



Community Marin 2013

A Vision For Marin County

Policy Recommendations

*Marin Audubon Society, Marin Baylands Advocates,
Marin Conservation League, Marin Group-Sierra Club,
Salmon Protection and Watershed Network,
Environmental Action Committee*



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Cover photos, clockwise, from upper left: Inkwells, Lagunitas; cow, a common sight in West Marin; shorebirds in a Marin tidal marsh; wharf at McNears Park, San Rafael; madrone tree, native to California's coastal area; pickleweed, common in Marin's tidal marshes; and (center) California poppies in bloom.

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Introduction

Community Marin presents recommendations of Marin County's major environmental organizations to provide an environmentally responsible foundation for land use planning. The chapters are organized consistent with the general plans of Marin County and its cities and towns but recommendations are widely applicable to all land use planning. This report does not attempt to address all the subjects that must be covered in a general plan; rather, it focuses on major issue areas that the environmental organizations believe are of countywide importance.

Three previous editions of *Community Marin* were prepared in 1991, 1998, and 2003. *Community Marin* represents a consensus of the participating organizations, each of which may go beyond these policies in its advocacy work.

There are two major new recommendations in the current document:

- **Marin County and its cities and towns must plan together to adapt to the effects of climate change, especially sea level rise, and to reduce the activities that are the primary causes of climate change.**
- **A maximum size for new residences must be established, to reduce the impacts of very large houses on the environment, resource use, and community character.**

In *Community Marin's* vision for the future Marin County will achieve the following goals:

- Preservation and protection of the natural environment is a priority in all land use, transportation, and facility planning.
- There is a thriving agricultural community in which all development on agricultural land supports agricultural activity and protects environmental resources.
- The county's human community is economically and ethnically diverse.
- All county jurisdictions work together to reduce the impacts of sea level rise through a combination of soft (e.g. wetlands restoration and floodplain expansion) and hard (e.g. levees) techniques and through strict limits on development in areas subject to future inundation.
- The amount of new development, particularly commercial development, that is allowed by current general plans has been reduced, and disruptive or inappropriate growth is discouraged.



Rising seas are a fact of life. Marin's communities must work cooperatively to adapt to the changing climate and its impacts on our residents, ecosystems and infrastructure.

- There is open review of the public process.
- A maximum size for new houses is established and enforced, with exceptions only under strict conditions.
- New development is concentrated in already developed areas close to transit stops and existing services and facilities, enhancing the historic community-centered character of Marin while protecting greenbelts and community separators.
- Housing is affordable to the local work force.
- A safe and convenient transportation system serves existing communities.
- Land use decision-makers recognize that the potential for growth is finite, and that over-development erodes the county's service capacity and quality of life.



Novato's affordable housing includes attractive units in Ignacio which are close to services.

Local plans generally recognize the merit of these goals but serious impediments remain to achieving them. Two major hurdles are the continued planning, through local city and county plans, for excessive office and commercial development, and a failure of Marin's jurisdictions to cooperatively and assertively address climate change. Current general plans would allow another 10 million square feet of commercial development, far more than transportation systems and public services can support. Although some Marin jurisdictions have adopted climate action plans there has been no effective effort to coordinate planning, and climate action plans, where they do exist, are not being implemented.

The 2009 report *Living with a Rising Bay*, prepared by the San Francisco Bay Conservation and Development Commission, and other scientific studies indicate that the bay could rise 11 to 18 inches by mid-century and 23 to 55 inches by 2100. What is now the 100-year floodplain would become the shore of the bay. Rising ocean and bay waters will affect both East and West Marin. New planning designations, regulations, and coordinated planning among the Marin jurisdictions are needed to protect the county's existing communities, infrastructure, and natural habitat as this change occurs.

Strategic Action Program

The Strategic Action Program recommends specific steps to be taken in the next five years to carry out the policies set forth in *Community Marin*. The entire document provides a basis for advocacy by Marin's environmental organizations. It also provides a policy framework for actions by the organizations themselves. Member groups may advocate positions that go beyond these recommendations, but all support the policies as a minimum set of standards. The major strategic proposal in the 2003 *Community Marin* report was to establish a Baylands Corridor in the Countywide Plan, and this was accomplished in the 2007 document.

Immediate action is needed to both reduce the causes and adapt to the impacts of climate change, especially sea level rise. Marin County and its cities also need to take into account the Sustainable Communities Strategy (SCS), prepared by the Association of Bay Area Governments (ABAG) and other regional entities to comply with state mandates (SB 375) that direct cities and counties to concentrate development near transit as they revise general plans.

The following recommendations should guide Marin jurisdictions as they review and comment on the SCS, scheduled for adoption in 2013.

CLIMATE CHANGE

1. Revise local plans and ordinances to mandate reduction of greenhouse gas emissions through a wide variety of land use, building, energy efficiency, transportation, and conservation measures.
2. Develop a coordinated plan for protection of public facilities and areas subject to effects of sea level rise. This would include expansion of wetlands and floodplains, protection of major public facilities, and avoiding or prohibiting new development in areas subject to inundation. Regional agencies must address the effects of sea level rise in the Sustainable Communities Strategy.
3. Monitor the effects of climate change on natural resources and habitat, and revise local ordinances to minimize impacts.



Pumps and a tidal gate on the levee east of Shorebird Marsh control tidal and stormwater flow into the marsh. High tides overwhelming this structure are a portent of impacts from rising seas to come.

BIOLOGICAL RESOURCES

1. Assure that regional planning programs protect natural resources. Resources must not be compromised through proposals to streamline the California Environmental Quality Act and other environmental protection regulations.
2. Cities with bay shorelines should amend their general plans and policies to include protections similar to the Countywide Plan's Baylands Corridor. Expand the Baylands Corridor to include additional portions of Tamalpais Valley and areas east of Highway 101 in northern Marin.

3. Establish watershed-based planning to protect natural resources and reduce flood damage. Property owners and all government entities in the watershed should work jointly on this effort.
4. Complete County Code updates to protect baylands.
5. The County of Marin and municipalities should adopt wetland conservation, stream conservation area, and riparian vegetation ordinances, and strengthen native tree protection ordinances.
6. Prohibit or strictly limit development in areas at risk because of sea level rise, flooding, or wildfires, and in areas of special environmental concern, such as ridglands and wildlife habitat.



PARKS AND OPEN SPACE

1. Eliminate unnecessary or duplicative trails. Approve no new trails on public lands without establishing need and ability to maintain the trails and to enforce usage restrictions. Strictly regulate recreational use to protect natural resources. There should be no net increase in trails.

AGRICULTURE

1. Increase the minimum lot size in A-60 areas to A-120 or A-200, as in other Bay Area counties.
2. Require discretionary review of management plans for changes in intensity of use, new uses, or conversions to a more intensive type of agriculture, such as from livestock grazing to row crops.

HOUSING

1. Establish a maximum house size of 3,500 square feet, with an additional 500 square feet for accessory structures.
2. Work with state legislators to secure needed changes in housing element requirements and procedures. State Department of Housing and Community Development housing need determinations should take into account availability of developable land and environmental and other constraints, and local governments should be allowed to make better use of existing developments to meet housing need quotas by being able to count conversion of market-rate units to below-market-rate or assisted living units, second units, and inclusionary units.
3. Adopt local programs to protect existing affordable housing.



San Rafael's downtown business hub has many services for county residents.

ECONOMIC VITALITY

1. Focus new development on existing commercial areas and along transportation lines, provided there are strict limits to address sea level rise and environmental constraints.
2. Prohibit additional big box retail stores.

COMMUNITY DEVELOPMENT

1. Revise general plans to reduce the total amount of additional growth allowed by city and county plans, especially commercial development, in accordance with environmental constraints, community character, and availability of services. Insist that the regional Sustainable Communities Strategy recognize that there is an ultimate limit to growth because of environmental constraints, including sea level rise.
2. The State Department of Housing and Community Development should re-designate Marin County as suburban/rural in its housing mandate categories, instead of urban, as it is now designated.
3. Encourage natural means such as designated ponding areas to accommodate water in developed areas in need of protection from floodwaters and sea level rise. Purchase development rights on properties at highest risk, and designate low-intensity uses such as parking lots and playfields as temporary floodwater retention areas.



Sandbags, like those at this San Anselmo shop, are a regular sight in many Marin communities during the winter season. A program to implement a network of flood management strategies is underway in the Ross Valley where some of the county's worst flooding occurs.

PUBLIC FACILITIES AND SERVICES

1. Support water conservation and efficiency programs as the preferred means for meeting Marin County's future water needs.
2. Desalination as a source of water supply should be considered only after all water conservation and recycling opportunities have been determined to be incapable of meeting reasonably foreseeable emergencies or future demand.
3. Support efforts by the Marin Energy Authority to use renewable energy generation facilities that protect environmental resources.
4. Ensure that wind energy conversion systems (windmills or turbines) avoid adverse biological, visual, and noise impacts on neighboring residences, native species and sensitive habitat areas.

TRANSPORTATION

1. Fully integrate Sonoma Marin Area Rail Transit (SMART) operations with local bus and pedestrian systems. SMART should provide and fund adequate parking and shuttles with satellite parking lots.
2. Improve bus and paratransit service.
3. Do not implement High Occupancy Toll (HOT) lanes in Marin.
4. Establish no new ferry terminals north of Point San Pedro.



SMART train systems are under construction.

1. BIOLOGICAL RESOURCES

The 2007 Marin Countywide Plan (CWP), the plan's most recent version, includes policies that offer additional protection to sensitive natural communities and habitats such as wetlands and streams, habitats for special status species, wildlife nursery areas, and movement corridors. Specific policies deal with a range of topics including: baylands protection, control of invasive species, use of native plants, fuel management at the wildland-urban interface (WUI), native tree protection, and pesticide use on county properties. A Baylands Corridor, designating use of historic tidal wetlands and adjacent habitats primarily for resource conservation and protection of public health and safety, was added to the plan's existing three planning corridors and the plan now maps threatened steelhead trout and endangered Coho salmon habitats.



Marin Municipal Water District, Marin County, and community groups are working to ensure suitable habitat exists in our waterways for spawning salmon and steelhead.

Work remains to implement and strengthen the 2007 CWP. Both wetland conservation and stream conservation area (and/or riparian vegetation) ordinances are needed to limit development within stream conservation areas and adjacent to mapped anadromous fish streams. The native tree ordinance does not adequately protect native trees. Sensitive natural communities and species, such as marshlands and their endangered salt marsh harvest mouse and California clapper rail need continued protection. Steelhead trout and Coho salmon populations continue to be uncertain. Many species in the county that meet special status species criteria are not fully protected.

The impacts of sea level rise will include inundation of tidal marshes. This will increase the need for marshes and adjacent uplands that lie between the bay or ocean and human developments, and provide wildlife refuge and room for landward migration of wetland habitat.

