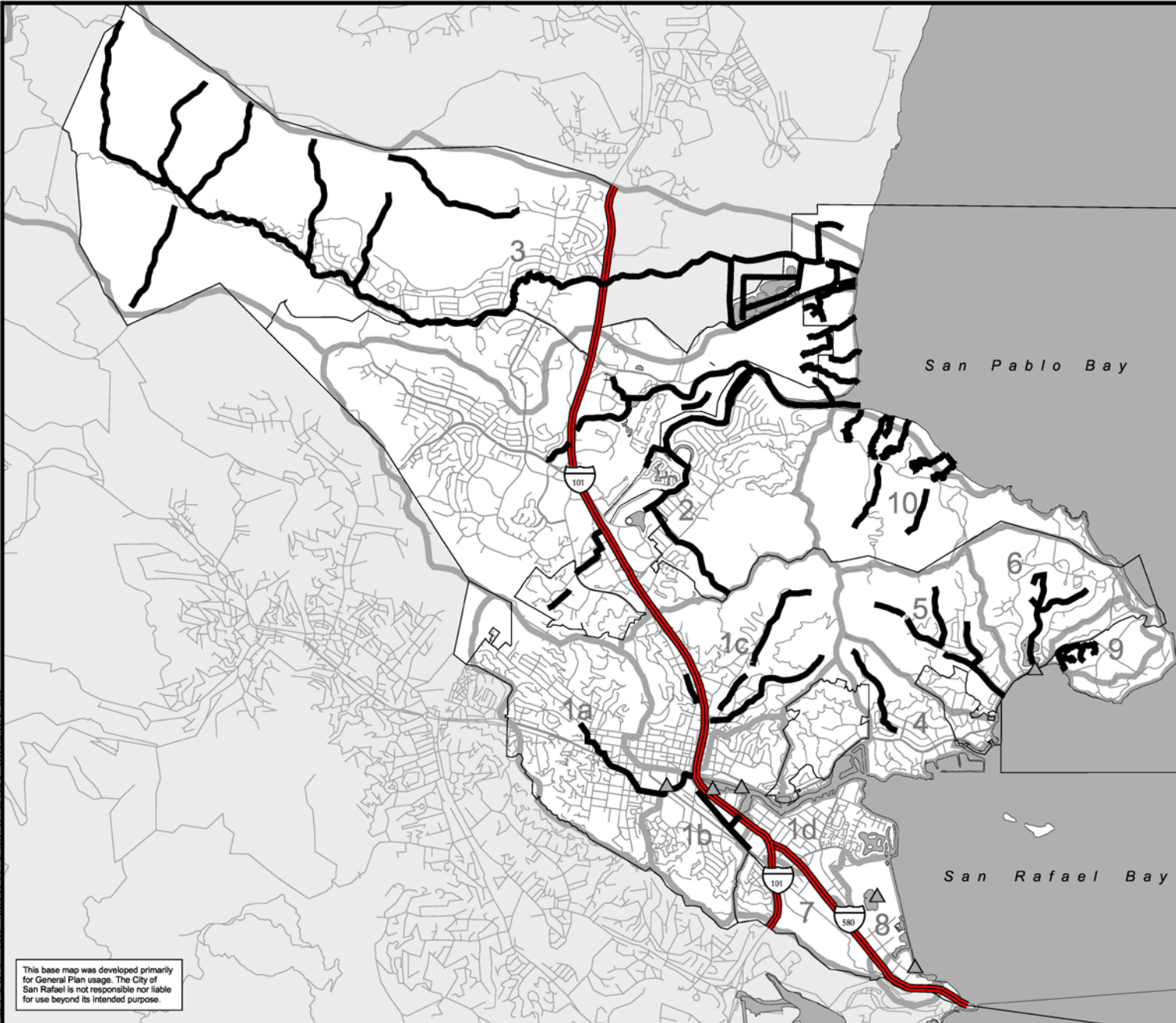
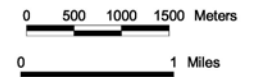
0 1 Miles