HABITATS OF MARIN COUNTY AND RECOMMENDATIONS

The section below summarizes Marin County's major habitat complexes, identifies associated issues, and lists recommendations for new policies or implementation and enforcement of existing policies or ordinances. Expanded descriptions of habitats are provided in the appendix.

BAY AND BAYLANDS HABITATS

The baylands ecosystem comprises geographically-related, interdependent habitats that include the open bay and its subtidal habitats. These include eelgrass and shellfish beds, rocky shoreline, mud flats, tidal salt marsh, diked salt marsh and seasonal wetlands, brackish and freshwater wetlands, streams, riparian forests and adjacent grasslands, and oak woodland habitats. The baylands ecosystem is extremely productive. Submerged eelgrass and shellfish beds are a source of food for species such as herring and salmon. Tidal and upland areas support shorebirds, waterfowl, and larger birds of prey as well as other animals that live and feed in the adjacent oak woodlands, grasslands, and agricultural fields. Similar habitat relationships exist in the Coastal Recreation Corridor, for example along Tomales Bay and Bolinas Lagoon. In this document, the term "baylands" includes the Baylands Corridor as mapped in the 2007 CWP and all other baylands in Marin County that meet the definition above.

California has lost more than 90 percent of its coastal and estuarine salt marshes and those remaining are vastly diminished in size, have restricted tidal action, and/or are fragmented or isolated. Throughout San Francisco Bay roughly 80 percent of tidal salt marsh has been diked off for agriculture and/or developed as urban areas. As a result of 50 to 130 years of draining and grazing and/or cultivation, the extensive diked baylands in central and northern Marin now have surface elevations ranging from six to 20 feet (in extreme cases) below mean sea level.



Tidal marsh surrounding Novato's Black John Slough provides endangered species habitat.

Bayland soils are suitable only for limited crops or grazing, due to high salinities and oxidation of sulfides in the soil. They also are underlain by deep deposits of bay mud subject to differential settlement, subsidence, and severe ground-shaking during earthquakes. Although seasonal wetlands that form behind levees during the rainy season provide habitat for some bird species, many species are now endangered largely due to the loss of tidal habitat. Baylands reduce flooding from rising seas and storm surges, provide open space, and serve as community separators.

Freshwater and brackish seeps, springs, and streams were common around the edge of San Pablo and San Francisco Bay prior to diking and draining. A few of these freshwater wetlands remain; their benefits are described in the appendix under "Wetlands and Wetland Definitions"

Recommendations

- 1.1 Map and analyze all non-tidal parcels on the San Pablo and San Francisco Bay shoreline to determine if they meet the criteria for inclusion in the Baylands Corridor.
- 1.2 Protect, enhance, and restore all remaining tidal, seasonal, and other non-tidal marshes, including adjacent ecotones/transition zone habitats. Establish protective buffers that are at least 100 feet in width, wherever possible, or preferably 300 feet per recommendation of the *San Francisco Bay Habitat Goals Report*. Require that applicants identify all wetland areas on their property as part of environmental review.
- 1.3 Protect seasonal wildlife habitat conditions of diked baylands currently in agriculture, with the ultimate goal of restoring them to tidal salt marsh or a mix with enhanced seasonal wetland habitat.
- 1.4 Encourage owners of baylands parcels of all sizes to protect as much transitional habitat as possible for wildlife refuge to a minimum of 20 feet landward of high tide on smaller parcels and up to 100 feet on larger parcels where possible.
- 1.4 Marin County's cities and towns should amend general plans, plan maps, and policies to include a Baylands Corridor with land use designations and policies consistent with those of the county.
- 1.6 Require an environmental assessment overseen by all appropriate jurisdictions where development is proposed within a baylands parcel to ensure that development does not encroach into sensitive vegetation or wildlife habitats, limit wildlife range, create barriers, or damage fisheries or aquatic habitats.
- 1.7 Support public and private partnerships to acquire and permanently manage baylands.

- 1.8 Add diked baylands to the County’s priority list for open space acquisition.
- 1.9 Establish protections for baylands surrounding Bolinas Lagoon and Tomales Bay.
- 1.10 Ensure that structures to protect Marin’s rocky or exposed shorelines from erosion and sea level rise (e.g., revetments, sea walls, and groins) do not result in loss of biodiversity or damage to adjacent properties.
- 1.11 Jurisdictions with lands that front on bays or the ocean should work cooperatively toward adaptive planning to protect these lands and existing developments from rising sea levels.
- 1.12 Prohibit diking, filling, or dredging in tidal areas and areas of submerged aquatic vegetation such as eelgrass beds, unless the area is currently developed (e.g., a marina or homes) or is being routinely dredged. Periodic dredging for flood control or navigation is reviewed by state and federal agencies.
- 1.13 Permit only uses in bay marshlands that protect wetland or wildlife habitat and do not require diking, filling, or dredging. Protect all diked historic salt marsh, including areas that are not part of a Baylands Corridor.



Eelgrass beds are nurseries for aquatic species and also absorb (sequester) greenhouse gases. Richardson Bay (above) has a concentration of beds and Sausalito’s Horseshoe Cove is among locations with restoration potential.

- 1.14 Ensure that diked historic salt marsh is not developed with structures for human habitation in light of the structural vulnerability of underlying bay muds.
- 1.15 Use wetland definitions throughout the county that are biologically based. These include the Cowardin definition used by the US Fish and Wildlife Service, the Coastal Commission definition, and the definition proposed by the State Water Resources Control Board. These definitions all provide that unvegetated or sparsely vegetated areas, such as seasonally dry wetlands in our Mediterranean climate, can be defined as wetlands. (See Wetland Definitions in the appendix)
- 1.16 Protect and restore native oyster and eelgrass beds.

- 1.17 Avoid wetland impacts as the preferred mitigation. Where avoidance of a negative impact is impossible, such as in essential public works projects, replacement mitigation should be of the same wetland type, on-site or as close as possible, and at a three to one ratio.
- 1.18 Restrict public access to wetlands to avoid harm to sensitive wildlife, including endangered species, and their habitat. Other protective measures, such as wildlife-friendly fencing and plantings and limiting trail development, may also be needed.
- 1.19 Limit grading changes to the banks of ponds or lagoons except where required for wetland reconstruction, habitat improvements, essential levee repair, or other flood protection measures.
- 1.20 Retain beneficial vegetation around ponds and work with the Marin/Sonoma Mosquito Abatement District to promote vector control methods, e.g. integrated pest management methods, that are not ecologically destructive.
- 1.21 Promote public education and awareness to prevent dumping and trash accumulation in open space, parks, watersheds, and creeks.

WATERSHEDS, STREAMS & RIPARIAN HABITATS, & FRESHWATER WETLANDS

Marin County's 14 watersheds, shaped by underlying geology and weathering, contribute to its vegetative diversity, provide habitat for native fish and wildlife, and help define natural community boundaries. At least one watershed is a major source of the county's potable water. Watershed runoff affects the ecology and water quality of adjacent bay and ocean waters and the condition of low-lying floodplains. Freshwater wetlands also occur throughout the watersheds, associated with creeks, streams, ponds and lakes, or as isolated seeps or vernal pools. Ponds are a source of water and food for insects, birds, amphibians, mammals, and reptiles, and are habitat for the endangered California red-legged frog.

In 2008 the County embraced the concept of watersheds as planning units by establishing a Watershed Program with the goal of developing collaborative solutions to flooding, fisheries, and water quality issues. A number of agencies, including state and federal parks, also manage these local watersheds. The Marin County Stormwater Pollution Prevention Program (MCSTOPPP), formed in 1993, is a joint effort of Marin's cities, towns, and unincorporated areas to coordinate efforts to prevent polluted runoff from entering the bay and ocean. The county's eight flood zone districts perform a variety of activities aimed at flood management.

The 2007 CWP focuses on riparian conservation in stream conservation areas (SCAs) and provides guidance for maintaining hydraulic capacity, stabilizing channels, protecting vegetation, managing stormwater, and other functions. County, town, and city ordinances do not provide the same protections for riparian resources, such as setback widths from waterways, and this leads to inconsistent management of stream resources across jurisdictional boundaries.

The greatest weakness in protecting riparian resources, however, lies in the failure by agencies to enforce existing ordinances and restrictions.

Recommendations

- 1.22 Encourage watershed based planning (Watershed Management Plans) of all creeks in Marin County and cooperation among all interests: property owners, water diverters and dischargers, regulators, commercial users, environmental interests, fisheries, and other stakeholders. The objectives are to support natural year-round creek flows and protective policies and ordinances that are uniform and consistent throughout the county.
- 1.23 Strengthen the 2007 CWP stream and creek protection policies, implement them through new ordinances, and enforce them to protect all ephemeral, intermittent, and perennial streams, whether solid or dashed blue line streams on USGS Quad maps. Include those that have been channelized or otherwise altered. Protect minimum 100-foot buffers along stream banks even where no riparian vegetation exists.
- 1.24 Adopt policies that retain streams above ground and restore them if they are underground, and provide for adequate buffers and natural habitat as described above.
- 1.25 Prohibit unpermitted local surface water diversions and groundwater withdrawals to prevent the adverse impacts of cumulative flow reductions in all creeks.



Woody debris in streams, such as shown above in Lagunitas Creek, improves habitat for fish.

- 1.26 Avoid disturbances in the watershed that might alter sediment loads and/or rates of sediment deposition, such as loss of riparian vegetation, cultivation and shifts in agricultural practices, erosion, water diversions, and inadequate sediment controls in construction sites.
- 1.27 Encourage alternative solutions for adaptive watershed management to reduce the frequency and need to dredge.
- 1.28 Prevent adverse changes to the chemistry and biology of streams and runoff from point or non-point sources.
- 1.29 Require that all applications for development, including those that fall below the threshold size of five acres for requiring a Stormwater Pollution Prevention Plan (SWPPP) for new construction, include erosion control plans. Make the plans available to the public.
- 1.30 Strengthen riparian vegetation policies in the 2007 Countywide Plan and adopt new implementing ordinances that prohibit the removal of all native riparian vegetation, including herbaceous species, and require replacement of native vegetation in denuded areas or areas where invasive plant species are being removed.
- 1.31 Enforce general plan policies and stormwater ordinances by requiring bonds to be posted prior to development to cover the cost of mitigation monitoring and correction of infractions of stream and creek policies and stormwater ordinances (MCSTOPPP).



Marin's Mount Tamalpais is UNESCO-designated as one of 13 protected areas in the Golden Gate biosphere reserve. More than 900 species of vascular plants and 400 species of vertebrate animals have been documented here.



Lightly-scented California mugwort is one of the herbaceous native species growing in our watersheds. The plant's leaves were used medicinally by indigenous peoples.

1.32 Improve water infiltration throughout watersheds by dispersing surface water to slow runoff rates. Prohibit impervious pavement surfaces in the SCA and reduce impervious impacts elsewhere by use of practices such as biofiltration or bioretention basins to maintain a site's predevelopment infiltration, direct runoff away from structures to preclude downstream erosion and flooding, and maintain year-round flows in creeks that historically flow year round.

1.33 Prohibit the development of new public trails within all stream conservation areas and areas directly adjacent to wetlands, creeks, and the bayfront.

1.34 Avoid locating new developments and infrastructure in floodplains and other areas potentially subject to

inundation and sea level rise as the primary strategy to avert damage from flooding to structures and habitat, and risks to health and human safety (See also **Community Development** section).

- 1.35 Prevent use of synthetic turf. The artificial surface reduces water infiltration thus increasing the rate and volume of surface runoff; synthetic turf has no habitat value, and has potential toxic properties that may persist in the water column and affect water quality.

UPLAND HABITATS

The upland habitats of Marin County constitute a rich mosaic of grassland, shrub, and woodland and forest plant communities, as well as wildlife habitats and wildlife connectivity areas, reflecting the varied topography, soils, exposure, proximity to the coast, elevation, and other physical conditions in the county. Ridgelines serve as valuable corridors for wildlife movement. Not including wetland and riparian communities, the 2007 Countywide Plan maps about a dozen vegetation types, of which seven are briefly described in the appendix to this publication. Recommendations for their protection and management are listed below.



Rock outcroppings and native grasses, such as found on Ring Mountain's open space preserve, are part of Marin's natural landscape.

Recommendations

- 1.36 Preserve native grasslands and, when possible, restore non-native annual grasslands to native perennial bunch grass or rhizomatous species such as purple needlegrass and creeping wild rye. Native grassland is the ecosystem on which pastoral agriculture was originally based and is critical to effective watershed management. It is among California's most endangered habitats due to its extensive replacement by non-native annual grasses and other herbaceous species.
- 1.37 Conduct thorough biological and geotechnical assessment before any change is considered in serpentine grassland. These grasslands support numerous threatened or endangered species, and they are structurally unsuitable for development.
- 1.38 Adopt and implement policies to ensure preservation of sensitive habitat types, including serpentine grasslands, chaparral, and rock outcroppings.
- 1.39 Restrict further development in chaparral and woodlands due to the high fire potential at the wildland-urban Interface (WUI). This should be done both for the safety of residents and to protect habitat from fuel break clearing and other fuel reduction techniques that disrupt habitats.
- 1.40 Implement programs that provide for removal of non-native invasive plant species when they threaten the habitat value of native vegetation, using integrated pest management (IPM) strategies. IPM allows mechanical, chemical, or biological eradication methods, depending on effectiveness, impact, and safety. Coordinate efforts between public and private land managers.
- 1.41 Protect coastal scrub vegetation for both wildlife habitat and slope stabilization, and limit development accordingly.
- 1.42 Use permeable surfaces wherever possible and avoid compaction of soil throughout the affected root zone in siting structures or paved surfaces near redwood and other native trees.
- 1.43 Retain those portions of redwood-Douglas fir groves where removal might expose any remaining trees to wind.
- 1.44 Avoid compaction, changes in soil depth, or excessive water near oak trunks and within the tree drip line, and any physical changes in the soil, surface water, or groundwater regime near an oak woodland or savannah. In particular, avoid typical garden irrigation to coast live oak and all native mixed broadleaf/conifer forest types.

WILDLIFE HABITAT



Tanbark oak, not a true oak, is a native threatened by Sudden Oak Death.

Plant communities native to Marin County are vital to maintaining the habitats of a number of special status species and a diversity of both resident and migratory wildlife. Both neotropical songbird populations and amphibians are in decline worldwide due to loss of habitat and other human-induced impacts. Marin County is also experiencing the loss of thousands of coast live oaks and tanbark oaks throughout forested areas and woodlands due to Sudden Oak Death (SOD). Loss and/or fragmentation of woodland, grassland, and other habitats of Marin's common wildlife continue to be threatened by new development.

Recommendations

1.45 Establish and implement policies to preserve the habitats described in the appendix and their associated plant and animal species. These policies should be supported by accurate maps. Mapping should include the most sensitive and vulnerable communities, such as serpentine grassland, native needlegrass grassland, coastal prairie grassland, both tidal and diked salt marsh, seasonal wetlands, freshwater wetlands, and low-lying grasslands and oak savannas adjacent to salt marshes that are part of the baylands ecosystem.

1.46 Strengthen the county's native tree preservation ordinance by updating the list of protected native trees, reviewing size standards, and eliminating allowable tree removals per year. Cities and towns that have not already done so should adopt tree preservation ordinances to protect both individuals and mixed-age stands of native trees in urban, woodland, and riparian areas.



French broom is one of the most damaging invasive weeds. It is a threat to native plant species and also an extreme fire danger.

1.47 Regularly update the special status species list in the 2007 CWP appendix and make it readily available in a companion document or on-line resource.

1.48 Protect ridgelines, upland greenbelts, and other community separators. In all native plant communities provide for sufficient wildlife habitat connectivity by preventing habitat fragmentation and disruption of wildlife territories and movement corridors.

1.49 Fund collaborative research efforts aimed at combating SOD impacts. These would include vector control, preventive treatments, treatment of affected trees, prevention of spread, and best management practices to prevent wildland fire resulting from the increased fuel load.

1.50 Control plant and animal invasive species.



The California buckeye grows in a wide range of conditions in northern California and lives up to 300 years.

2. PARKS AND OPEN SPACE

Marin is fortunate that a major portion of the county is in public ownership. In addition to the federally owned Muir Woods National Monument, Golden Gate National Recreation Area and Point Reyes National Seashore, three state parks (Angel Island, China Camp, and Olompali) are in East Marin, and four (Mount Tamalpais, Samuel P. Taylor, Tomales, and Marconi) are in West Marin. The major county parks are Hal Brown Park at Creekside, Paradise, McNears Beach, McInnis Park, and Stafford Lake. Marin County Parks also owns and manages numerous open space preserves, and two water districts control more than 25,000 acres of county watershed lands and reservoirs. Many incorporated communities in the county also have significant open space and park lands. These parks, open space, and watershed lands are valuable community assets.



The 26-acre Hal Brown Park at Creekside in Kentfield opened in 2011 and is popular with visitors of all ages.

Marin’s large areas of federal and state park lands also provide wildlife habitat, open space, and opportunities for environmental appreciation and recreation for the people of the Bay Area and beyond. Community and neighborhood parks are addressed under the **Public Facilities and Services** section of this document.

The terms “parks” and “open space” are sometimes used interchangeably. Locally, for the county and cities, “park” generally refers to publicly-owned lands with maintained landscapes that may have active recreational facilities such as picnic areas, playing fields, or swimming pools.

The term “open space” in this document refers to protected open land in which the natural resources are preserved with limited developed facilities, such as fire roads and low impact trails (footpaths). The Marin Countywide Plan states that sustainable management of open space will ensure that this resource remains a public asset for future generations.

Both “open space” and “parks” have serious problems. Even with diligent management, existing overuse and trends toward increased use threaten many sensitive and popular areas. New recreational technologies, increased use, and the underfunding of park facilities have increased impacts on the resources. Funds, such as those provided by County Measure A in 2012, will help to sustain open space resources for future generations. Opportunities for new recreational activities should be considered in the context of their impact. This section includes information and policies for national and state parks, water district lands, and major county and city open space areas.

Marin County Parks’ open space preserves, state and federal park areas, and water district lands remain primarily in a natural state and are important local and regional assets. The large areas of Marin County that are agricultural lands also include important habitat and scenic value, but are privately owned and thus are not “open space”.

Typical uses of trails on open space and park lands include hiking, dog walking, horseback riding



There are several equestrian facilities in Marin County and horse owners are among users of Marin's extensive trail system.

and mountain biking. These uses can create conflicts and damage resources. These conflicts should be resolved through education and enforcement of regulations based on safety and preservation of the environment.

The development of public open space and water district lands for additional recreational uses would change natural habitats and could adversely impact natural biological systems, wildlife, wildlife habitats and corridors.

Wilderness areas, as defined by Marin County Parks, are roadless areas that have minimal use and public intrusion in order to maintain and sustain the health of the natural environment.

Wilderness, as defined per federal law by the National Park Service, are areas accorded the highest levels of protection, where human impact is minimal, natural processes are allowed to run unfettered, and commercial and mechanized uses (e.g. bicycles) are prohibited.

Recommendations

- 2.1 Marin County Parks' primary goal should be protection of natural resources in the open space preserves in support of the primary goal of the September 2008 Open Space District Resource Management Plan, to "improve the long-term management and stewardship of open space lands."
- 2.2 Ensure that policies and funding guarantee the acquisition and maintenance of natural resource lands and open space in county, water district, state, and federal open space and park preserves. Public entities should coordinate with public/private nonprofits that can offer volunteers and other resources to supplement the work of limited paid staff.
- 2.3 Marin County Parks should give high priority to the acquisition of remaining large undeveloped riparian, wetland and bayland parcels, and wildlife corridors.
- 2.4 Allow access where it will not adversely impact natural resources and where it is compatible with adjacent natural resource areas on open space, water district, or park lands.
- 2.5 Apply restrictive zoning to privately owned parcels that have significant environmental resources such as wetlands, riparian corridors, native grasslands, native woodlands, and baylands. Work with landowners who have vested rights that impact environmental resources, and develop policies and incentives to encourage voluntary actions to reduce adverse impacts on resources.
- 2.6 Work with fire agencies and biologists to accomplish essential fire fuel management programs to reduce both impacts on native habitats and the spread of invasive species on public lands.
- 2.7 Encourage volunteer stewardship programs for all public open space lands and coordination of such programs with adjoining jurisdictions.
- 2.8 Explore ways to work with regional and statewide trail programs such as the State Coastal Trail, Bay Area Ridge Trail, and San Francisco Bay Trail, to utilize existing trails that do not damage the environment, rather than creating new trails, in order to protect wildlife. Limit trail location or construction according to the constraints listed in 2.11.