Watersheds and Creeks



Watersheds:

- (1). San Rafael Creek:
 - 1a. Mahon Creek
 - 1b. Irwin Creek
 - 1c. Black Canyon/Lincoln Creeks
 - 1d. E. San Rafael Drainage Assessment District
- 2. Gallinas Creek
- 3. Miller Creek
- 4. Loch Lomond Creek
- 5. Glenwood Creek
- 6. Peacock Gap
- 7. E. San Rafael/San Quentin P.S.
- 8. South Pond/Piombo P.S.
- 9. McNear Watershed
- 10. China Camp Watershed



This base map was developed primarily for General Plan usage. The City of San Rafael is not responsible nor liable for use beyond its intended purpose.

CON-8. Enhancement of Creeks and Drainageways.

Explore enhancement of, and support continuous upgrades to, drainageways to serve as wildlife habitat corridors for wildlife movement and to serve as flood control facilities to accommodate storm drainage. Require creek enhancement and associated riparian habitat restoration/creation for projects adjacent to creeks to maintain storm flows, reduce erosion and maintenance and improve habitat values, where feasible.

CON-8a. Creek Restoration. Encourage and support efforts by neighborhood associations, environmental organizations and other interested groups to fund creek enhancement, restoration and maintenance programs.

Responsibility: Public Works

Timeframe: Ongoing

Resources: Staff Time

CON-8b. Tree Retention. Retain trees along creeks, where possible, for preservation of riparian habitat and to inhibit growth of algae.

Responsibility: Public Works

Timeframe: Ongoing

Resources: Staff Time

See LU-2a (Development Review).

Native Plants, Animals and Wildlife Habitat

Vegetation, fish, and wildlife habitat are essential to the community of San Rafael. As development pressures grow, the need for preservation of the valuable diversity of species becomes increasingly important. The San Rafael Planning Area contains several habitat areas of major importance including oak woodlands, riparian, the open waters of the San Francisco Bay and wetlands. These communities support a complex diversity of fish and wildlife species. A number of sensitive plant and animal species have either been observed within the Planning Area, or are known to occur within the region.

The City recognizes the ecological, scientific, aesthetic and cultural values of without undue disturbance. Protection of threatened and endangered species shall also extend to habitat that might reasonably be expected to support populations of those species, consistent with the requirements of state and federal law. The City recognizes the need to contribute to the protection of native plants and animals, and their habitats, before their populations are so low that they must be listed as threatened or endangered under the state and federal endangered species acts and will provide protection to special status species. Examples of the sensitive plant and animal species are: the California Black Rail, the California Clapper Rail, the Salt Marsh Harvest Mouse, the Central California Coast Steelhead and the Marin Western Flax.



CON-9. Native and/or Sensitive Habitats. Protect habitats that are sensitive, rare, declining, unique or represent a valuable biological resource.

CON-9a. Steelhead Habitat. Support efforts to restore, preserve or enhance Central California Coast Steelhead habitat in Miller Creek and other creeks.

Responsibility: Public Works

Timeframe: Ongoing

Resources: Staff Time

CON-9b. Feral Cats. To protect habitats, especially for birds and small animals, continue to fund programs of the Marin Humane Society including those to reduce the population of feral cats.

Responsibility: City Manager

Timeframe: Ongoing

Resources: Staff Time

See CON-15a (Invasive Plant Ordinance), OS-2b (Removal of Invasive Species), and LU-2a (Development Review).

The endangered Clapper Rail is a secretive resident of the Bay marshes.

CON-10. Impacts to Sensitive Habitats.

Minimize impacts to sensitive natural habitats through careful planning. Require compliance with applicable laws and regulations.

CON-10a. Oak Savanna/Woodland Habitat Protection. Require that proposed developments with potential impacts to oak savanna/woodland habitat to either avoid, minimize, or compensate for the loss of oak savanna/woodland habitat. Avoidance would be the preferred measure where feasible. If it is deemed that an impact is unavoidable, minimization of direct and indirect impacts or compensation through habitat restoration, creation, or enhancement would be required.