- 2.9 The following wording adapted from Marin County Parks should be applied to all jurisdictions with trails: Bicycles shall be permitted to operate on all public park and open space lands only upon fire protection roads, designated bicycle pathways or public roads, or where such uses are permitted. No person shall operate or possess any bicycle elsewhere on public lands, including trails, unless specifically permitted. Signage should clearly identify permitted uses.
- 2.10 Ensure that the county and cities, state parks, and special districts work together on vegetation and fuel management planning on both public and private lands. Include botanical and wildlife specialists in planning to ensure that habitats and biodiversity are protected and invasion by non-native species is controlled in exposed fuel breaks.
- 2.11 Ensure that planning for and management of parks, water district lands, and open space areas will do the following:
- Protect native wildlife habitat areas, enhance or restore degraded habitat for threatened, endangered, and other special status species, and provide corridors to connect habitat areas.
 - Remove non-native invasive flora, and reintroduce native plants.
 - Provide for humane removal of feral and non-native animals including cats, turkeys, fallow and axis deer, and red squirrels.
 - Ensure that commercial grazing allowed on Marin County Parks' preserves is designed and managed to maintain natural biodiversity or fire control, and is only authorized where the use or reintroduction of native grazers/browsers that perform the same ecological service is not feasible.
 - Prohibit lease or rental of Marin County Parks' lands for other commercial purposes.
 - Increase protection of trails from illegal, unsafe or destructive use.
 - Ensure that "shared use" trails are properly constructed and maintained to ensure safety of all permitted users.
 - Dogs on parks and open space lands should be on leash to protect wildlife and vegetation, unless otherwise designated.
 - Ensure that users are able to experience quiet enjoyment of nature in open space areas.
 - Provide reasonably uniform signage and its placement by all parks and open space agencies.
 - Educate users about the function and sensitivity of public lands, plants, and wildlife.
 - Research and implement ways to protect popular areas from destructive use. These could include seasonal and occasional closure or requiring permits for trail use.
 - Reduce traffic problems related to recreational use. (Refer to the **Transportation** section of this document).
 - Support interaction and cooperative planning among agencies on shared environmental and management issues.
 - Abate encroachment of private property into open space.
- 2.12 Approve no net increase in trail mileage beyond the currently authorized mileage. Eliminate unauthorized trails unless it is determined that they are environmentally superior to existing trails, in which case eliminate a comparable length of authorized trail. Include protection roads in the current mileage calculation as they are also used for recreation.

3. AGRICULTURE

“Agriculture. The breeding, raising, pasturing, and grazing of livestock, for the production of food and fiber; the breeding and raising of bees, fish, poultry, and other fowl; and the planting, raising, harvesting, and producing of agricultural, aquacultural, horticultural and forestry crops.”

-- From Marin County Code Title 22, Development Code



Dairy and livestock comprise about 70 percent of Marin’s agricultural production.

Agriculture is an important part of Marin’s historic community character and economy, and *Community Marin* places a high value on preserving agricultural lands while also ensuring that land management practices protect their natural habitats.

In 1971 most agricultural lands in Central and West Marin were rezoned to A-60, a low-density zoning which permits no more than one dwelling unit per 60 acres. Two additional agricultural zoning districts, ARP (Agricultural, Residential Planned) and C-APZ (Coastal Agricultural Production Zone) were created in the early 1980s. The C-APZ zoning district imposed the strictest conditions for non-agricultural development. The pre-1971 zoning designa-

tion, A-2, a residential zoning district permitting one unit per two acres and allowing agricultural uses, remains in effect on some small parcels in West Marin and most agricultural parcels in the City Centered Corridor which were not rezoned to ARP or a planned residential zoning district.

Complementing agricultural zoning, the nonprofit Marin Agricultural Land Trust (MALT) was created in 1980, and through 2012 had permanently preserved more than 44,000 acres of West Marin agricultural land by acquiring agricultural conservation easements on these lands.

In 1982 the County created a Bayfront Conservation Zone (BFC), an overlay zone applicable to tidelands and historic bay marshlands and adjacent uplands along San Francisco and San Pablo bays in the City Centered Corridor. Some of the historic bay marshlands had been diked and used for agriculture for more than 100 years, primarily for growing oat hay or grazing cattle. The purpose of the BFC is to preserve natural habitats and agricultural values of property within the BFC zone. An environmental assessment is required prior to an application for development in this zone.



Marin’s agricultural output has become increasingly varied in recent years.

In the 1994 revision of the Countywide Plan an Agricultural Element was added to emphasize the County’s commitment to the preservation of agriculture. The Agricultural Element included a separate section for agricultural lands in the BFC.

The 2007 CWP update affirmed the county’s support for

agriculture, noting that dairy products generate more than half of the county's agricultural revenues and organic products are a growing source of revenue. This plan raised the permitted residential floor area for all dwelling units and non-agricultural accessory structures on any one parcel to 7,000 square feet.

In 2003, the Marin County Development Code was rewritten and changes made to the Agriculturally Zoned Planned Districts and Uses sections. The county's stated intent was to make permitting for agricultural and directly agriculture-related businesses and uses easier. This included removal of master plan, precise development plan, and use permit requirements for some uses (largely to reflect the application of previous regulations historically used by county staff). The list of allowable uses in A Zoning Districts (especially A-3 to A-60) was increased, thus decreasing regulation and the opportunity for the public to participate in a discretionary review process. (*Ch. 22.44.035 and 22.44.040 Exemption and Waiver sections of Marin County Development Code*)

Dairy and livestock agriculture, which occupy about 70 percent of Marin's agricultural land, generate methane and pollutants affecting water quality and ecosystems. Although farms are highly regulated there is not uniform compliance with Regional Water Quality Control Board rules.



Marin's farmers' markets are a showcase for the county's locally grown and produced agricultural products.

Recommendations

- 3.1 Revise A and ARP zoning districts to include standards and requirements similar to the C-APZ district requirements to assure that any residential development is secondary and subordinate to the primary agricultural use of the sites.
- 3.2 Restrict subdivision of agricultural lands unless it can be demonstrated that the subdivision would preserve and enhance the property's agricultural use and ecological values, and would not conflict with agriculture on nearby properties.
- 3.3 Processing facilities for agricultural operations on agricultural land that are greater than 2,500 square feet in size should require a conditional use permit.
- 3.4 Increase A-60 zoning to A-120 or A-200 zoning as has been done in other Bay Area counties. Encourage consolidation of properties and waive fees for processing applications to do so.
- 3.5 Adopt and enforce agricultural best management practices that prevent soil erosion and protect water quality, native woodland and riparian and wetland habitat, grasslands, and chaparral.
- 3.6 Require management plans that implement *Community Marin* policies; require the plans for changes in intensity of use and new agricultural uses, or for land conversions to a more intensive type of agriculture, such as a change from livestock grazing to row crops.
- 3.7 Support funding for the purchase of agricultural conservation easements on agricultural land by Marin Agricultural Land Trust or other qualified land conservation organizations.
- 3.8 Rezone large agricultural properties in the City Centered Corridor to densities consistent with agricultural zoning densities in the Inland Rural Corridor, and incorporate the same standards and requirements as in revised A, ARP and C-APZ zoning.

- 3.9 Prohibit agricultural practices that would harm wetland and riparian resources and sensitive wildlife habitat. There should be no agricultural activity or development within 100 feet of a wetland or riparian habitat.
- 3.10 Encourage grazing methods or other management practices that favor increasing the cover of native perennial grasses and forbs (herbaceous plants) rather than introduced and annual grasses.
- 3.11 Extend the boundaries of the Baylands Corridor to include agricultural lands adjacent to the former Bayfront Conservation Zone in North Marin.
- 3.12 Encourage pesticide-free agriculture, organic agriculture, and practices transitional to organic certification, consistent with protection of environmental resources.
- 3.13 Support residential units for workers only where they are directly related to the primary agricultural use of the property, and meet health and safety standards.
- 3.14 On agriculturally zoned parcels, allow new commercial equestrian facilities only if they are secondary and subordinate to the agricultural uses of the property and comply with best equine management practices.
- 3.15 Prohibit new non-agricultural uses such as libraries, museums and religious places of worship or residential religious retreats, group homes, golf courses and country clubs, schools, off-road vehicle courses, child day-care centers, hospitals, medical clinics and laboratories, and “other service uses” in agriculturally zoned parcels.
- 3.16 On legal lots greater than 120 acres permit one additional dwelling. Buildings should be clustered on a maximum of five percent of total acreage. Subdivision of the property should not be permitted as a result of the construction of the additional dwelling. The total residential square footage of both homes should not exceed 7,000 square feet. There should be a total maximum size of 4,000 square feet of floor area for residences and associated non-agricultural accessory structures such as garages and home offices in agricultural districts.



Produce from Marin County farms finds ready customers at the farmers' markets.

4. HOUSING

Community Marin supports infill housing, including below-market-rate housing, which respects community character, at locations where minimal or no adverse environmental impacts would result, and where there are services to support the housing.

There is an imbalance between the types of jobs and the price of housing in Marin County. Many low-paying jobs in Marin, including in retail and services, are held by workers commuting from outside the county. Conversely, many Marin residents hold high-paying jobs outside Marin County. The journey to work is a major component of vehicle miles traveled and greenhouse gas emissions.

House size is a major planning issue, especially in view of the fact that in the U.S. the average size of new single family homes has more than doubled since 1950, even as the average household size has steadily shrunk. The Countywide Plan does not address the issue of maximum house size, except in agricultural areas, where a maximum of 7,000 square feet is allowed under certain conditions. The desirability of Marin as a place to live, market forces, and social values foster construction of large custom homes. In Marin, the average new residence is now about 3,500 square feet of living space, not including garages and other accessory buildings, and some new homes of more than 15,000 square feet have been permitted. County zoning ordinances often allow, and even encourage, new development on large lots outside of urban areas. In addition small older homes in existing neighborhoods are being enlarged, thus decreasing the stock of lower priced housing. Such expansions, together with construction of new large homes, impair community character.



Small three bedroom homes built at mid-century are being replaced by much larger residences, reducing the stock of relatively affordable housing.

The unchecked proliferation of oversized houses has potential for adverse environmental effects that are not always mitigated by green building ordinances, including the following:

- Degrading natural resources and wildlife habitat through removal or disturbance of trees, grasslands and creeks.
- Wasteful and destructive of natural resources, including for construction, furnishings, maintenance, water, landscaping, heating, and other ongoing energy needs.
- Impervious surfaces that contribute to erosion, polluted runoff and flooding, and reduce groundwater and percolation.
- Oversized homes in developed areas can impair the character of existing neighborhoods.
- In agricultural zones, jeopardizes long term viability of agriculture, because the financial value of very large homes may cause property to have more value for estate use than agricultural use.

State requirements for housing elements in local general plans may be inconsistent with other planning and environmental requirements. Regional housing needs, determined by the State Department of Housing and Community Development (HCD) and allocated by the Association of Bay Area

Governments, do not take into account constraints such as the availability of developable land and the need to protect the environment. The primary purpose of housing element requirements is to develop more housing, rather than to meet the needs of low and moderate-income households and to make best use of existing housing. HCD does not allow localities to count all units converted from market-rate to below-market-rate, assisted living units, second units, or inclusionary units toward their quotas.

Moreover, the controversy generated by the proposed designation of inappropriate sites and densities in the housing element planning process produces animosity toward needed affordable housing, even when development will never take place on many of these sites.

Marin County and its cities and towns, where applicable, should take the following actions.

Recommendations

- 4.1 Establish a maximum size of 3,500 square feet for new and remodeled homes, plus another 500 square feet for accessory buildings, unless a lower maximum is specified in adopted city or community plans. Allow a size larger than the maximum only if the unit is subject to design review, meets all planning standards, has no adverse impacts on sensitive habitat and service capacities, does not exceed the energy use of a typical 3,500 square foot floor area house, conforms to the average size of houses in the neighborhood, and the developer makes a compensatory contribution to a trust fund for support of environmental protection. Establish strict standards for floor area ratio, lot coverage, conformance with community character, bulk, mass, slope, height, accessory structures, and design review. The house size calculation should include all enclosed or partially enclosed space that is attached to the living space. Accessory structures include garages. Make it clear that a maximum is not an entitlement.
- 4.2 Enact policies in support of housing permanently affordable to low and moderate-income residents.
- 4.3 Prevent residential sprawl and intrusion into environmentally sensitive areas. These include wildlife habitat; areas subject to wildfires, flooding, earthquakes and landslides; and areas designated as priorities for conservation and open space through such means as urban growth boundaries.



San Rafael Commons has affordable units for senior residents in walking distance of shops and services.

- 4.4 Encourage infill and mixed use development where it is consistent with height limits and community character, and reuse of existing non-residential buildings for housing.
- 4.5 Locate housing near transit and other services, without impairing natural resources, in order to encourage walking and bicycle use, discourage use of the private automobile and reduce vehicle miles traveled.
- 4.6 Evaluate parcels currently zoned for commercial use; consider rezoning for residential or mixed use.
- 4.7 Retain existing below market rate housing. This may be done through zoning, tax incentives, permanent deed restrictions, permitting of second units, and technical assistance. Work with state and local jurisdictions to establish procedures for retaining below market rate housing.

4.8 Establish procedures for maintaining and increasing the stock of rental housing and encourage legal second units, subject to environmental protection, adequate off-street parking, and availability of services.

4.9 Support housing trust funds to pay for conversion of existing single-family units to create affordable housing. A possible mechanism for accomplishing this would be the use of the real estate transfer tax.



Former officer quarters at Hamilton Air Force Base in Novato have been converted to apartments for seniors.

4.10 Prioritize placement of affordable housing in mixed-income neighborhoods. Avoid overconcentration of affordable units in any one area.

4.11 Establish and enforce limits on the size of additions to existing residences consistent with protection of environmental resources, including energy, water, and building materials.

4.12 Increase the percentage requirements for below-market-rate units, with a minimum requirement of 20 percent, and reduce the project size threshold in inclusionary zoning ordinances. Require provision of below market rate housing on site rather than allowing in lieu fees, where appropriate. If in lieu fees are permitted, they should be adequate to cover the actual cost of developing affordable units. The county currently has a 20 percent inclusionary requirement for two units or more and city standards should match or exceed county requirements.

4.13 Require developers of commercial properties to provide or fully fund an appropriate amount of below-market-rate housing within the county. San Rafael and the county have jobs/housing linkage fees. Other cities and towns should adopt similar requirements.

4.14 Consider increasing density in infill locations, consistent with community character, availability of resources and environmental constraints, to provide less expensive housing. Outlying areas should be reduced in density to offset increases.

4.15 Incorporate conservation measures and siting and building techniques such as those outlined under **Community Development**, especially to protect sensitive resources.

4.16 Work cooperatively with other jurisdictions, non-profit housing, environmental, and neighborhood groups to implement these programs within the county.

4.17 Urge overseeing agencies to assure that affordable housing is well maintained and managed, and that nearby environmental resources are protected.

4.18 Require point-of-sale inspections for all property sales. These should ensure that the property meets all public health and safety requirements and environmental protection measures, and that required permit fees are paid and inspections completed for work that occurred on the property.

4.19 Conduct a point-of-sale energy audit program to convey upgrade recommendations and disclose areas of energy inefficiencies to buyers as part of the pre-sale inspection.

5. Economic Vitality

Community Marin organizations support local planning efforts designed to help maintain a diverse, service oriented business base that meets the needs of the local community, provides for significant job opportunities, reduces the need for out-of-county commuting, and does so without impairment of Marin's long-standing natural resource and environmental values.



Sausalito's bustling Bridgeway Avenue next to the bay attracts visitors to its shopping area.

The 2007 Marin Countywide Plan endorses the goal of concentrating future employment growth in the areas of professional, scientific, and technical services in order to maintain a base for Marin's economic vitality. These jobs, and the jobs they in turn support, will provide the basis for a broad-based, vibrant local economy. There is, however, a limit to the number of employment centers that can be

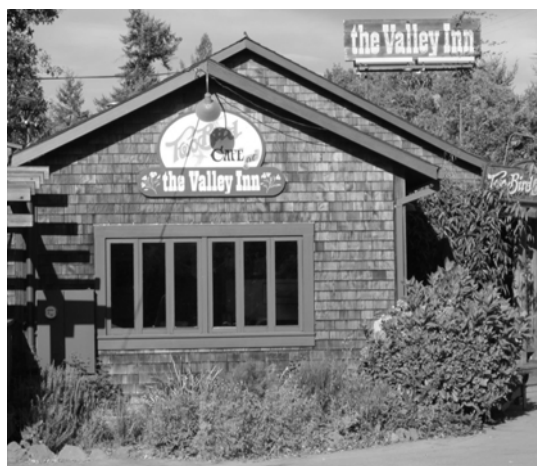
accommodated in a City Centered Corridor that is largely built out, which means that some re-direction in the uses of existing commercial areas will be necessary.

Commercial development strategies among the 11 local jurisdictions are not sufficiently coordinated with other planning objectives. Countywide economic objectives may also be in conflict with various local planning objectives, but these differences can be successfully resolved if there are communications among all jurisdictions.

Marin County is also part of an economic region, and people will continue to commute into and out of the county for employment. Local jurisdictions have promoted commercial development and, for fiscal reasons, increased retail space that generates sales tax along with a large number of relatively low-wage jobs on which retail businesses rely. Strategies promoting Marin as a job center also continue to lead to traffic congestion on the county's highways, and on arterial and local roadways. (See **Housing** and **Transportation** sections of *Community Marin*.)

Recommendations

- 5.1 Focus commercial development and job centers within the City Centered Corridor, near public transit sites and in existing community business centers, through infill and reuse of existing commercial sites. Balance development and reuse with traffic demands and transit opportu-



The Two Bird Café and Valley Inn in San Geronimo host valley visitors and residents.

nities. Preserve and enhance existing town centers. Consider the establishment of mixed use development, including residential, in the downtown locations.

5.2 Retain local serving businesses that supply diverse and essential services for the residents of Marin County.

5.3 Incorporate into general plans economic policies and programs to reduce Marin County’s carbon footprint, including promoting local food production and market supplies.

5.4 Ensure that the net public costs and impacts of all commercial development are understood, and require the development to contribute its fair share to a fund that will provide affordable housing and support city services. Require that commercial development fully meet those costs and mitigate impacts as part of the planning and approval process.

5.5 Support state legislation to encourage the establishment of regional tax sharing measures to balance the funding base of local jurisdictions.



The Depot Bookstore and Cafe is a community-serving business in Mill Valley.

5.6 Establish community impact ordinances to help analyze impacts of proposals for large retail establishments, such as big box super stores. These should provide for analysis of the regional effect of the proposed development on existing retail businesses’ supply of, and demand for, retail space, projected net job creation or loss, wages, economic vitality of downtowns, amount of sales revenue retained and reinvested in the community, and the cost of public services to service the proposed development.



Locally-grown products are a growing niche in Marin.

5.7 Support expansion and funding of the county’s Green Business Certification Program, and support businesses that implement program requirements.

5.8 Incorporate economic policies that support reducing greenhouse gas emissions, including promoting local food production and market supplies, incentives for use of fuel efficient vehicles, and expansion of energy efficient public transit in the City Centered Corridor.

5.9 Support local regulation limiting the use of single use products such as synthetic packaging materials, plastic bags, and polystyrene carryout food containers. Work with local jurisdictions and the private sector to promote zero waste objectives of the county’s Solid and Hazardous Waste Joint Powers Authority.

5.10 Support Extended Producer Responsibility (EPR) legislation and regulation to encourage sustainable product design and production methods over the product’s life cycle. Local jurisdictions and other public districts should support EPR through purchasing decisions in favor of businesses that accept responsibility for the entire environmental and social costs of the goods and services they provide, including their use, recycling, and disposal.



This marine services firm, which works on wetland restoration, is part of the Inverness commercial area close to Tomales Bay.

6. COMMUNITY DEVELOPMENT

Since 1973 the Marin Countywide Plan has called for the protection and development of community centers characterized by accessibility, mixed use, and amenities such as shopping, services, and public spaces. These qualities, which are exemplified in the traditional town centers in Marin, are important principles of *Community Marin*. In keeping with its overriding goals of conserving resources and protecting the natural environment, the 2007 Countywide Plan also contains a wide range of policies to encourage energy efficiency and green development standards, also recommended by *Community Marin*.



San Geronimo Valley Community Center is a hub of activities for Lagunitas, Woodacre, and San Geronimo.

In recent years there has been increased interest in mixed use, infill development, energy efficiency, green building standards, and reuse of commercial areas. *Community Marin* supports implementation of these measures, particularly as they apply to development in the City Centered Corridor. Higher density infill, however, is not necessarily appropriate for the Coastal and Inland Rural Corridors.

Recent state legislation requires local governments to address greenhouse gas emissions. One method is to encourage transit oriented, walkable communities in order to reduce vehicle miles traveled.



Tiburon's bayfront path adds walkability to the community and is enjoyed by residents.

The 2007 Marin Countywide Plan does not address the need to limit growth, particularly in view of the projected water supply uncertainties and the county's already inadequate transportation system. Further, it fails to consider impacts on the character of communities targeted for new development. There are limits to how much total growth Marin can accommodate, consistent with protection of natural resources, geography, and services. There are no requirements for offsets in development potential in outlying locations to compensate for increases at infill sites. Addressing this issue equitably will require cooperative planning by the cities, the county, and service districts.

The prevailing character of new development in Marin continues to be single use, sprawling, and automobile-dependent, in contrast to the county's older communities and community centers. Much development also fails to include vegetated areas and wildlife habitat that would add to the attractiveness and healthfulness of neighborhoods and help to reduce heat and greenhouse gases. Shopping malls, such as Vintage Oaks and Gateway Center, industrial parks, and conventional subdivisions are prime examples of development that contradict the design principles of the 2007 Countywide Plan and

Community Marin: functionally monotonous, formulaic, out of scale, and failing to reflect community identity and character.