Responsibility: Community Development

Timeframe: Ongoing

Resources: Staff Time

See LU-2a (Development Review).

CON-11. Wildlife Corridors.

Preserve and protect areas that function as wildlife corridors, particularly those areas that provide natural connections permitting wildlife movement between designated sensitive habitats.

See LU-2a (Development Review).

CON-12. Preservation of Hillsides.

Encourage preservation of hillsides, ridgelines and other open areas that serve as habitat and erosion protection as well as visual backdrops to urban areas.

CON-12a. Hillside Design Guidelines. Continue to implement the Hillside Design Guidelines.

Responsibility: Community Development

Timeframe: Ongoing

Resources: Fees

See CD-5a (Views) and CD-6a (Hillside Design Guidelines).

CON-13. Threatened and Endangered Species.

Preserve and protect threatened and endangered species of plants and animals formally listed consistent with the state and federal endangered species acts including protection of their habitat.

CON-13a. List of Species. Maintain a current list of threatened and endangered and special status species.

Responsibility: Community Development

Timeframe: Ongoing

Resources: Fees

See LU-2a (Development Review).

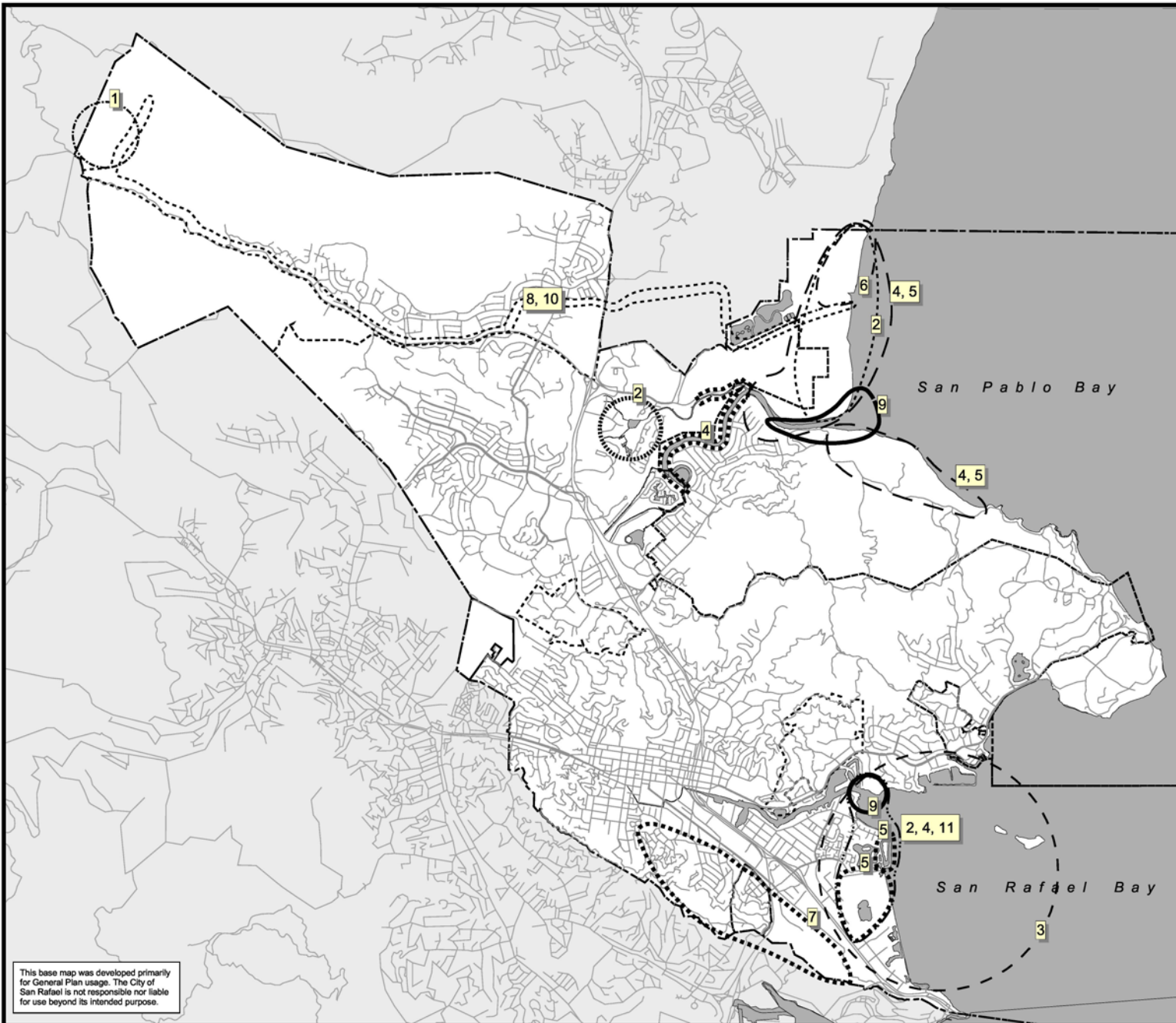
Threatened and Endangered Species

1. Marin Western Flax*
2. California Black Rail*
3. California Brown Pelican*
4. California Clapper Rail*
5. Salt Marsh Harvest Mouse*
6. Soft Bird's-beak**
7. White Rayed Pentachaeta**
8. Steelhead Central Calif. Coast**
9. Tidewater Goby**
10. California Red-legged Frog**
11. Western Snowy Plover**

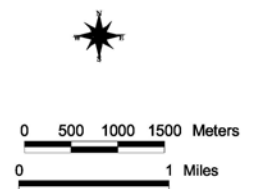
*NOTE: The locations shown on this map are generalized and are intended to show the approximate areas where the species is located based on past and current observations, CNDDB accounts, and the presence of suitable habitat.

** NOTE: The locations shown on this map are generalized and are intended to show the approximate areas where the species is likely to be found based on presence of suitable habitat. The species was not currently observed within these areas, but it may reasonably be expected to occur in the general area.

Sources:
 California Natural Diversity Data Base (CDFG 2001)