Recommendations

- 6.1 Reduce the total amount of additional growth, especially commercial development, allowed by current plans; do not just mitigate its impacts. Future growth should be planned in accordance with standards for protection of environmental resources and goals for protection and enhancement of the county's existing character, and should take into account the potential availability of services and resources.
- 6.2 Recognize that there is an ultimate limit to growth based on environmental and service constraints, and all land use designations should be based on these constraints. City and county general plans should limit projected buildout to levels that can exist reliably and continue into the future on local natural resources, including existing developed water sources.
- 6.3 Offset density increases at infill sites with reductions in development potential at outlying locations.
- 6.4 Focus new development on existing community centers, through infill and reuse. Maintain the existing scale and enhance the historic, community-centered character of Marin.
- 6.5 Enhance developed areas by incorporating natural green spaces and trees.
- 6.6 Balance parking requirements with the need to reduce car use, through such means as zip cars, loaner bikes, and other innovative techniques, to minimize spillover into adjacent neighborhoods.
- 6.7 Provide for a range of activities and opportunities for interaction within town centers, such as housing, shopping, services, jobs and outdoor public spaces, along with easy access to transportation.
- 6.8 Encourage redevelopment of commercial areas to mixed use, including housing where appropriate.
- 6.9 Make more efficient and/or aesthetic use of parking areas and public garages by adding solar panels on roofs, water retention areas, planted areas, and shade trees.
- 6.10 Revise the Residential Multiple Planned (RMP) zoning designation to clarify that any office use must be ancillary and subordinate to the primary residential use.
- 6.11 Require new development, both residential and commercial, to incorporate energy efficiency and other resource conserving measures in all aspects of siting, infrastructure, construction techniques and materials, and landscaping, such as those listed below:
 - Encourage compact development patterns that promote efficient use of resources.
 - Maintain natural landforms and habitats by prohibiting massive grading, encroachment into or filling of floodplains and wetlands, and removal of native vegetation.



This sign is a friendly welcome to the unincorporated area.



Sausalito's Vina del Mar Park in the center of its downtown is often photographed.

- Optimize microclimate orientation to reduce building energy demands in the siting of buildings, and use resource-conserving materials and construction technologies.
- Minimize conversion of water absorbent ground surfaces to impervious materials.
- Cluster development to preserve the maximum amount of the property as natural habitat, for agricultural use or open space, prioritizing habitat protection.
- Assure that donation of open space by a property owner is not at the expense of inappropriate development.
- Where feasible, use on-site renewable energy technologies, including active and passive solar, to reduce demands for grid-delivered electricity.
- Use recycled or renewable materials for roads and structures, including materials from sustainable-certified sources and materials that can be recycled in the future.
- Conserve water use through installation of locally adapted and drought-tolerant landscaping; use recycled (waste) or reclaimed water or gray water wherever possible. Make recycling facilities and services, including dual piping, readily available.



North Marin and Marin Municipal Water Districts have recycled water programs. These help insure adequate water for future users without desalination or further importation of Russian River water.

- 6.12 Determine the effectiveness and cost of green building techniques, including the total energy cost of materials, operation and maintenance, and environmental impacts or costs, before relying on them.
- 6.13 Prohibit use of green building techniques as a substitute for compliance with all other planning and zoning requirements and protection of natural resources.
- 6.14 Anticipate the effects of sea level rise and other consequences of a changing climate. Establish adaptive strategies and legal mechanisms to regulate new development or redevelopment in areas projected to be inundated or flooded in the future, including prohibition of new development and requirements for special design standards, and make plans to minimize damage to habitat and existing infrastructure and facilities as inundation proceeds.



San Anselmo Creek is a popular gathering place and viewing area, but overflowing banks generated damaging floods during winter storms on several occasions.

6.15 In already developed areas in need of flood protection, allow natural means of accommodating flood waters to the greatest extent possible. These include: removing barriers to stream flow to increase creek capacity, retaining rainwater on site, purchasing development rights on properties at highest risk, and designating low-intensity use areas such as parking lots and playfields as temporary floodwater retention areas.

6.16 All jurisdictions should adopt measures, such as urban growth boundaries, to protect outlying areas from inappropriate development.

7. PUBLIC FACILITIES AND SERVICES



The untreated waste water filling this bio tower at Central Marin Sanitation Agency will be converted into water that can be released into the bay through an organic treatment in which bacteria in the plant eat the waste, or nutrients, in the raw sewage.

The 2007 Marin Countywide Plan includes public facilities and services as part of its built environment section. It describes the urban services areas in the county and addresses the management of the costs of public facilities and services, water resource management, wastewater management, solid waste and landfills, and telecommunication facilities. Marin County supports dozens of special districts and all of these facilities and services have implications for Marin's environment. *Community Marin* thus has a strong commitment to addressing Marin's water supply, the volume and disposal of solid and hazardous waste, handling of wastewater and stormwater, energy programs, and telecommunications infrastructure, among others. Fire manage-

ment plans, as they affect the interface among open space, parks, wildlands and the urbanized built environment also may have environmental consequences.

We have continuing interest in our community parks. Many jurisdictions in the County do not meet state per capita acreage standards for park area and facilities.

Environmental concerns with respect to public facilities and services are no longer limited to the specific impacts of their locations or to the adequacy of their supply but also encompass their indirect impacts on the natural environment. Efficiency and conservation in the use of all resources must also be evaluated and implemented.

The environmental impacts of managing existing facilities and developing additional public service facilities must be carefully evaluated as part of the planning process and limits placed on facilities and their services where necessary to avoid adverse environmental impacts.

Recommendations

- 7.1 Encourage coordination of public service facilities, such as wastewater treatment and water supply, with land use patterns and defined population levels at buildout, as forecast by the 2007 Countywide Plan and other general plans. Where possible, set measureable performance targets such as per capita reductions in water and energy consumption, and solid waste production.
- 7.2 Promote coordination of all planning by and between general purpose government entities and the public service agencies, and encourage consolidation of agencies wherever this could reduce both costs and environmental impacts.
- 7.3 Encourage wildland-urban interface (WUI) planning and fire and vegetation management operations, as required by state law, to incorporate best natural resource management practices to protect biodiversity and avoid adverse impacts on natural habitats.

- 7.4 Support and encourage a broad range of water conservation programs and strategies including, but not limited to, rebates for water use efficiency measures plus aggressive water rate tiers to provide incentives for reducing water use, particularly for landscape irrigation. At the same time, provide incentives to encourage the use of recycled water and gray water systems for irrigation use, where feasible, by residential, commercial, and public sector customers.
- 7.5 Support water conservation and energy efficiency program measures as the preferred strategy for meeting Marin County’s future water needs.
- 7.6 Desalination as a source of water supply should be considered only after all reasonable water conservation opportunities have been determined to be incapable of meeting emergencies or future demand. Desalination at this time has a high capital and operating cost, uses a lot of energy and, if built, could reduce the incentive of the public to conserve water.
- 7.7 Reduce Marin County’s dependence on imported water from the Russian River and Eel River watersheds, and prohibit additional importation of water from these watersheds. This importation has significant adverse environmental impacts on the Russian and Eel river systems.

Wastewater and Stormwater Management

- 7.8 Require on-site retention of water runoff at commercial and public sector facilities. This could be done through such means as holding ponds and/or vegetated swales and replacement of impervious pavement with permeable surfaces to reduce runoff and minimize impacts on water quality in our streams, and upon the stormwater drainage system. Apply the “Slow-Spread-Sink,” principle to new residential construction to reduce or prevent a net increase in runoff compared to predevelopment runoff (i.e. runoff from the parcel absent any development).
- 7.9 Develop, implement, and enforce improved septic system construction and maintenance standards to protect public health and reduce potential impacts on neighboring streams and wetlands. Encourage widespread compliance with such septic standards through reliable monitoring systems and improved technology. Ensure that regulations are in place to meet current clean water standards and to prohibit development that exceeds adopted land use plans.
- 7.10 Improve the ability of sanitation districts to prevent sewage spills.
- 7.11 Support replacement of aging household sewer collection systems (laterals) whose deterioration contributes to infiltration and inflow burden on treatment facilities, and to groundwater contamination.

7.12 Encourage sanitation districts to partner with MMWD and NMWD to produce reclaimed water, reducing potable water demand.

Solid Waste and Landfill Disposal

7.13 Establish zero waste programs, funded by facility fees, which reduce solid waste generation, including construction and demolition waste, and divert solid waste from landfill disposal for reuse. Provide for green and food waste composting throughout the county.

7.14 Implement strong household, commercial, and school waste collection programs and include a substantial educational component in this effort. Support



Recycling bins on Tiburon pathway.

jurisdictional coordination to control and prevent uses that place hazardous and other waste materials near creeks, wetlands, parks, and other sensitive sites such as schools.

- 7.15 Encourage producer and distributor product recycling and recovery programs to reduce the volume and toxicity of solid waste disposal at landfills serving Marin County.
- 7.16 Employ best management practices at landfill facilities in Marin.

Energy Measures

- 7.17 Support the Marin Energy Authority efforts to provide effective energy conservation and production financing and delivery for local property owners, and to increase use of renewable energy facilities provided that they are at an appropriate scale and will avoid adverse environmental impacts.
- 7.18 Encourage methane capture and conversion at landfills and other sources for energy production.
- 7.19 Support the adoption of higher standard green building ordinances to reduce energy consumption and concomitant greenhouse gas generation for both new construction and renovation or remodeling of residential and commercial buildings, as developed by the Green Building Energy Retrofit and Solar Transformation (BERST) task force.
- 7.20 Adopt a revised Wind Energy Conversion Systems (WECS) Ordinance that would allow appropriately sized and sited wind energy installations provided that adverse biological, visual, and noise impacts on neighboring residences, native species, and sensitive habitat areas are avoided. To avoid bird and bat impacts, the ordinance should include all relevant provisions of the *California Guidelines for Reducing Impacts to Birds and Bats from Wind Energy Development* provided by the California Energy Commission and the California Department of Fish and Wildlife in October, 2007. Do not permit WECs on public park and open space lands in Marin.

Community Parks

- 7.21 Provide neighborhood parks for all kinds of recreational uses and ensure adequate access to parks, including necessary and appropriate parking, giving due consideration to what can be accommodated in the neighborhood.
- 7.22 Encourage the use of school sites for community recreation provided that no significant adverse environmental impacts result.
- 7.23 Support legislative and other measures to ensure necessary funding for Marin’s park systems.
- 7.24 Require the setting aside of land for community parks and open spaces, or the payment of significant park fees, as part of the approval of new commercial and residential developments.



Menke Park in Corte Madera provides open space in the midst of a commercial area and is a gathering place for community events.

Telecommunication Facilities and Services

- 7.25 Develop and maintain an effective telecommunication infrastructure in Marin, in accordance with existing law, that avoids adverse impacts on humans, wildlife, and the natural environment.

8. TRANSPORTATION

A major change since the 2003 *Community Marin* document has been a growing public awareness of the impact of transportation on global climate. Governments now must extend their transportation



A bus stop in Fairfax is part of the county's network of buses, the primary public transit system for residents.

planning far beyond issues of congestion reduction and mobility and must consider impacts on global climate change in all planning activities. State legislation, AB 32, sets reduction standards for all greenhouse gas emissions (GHG). SB 375 establishes procedures for reducing GHG emissions from autos and light trucks by linking land use (housing and job locations) and transportation systems. These new state laws require that all aspects of transportation and new land uses be designed and operated to reduce vehicle miles traveled (VMT) and, thereby, GHG emissions. AB 32 concludes that VMT must be reduced by focusing new development in infill locations close to transit and services and at higher densities than currently permitted.

Since 2003 Marin County voters have approved two ballot measures, a one half percent sales tax and a ten dollar vehicle registration fee add-on, that now generate about \$22 million annually to fund transportation-related projects in the county.

Issues that need to be addressed include the following: CEQA streamlining for transportation projects; maximizing usefulness of existing roadways and public transit in ways that are energy efficient and minimize pollutants; identifying local lands that meet SB 375 criteria for transit-oriented development; and doing all of these in ways that do no harm to Marin County's existing communities and open space and natural habitat areas.

One controversial aspect of SB 375 is the CEQA (California Environmental Quality Act) Assistance, or CEQA Streamlining as defined by the legislation, which allows that mixed use projects meeting certain criteria are exempt from some aspects of CEQA. These transit priority projects (TPP) and the extent of streamlining that would be allowed have yet to be fully defined. CEQA streamlining impact analysis should not ignore environmental impacts.

Future highway and local roadway expansion will be limited to better use of existing roads and improving capacity and safety of known choke points. This will be achieved by utilizing traffic demand management (TDM) programs and strategies such as Safe-Routes-to-School, school crossing guards, and improved sidewalk infrastructure to encourage non-motorized means of transporting students to and from school.

Marin Transit operates one bus and shuttle service in Marin County and subcontracts bus operations. Large intercity busses are operated by the Golden Gate Bridge & Highway Transportation District (GGBHTD) which also provides ferry service between Marin and San Francisco. This bus and ferry system provides connectivity to other Bay Area transportation systems.

Transportation planning should seek to maximize service options and energy efficiency and to minimize pollution. Fixed route operations have service limits; shuttles, shared autos, vans, emergency ride home programs, and taxis should also be evaluated. Attractive alternatives to automobile use would attract more users to public transit. Expanded public transit is also needed to serve transit dependent riders and Marin’s aging population.

An overriding concern is the protection of open space and habitats, notably in Marin baylands, that lie close to the Highway 101 and the SMART rail corridors. Transportation projects and satellite or station-area parking that utilize the existing rail right-of-way or US 101 corridor between San Rafael and Petaluma must avoid both direct and indirect harmful effects on wetlands and other important habitats.

RECOMMENDATIONS

Transportation Demand Management

- 8.1 Reduce vehicle trips by expanding flextime, walking and biking, ridesharing, telecommuting, compressed work week, traffic information, subsidized bus pass, guaranteed ride, and similar transportation demand techniques.
- 8.2 Transportation Authority of Marin (TAM), Marin Transit, Sonoma Marin Area Rail Transit (SMART), and local jurisdictions should jointly develop long range transit plans containing funding plans and supported with EIRs.
- 8.3 Implement Intelligent Transportation Systems (ITS) that will include the following measures: (a) better traffic surveillance and faster removal of disabled vehicles when they are located in a highway or arterial bottleneck; (b) selectively applying ramp metering at on-ramps to enhance freeway traffic flow; and (c) improving real time information about “Next Bus” and travel times to allow people to schedule their travel more efficiently.
- 8.4 Expand shuttle bus services and satellite parking to serve popular tourist sites such as Sausalito, Fort Baker, Muir Woods, Stinson Beach, and Point Reyes National Seashore. Consider placing tourist-based shuttle bus service parking lots at the Presidio, Fisherman’s Wharf, and other locations such as the Larkspur and Sausalito ferry terminals.
- 8.5 Transit systems and employers should provide satellite parking and shuttle service to and from transit stations and work places as appropriate.
- 8.6 Expand the Safe Routes to School program and related infrastructure with the objective of reducing vehicle trips and improving safety while protecting environmental resources. Operate more school buses so as to reduce VMT during periods of peak congestion.



Highway 101 traffic flow is very heavy at peak hours.

Transportation Projects

- 8.7 Ensure that proposed new transportation projects are consistent with land use policies, environmental constraints, and desired community character and take into account the long term impacts of climate change on the natural environment.

- 8.8 Wherever possible, public agencies should utilize low emission, fuel efficient vehicles and encourage the development of new technologies and necessary infrastructure support.
- 8.9 Soundwall construction along Highway 101 should include native and/or drought tolerant landscaping between the wall and the edge of traffic lanes for improved aesthetic and air quality.
- 8.10 Encourage construction and use of bicycle/pedestrian pathways in already-developed areas and transit centers to support non-motorized commuter travel while not negatively impacting natural resources. Construct Class I bicycle/pedestrian pathways for improved safety where possible.
- 8.11 Ensure that development of the Marin Sonoma Narrows Project, located primarily within the Marin Inland Rural Corridor, accomplishes the following:
- HOV lanes built within the existing roadway footprint.
 - Any bikeway constructed avoids harm to natural resources.
 - Widens the Redwood Landfill interchange. No other new interchanges or flyovers will be built as part of this project.
 - Zoning designations unchanged at interchanges and in the Narrows rural corridor
- 8.14 Improve traffic flow design of Highway 101 interchanges with the specific purpose of promoting auto, bicycle, pedestrian, and public transit safety without impacting sensitive environmental resources, including views.
- 8.15 Provide well maintained bus stop facilities with safe access to park-and-ride lots and connections to other modes of transit. Landscape interchanges with drought tolerant native plantings for aesthetic and air quality purposes.
- 8.16 Encourage use of traffic calming measures to promote public safety in neighborhoods.
- 8.17 Confine aviation to the existing Gness Field operations for general aviation only. Any runway extension should be for safety only and not for accommodation of larger craft. Do not approve the movement of larger jets. San Rafael (Smith Ranch) Airport and the Richardson Bay Heliport and sea plane base operations should not be expanded.
- 8.18 Provide transit hubs that offer convenient and timely transfers among all transit modes: auto, bus, bike, pedestrian, and rail.

Transit System

- 8.19 SMART should assist cities in establishing and funding quiet zones in urban areas.
- 8.20 Intra-county transit is the most likely means of increasing transit capacity of the east-west arterials and should be expanded. Buses work well on fixed routes; shuttles and vans have flexibility and capability to be reconfigured in response to land use changes and population shifts.
- 8.21 Plan and integrate local transit systems and transit modes to the greatest extent possible.
- 8.22 San Rafael Transit Center should be designed to minimize congestion on adjoining streets and sidewalks, and insure safety of pedestrians while they are changing transit modes.
- 8.23 All transit vehicles should have maximum fuel efficiency and minimum GHG emissions.
- 8.24 HOT lanes should not be implemented in Marin County.
- 8.25 Establish and expand bus routes that are responsive to the needs of workers, students, the elderly, and other transit-dependent population sectors and/or communities. Maintain service to West Marin.

- 8.26 Expand the ability of buses to accommodate bicycles, and encourage employers to provide secure bicycle storage, showers, and financial incentives to non-motorized commuters.
- 8.27 Expand paratransit services to meet the needs of seniors and the disabled.
- 8.28 A North Bay ferry terminal should not be built adjacent to San Pablo Bay locations north of Point San Pedro.
- 8.29 Telecommuting should be regarded as a form of transportation and public and/or privately-owned telecommunications infrastructure to serve Marin residents should be developed.



Golden Gate ferries carry more than 5,000 passengers to and from San Francisco on an average weekday.

Land Use and Transportation

- 8.30 Ensure that local traffic congestion and poor Level of Service (LOS) intersections do not negatively impact local residents as a consequence of high density housing.

Policies and Funding

- 8.31 Expand the Transportation Authority of Marin (TAM) Strategic Plan so that it not only defines a set of projects that should be funded but also identifies the likely benefits for congestion relief, VMT and GHG reduction, and the project’s potential for adverse environmental impacts. Projects that minimize GHG generation should be given high priority. A system must be established to measure GHG to ascertain whether projects are functioning as envisioned.
- 8.32 Marin Transit and its operators should encourage greater use of local public transit services
- 8.33 Prohibit using local transit funds to subsidize SMART operations.

Energy-efficient Technologies

- 8.34 Fully consider the relative effects on greenhouse gas emission of increases in the use of alternative fuel vehicles.
- 8.35 Encourage use of high efficiency vehicles and the infrastructure to support them.



Passengers at the San Rafael transit center.

9. AREAS OF POTENTIAL CHANGE

Following are recommendations for areas of eastern Marin County for which major development or change in land use may be proposed. These recommendations are based on the policies described in preceding sections. In all cases, allowable land uses and densities should be based on environmental constraints, availability of services, and the protection of community character. These recommendations do not address all areas that may be proposed for development.

NORTH MARIN

Much of this area is in the Baylands Corridor and should be designated primarily for uses such as habitat restoration, conservation, and agriculture which protect resources and scenic values and minimize hazards to public safety. Land east of Highway 101, historically part of the bay and flooded with tidal waters, will be subject to inundation from sea level rise. Any development should require preparation of a master plan for the entire contiguous ownership, and uses should be located to maximize protection of resources and to minimize conflicts among uses. Any allowable density should be determined based only on those limited parts of the property that are not constrained by environmental resources, not on the total acreage.

Silveira North/Corda Ranches (unincorporated)

These properties, located along both sides of Highway 101 north of Gness Field and Olompali State Historic Park, are zoned A-60 and are in the Inland Rural Corridor. They have historically been used as dairies and for grazing, and continue to be so. Most of the Silveira Ranch property, except for some land along Highway 101, is under a Williamson Act Agricultural Contract. Both properties have important uplands and also provide important seasonal ponded wetland and upland habitats. Although portions of these properties are now included in the Baylands Corridor, because they are diked historic baylands and are currently wetlands and associated uplands, *Community Marin* recommends that all of these properties east of highway 101 be included in the Corridor. The Marin/Sonoma Narrows project on Highway 101 could increase pressure for development in this area. Because of their important natural resources and value as community separators, and because low-lying portions of these properties are subject to inundation with sea level rise, these properties should be permanently protected.

Redwood Landfill (unincorporated)

When the landfill closes, the site should be used for open space and passive uses.

Burdell Island/Mira Monte Marina (unincorporated)

The approximately 55-acre Mira Monte marina site contains Burdell Island, a small hill surrounded by tidal and non-tidal marsh, and a former small boat marina with water access to the Petaluma River via San Antonio Creek. The marina has not been active for more than a decade, and the property is



Mira Monte is part of the Petaluma Marsh complex, the state's largest tidal marsh that has never been diked.

now used for recreational vehicle storage. The property, zoned for commercial recreation, is in both the Inland Rural Corridor and the Baylands Corridor. The entire site should be permanently protected, and previously filled lands restored to tidal action. The site's lowland area is subject to inundation from sea level rise.