 Endangered and Threatened Wildlife and Plants (USFWS 2001)
 Annual Report on the Status of California State Listed
 Threatened and Endangered Animals and Plants (CDFG, 2000)
 Jean Starkweather (2003)



This base map was developed primarily for General Plan usage. The City of San Rafael is not responsible nor liable for use beyond its intended purpose.



CON-14. Special Status Species.

Preserve and protect special status plants and animals, including candidate species for listing under the state and federal endangered species acts, California species of special concern, California Native Plant Society List 1B plants, and other species protected under provisions of California Fish and Game Code.

CON-14a. Surveys. Require that vacant sites be surveyed for the presence or absence of relevant special status species prior to development approval.

Responsibility: Community Development,
Timeframe: Ongoing
Resources: Staff Time

CON-14b. Minimization. Require that where impacts to special status species are deemed unavoidable, potential impacts to the identified species are minimized through design, construction, and operation of the project. Compensation measures could include on-site set asides or off-site acquisitions (e.g. conservation easements, deed restrictions, etc.) that would be required if project impacts result in direct loss or indirect impacts that cannot be mitigated in other ways. This might also involve species-specific enhancement restoration efforts for the mitigation lands.

Responsibility: Community Development,
Timeframe: Ongoing
Resources: Staff Time

See LU-2a (Development Review).

CON-15. Invasive Non-Native Plant Species.

Remove and control selected undesirable invasive non-native plant species from City-owned open space and road right of ways, and encourage the removal and control of these invasive plant species from non-City owned ecologically-sensitive areas.

CON-15a. Invasive Plant Ordinance. Consider the legality, feasibility and enforceability of an Invasive Plant Ordinance addressing the removal of invasive species on private and public properties. As part of the ordinance, evaluate the benefits and impacts of using herbicide on invasive species where there are no other feasible controls.

Responsibility: City Attorney, Community Development,
Timeframe: Long Term
Resources: Staff Time

CON-15b. Removal of Invasive Species on Public Property. Institute a program to remove invasive plant species on public properties. Consider the use of volunteers and private organizations to assist in this effort.

Responsibility: Public Works, Fire
Timeframe: Long Term
Resources: Staff Time, Volunteers, Partnerships

See LU-2a (Project Review) and OS-2b (Removal of Invasive Species).

CON-16. Landscape with Native Plant Species.

Encourage landscaping with native and compatible non-native plant species, especially drought-resistant species.

CON-16a. Distribution of Information. Distribute Marin Municipal Water District and other organizations' educational materials about native plant landscaping.

Responsibility: Community Development, Public Works
Timeframe: Ongoing
Resources: Staff Time

GOAL 34: RESOURCES USED WISELY. SECTION MOVED TO SUSTAINABILITY ELEMENT PER AMENDMENT ON 12/05/2016

Resource Conservation Policies

Resource conservation policies and programs sharing similar or complementary directions and objectives have been incorporated into the Sustainability Element.

See SU-4e (Regional Energy Office), SU-4f (Zoning and Building Code Review), SU-4g (Clean Energy Production), SU-5b (Use of Alternative Building Materials), SU-5d (Water Efficiency Programs), SU-5e (Water Recycling), SU-6a (Site Design), SU-10e (Recycling), SU-10f (Recyclable Waste Receptacles), SU-10g (Recycling for Apartments and Nonresidential Buildings), SU-10h (Demolition Waste), SU-10i (Recycling Education), SU-12b (Marin County Green business Program), SU-14a (Alternative Transportation Options), SU-14b (Alternative Fuel for City Fleet), SU-14d (City Electricity), SU-14i (Civic Buildings), SU-14j (Green Business Certification), SU-14k (Regional Collaboration), SU-14l (Backup Energy Provision)

CON-17. Resource-efficient Organizations and Businesses. (Moved to Sustainability per Amendment on 12/5/16)

CON-17a. Regional Energy Office.

CON 17b. Green Business Program.

CON-18. Resource-Efficient Building Design.

(Moved to Sustainability per Amendment on 12/5/16)

CON-18a. Energy-efficient Homes.

CON-18b. Zoning and Building Code Review.

CON-18c. Use of Alternative Building Materials.

CON-18d. Incentives for Solar and Clean Energy.

CON-18e. LEED Program (Deleted per Amendment on 12/5/16)

CON-18f. Civic Buildings.

CON-19. Energy Resources. (Moved to Sustainability per Amendment on 12/5/16)

CON-19a. Energy Production.

CON-20. Water Conservation. (Moved to Sustainability per Amendment on 12/5/16)

CON-20a. Water Conserving Landscaping.

CON-20b. Water Recycling.

CON-21. Waste Reduction/Recycling (Moved to Sustainability per Amendment on 12/5/16)

CON-21a. Recycling.

CON-21b. Recyclable Waste Receptacles.

CON-21c. Recycling for Apartments and Nonresidential Buildings.

CON-21d. Demolition Waste.

CON-21e. Recycling.

CON-22. Resource Efficiency in Site Development.
(Moved to Sustainability per Amendment on 12/5/16)

CON-22a. Site Design.

CON-23. Energy-efficient Transportation Programs.
(Moved to Sustainability per Amendment on 12/5/16)

CON-23a. City Carpool.

CON-24. Energy-, Water- and Resource-Efficiency in Government. (Moved to Sustainability per Amendment on 12/5/16)

CON-24a. Green Business Certification.

CON-24b. Regional Collaboration.

CON-24c. City Vehicle Fleet.

CON-24d. Renewable Energy Sources in City Facilities.

CON-25. Energy Emergencies.
(Moved to Sustainability per Amendment on 12/5/16)

CON-25a. Backup Energy Provision.



This page intentionally left blank