Gnoss Field Vicinity (unincorporated)

The land surrounding Gnoss Field includes significant wetlands and diked baylands that are an important part of the Petaluma Marsh and the bayfront ecosystem. The area to the north and northeast of Gnoss Field and the Rush Creek seasonal wetlands east of Highway 101 are owned by the California Department of Fish & Wildlife and are zoned O-A (Open Area). There are no sewers in



Gnoss Field and surrounding wetlands.

the area and only a portion of the land to the southwest of Gnoss Field has been filled. An EIR/EIS is pending on the county's plan to extend the runway beyond its current terminus at the north end of the runway. The property is in the Baylands Corridor, and the current industrial zoning is inappropriate. Burdell Properties manages the wetlands mitigation bank on California Department of Fish & Wildlife land north and east of Gnoss Field. The viability of habitats restored for this mitigation bank is questionable. The bank should not be acceptable as mitigation

Black John Slough (Novato Canal/Binford Road)

Black John Slough is bordered by tidal marsh that provides endangered species habitat, including a large population of black rails and endangered California clapper rails, and should be permanently protected. This entire area is outside the 20-year urban growth boundary approved by Novato voters in 1997 and should not be urbanized. It is now part of the Baylands Corridor. The parcel along Black John Slough east of Gnoss Field, where the KCBS radio towers are located, is under Williamson Act Agricultural Contract, is used for grazing, and provides seasonal wetland habitat. The Binford Road storage site along Novato Canal, which is a straightened and renamed section of Black John Slough, should be acquired and restored to tidal marsh.

North Leveroni Property (unincorporated)

These two parcels, located southeast of Gnoss Field and south of Black John Slough are subject to inundation from sea level rise; they contain seasonal wetlands and should be permanently preserved for agriculture or wetlands restoration. Now part of the Baylands Corridor, the parcels are both under a Williamson Act Agricultural Contract and are currently used for grazing. The zoning should remain A-60 on this diked historic bayland site.

Birkenstock property – west side of Highway 101

This hilly property adjacent to Olompali State Historic Park is the scenic northern gateway to Marin County. It is zoned for planned development, light industrial/office use. Some portions of the urban buildings on the 93.34 acres are occupied. Novato's zoning could allow some two million square feet of development. Access will continue to be from Redwood Blvd. and the San Marin/Highway 101 interchange. The undeveloped part of the Birkenstock property should be acquired and/or protected for



Portions of the Birkenstock property could become a high density industrial development.

its wooded habitat and other environmental and scenic values.

Fireman's Fund and SMART Station Sites

The SMART plan calls for two Novato rail stations. The north station east of Redwood Blvd, just north of San Marin Drive, is a highly constrained site. The second SMART station in Novato is proposed to be located at Hamilton. The Fireman's Fund site should be retained as a major job center.

Downtown Novato

The City of Novato has an adopted downtown specific plan and is now in the process of changing the North Redwood Corridor with a new and separate specific plan that will include east Grant Avenue. The goal is to improve social, cultural, historic, and transit uses; to attract people for commerce and community affairs from Novato and surrounding areas; to provide for expanding retail, office, and residential uses; expanding city services, offices (city hall), and public gathering on the city-owned property between Sherman and Machin Streets. Mixed use structures should be encouraged and not exceed three stories in height.

South Leveroni Property (unincorporated)

Located at the southeast corner of the Highway 101/Highway 37 interchange in the Bel Marin Keys area, the 164-acre property consists of diked baylands, is currently used for agriculture, and is subject to flooding and sea level rise. This property should be permanently preserved for agriculture and resource conservation. The site has extensive areas of shallow ponding in winter and provides habitat for a wide diversity of wildlife.

An area along Bel Marin Keys Boulevard has been filled but continues to pond and therefore retains seasonal wetland values. The City of Novato includes this property in its urban growth boundary. This area should be acquired and permanently preserved for wetlands restoration.

SAN RAFAEL

Lucas Valley/Marinwood (unincorporated)

Lucas Valley and Marinwood have been settled for several decades as attractive residential communities. Marinwood has recently fulfilled a long-standing goal of establishing a small shopping center and market and is planning for affordable housing near Highway 101.

Recent incremental growth at the western end of Lucas Valley has brought larger homes but they generally fit into the rural residential character. This is likely to change in coming years. Several large historic ranches in the western end of the valley are owned by a few landowners. Affordable housing is proposed at the Grady Ranch and large, low-density homes are proposed on the lower slopes of Rocking H, Rocking H-2, and Luiz Ranches, and industrial-scale wind turbines on upper slopes. Any development would alter the rural and neighborhood character and have adverse environmental impacts on lands between Lucas Valley proper and Big Rock, and should be discouraged or restricted as to numbers, size, and siting of dwellings. Miller Creek and its tributaries should be restored.

St. Vincent's/Silveira (unincorporated)

Protection and preservation of the 1,110-acre St. Vincent's/Silveira site has been and continues to be a high priority for the environmental community. The 2007 Countywide Plan included the area in the Baylands Corridor, as recommended by *Community Marin*. The purpose of this designation is to protect the scenic, historical, agricultural, and natural resource values and to minimize public safety problems such as flooding, seismic hazards, and traffic generation.

The Marin Countywide Plan would allow up to 221 housing units, or nonresidential uses and senior care facilities in lieu of some of the residential units, provided that the total traffic generation would not exceed that of the 221 units, plus existing baseline trips. There will be no transit stop along the rail right-of-way on the property.

Any development of the site will require county approval of a master plan. The effect of sea level rise will impose more of a constraint than is reflected in the 2007 CWP, and could further reduce development potential. A master plan should restore and protect all wetlands, floodplains, unstable soils, agricultural lands, migratory and resident species, watercourses, areas subject to inundation due to sea level rise, and other resources. Any development should not require major new infrastructure such as road construction, expansion of the existing sewage treatment plant, or widening of the Marinwood freeway overpass.

The desired outcome for St. Vincent's/Silveira continues to be acquisition for resource protection, restoration of Miller Creek, protection of wildlife habitat, agricultural preservation, and protection of public health and safety, rather than development.

North San Rafael (City of San Rafael)

Given the level of development, there is no satisfactory engineering solution to the existing congestion problems in this area. Northgate Shopping Center would be appropriate for residential infill or reuse, including affordable housing, which would benefit the area's retail uses. New development, however, should not result in further deterioration at already critical intersections.

San Rafael Airport (City of San Rafael)

This site consists of a small private airport and tidal and seasonal wetlands. Endangered clapper rail and salt marsh harvest mouse inhabit the tidal marsh fringes. The airport property should either continue in its present use or should be restored to wetland habitat. The City should honor the intent of the existing covenant and allow only passive recreational uses.

Santa Venetia (unincorporated)

Santa Venetia, extending east along North San Pedro Road from the Marin Civic Center to China Camp State Park, is bordered on the north by Gallinas Creek and on the south by Mt. San Pedro. It is a mostly residential community consisting of modest older homes with newer more substantial homes. Some very large homes have recently been built on the hills. The area also includes several institutional



St. Vincent's School in unincorporated San Rafael is in the Baylands Corridor.

uses such as the Jewish Community Center, retirement homes, and care facilities. Major issues facing the community include frequent flooding, land subsidence, protection of Gallinas Creek habitat, traffic, inadequate road maintenance, and blight, including illegal tree cutting and trash dumping. Large portions of Santa Venetia are subject to inundation from sea level rise. The Community Development Department must work with the community to develop a community plan to address these concerns.

Civic Center SMART Station Area (City of San Rafael, unincorporated)

The City of San Rafael has prepared a plan for changes in land use and circulation in the vicinity of the proposed Civic Center SMART station to be located under Highway 101's elevated section.

Although currently there is no vacant land in this area, some sites have redevelopment potential, possibly up to three stories of mixed use with ground floor retail or office and residential above. One example is the public storage next to the station location. Existing strip commercial along Old Redwood Highway and Northgate 3 could also be redeveloped with mixed use.

New uses should not intrude upon or adversely affect the character of existing communities in the area, such as Rafael Meadows, Marin Lagoon, and the apartment buildings behind the Old Redwood Highway commercial strip. Pedestrian and auto circulation improvements could improve access of existing neighborhoods to transportation and the Civic Center. Existing residential neighborhoods should be protected from additional through traffic.

On the Christmas tree, which is part of Civic Center grounds, any development larger than a storage would require a countywide vote. Area creeks should be restored and connected with nearby open space.

EAST SAN RAFAEL

McNears Point

The County has approved a reclamation plan for eventual closure of the San Rafael Rock Quarry. Among the environmental constraints which must be considered during planning for eventual reuse of the property are wetlands, which must be preserved. The capacity of Point San Pedro Road and Third Street will also be a severe constraint on future reuse as this corridor provides the only vehicle access to this area. As an alternative to, and/or in conjunction with, residential and commercial reuse, the quarry property also has the potential for conversion to recreational uses.

Canalways (City of San Rafael/Grange property)

The current San Rafael general plan designation for development of this 85-acre diked historic marsh is inappropriate. The area is subject to inundation from sea level rise. In view of the area's high resource value as a seasonal wetland and endangered species habitat, the property should be acquired and permanently preserved. In addition, this site is in an area already impacted by traffic congestion.

Canal Area

Because of existing traffic constraints new development and redevelopment should be limited to light industrial and service uses, rather than office and retail, as these would generate fewer traffic and job impacts. Additional residential use may be appropriate in limited areas where there are no conflicts with existing industrial uses. Recently, community services have been expanded in the area to include the following: the county health and wellness campus, a community-serving food market, expanded public transportation, and improvements to and expansion of Pickleweed Park and the Community Center. Portions of the Canal area are subject to inundation from sea level rise.

Downtown San Rafael

Downtown San Rafael has excellent opportunities for mixed use infill development, particularly residential development, and an active, commercially vigorous, pedestrian oriented environment well served by transit and other services; traffic congestion, however, continues to constrain development. New development should not compromise the downtown’s historic character nor result in further deterioration of traffic levels at already critical intersections. Downtown San Rafael will remain Marin’s main transit hub.



The San Rafael’s transit center area is slated for higher density development due to its location as a transit hub.

SMART downtown station

Several alternative configurations of the proposed SMART train station across Third Street from the Bettini Transit Center are under consideration. These include significant intensification of land uses around the Bettini Transit Center, investments in various public improvements, creation of new parking structures, relocation of the transit center to the SMART station site and adjacent properties, and redevelopment of the transit center property. These proposed projects could significantly increase traffic congestion in the area.

SOUTHERN MARIN

San Quentin Prison (unincorporated)

This unique bayside site has been considered for institutional, housing, transportation, and recreational uses should the State of California close San Quentin Prison. In the event all or part of the site becomes available for development, abandoned historic buildings and all submerged portions of the site should be preserved. Redevelopment of the site would create significant traffic and circulation issues, and environmental concerns about bayfront resources. High density commercial and residential development of the site would be out of character with Marin and inappropriate. The entire site should be master planned to promote a unified and balanced use of the land and bay frontage. The historic buildings of the prison and the adjacent San Quentin Village neighborhood must be preserved.

Larkspur SMART station area plan

Any additional residential units within the Larkspur SMART station planning area should be located as infill within existing developed areas of Larkspur Landing, Corte Madera, and Greenbrae. To ensure preservation of endangered species habitat and to provide areas where tidal marshes can migrate landward, underdeveloped and low-lying lands adjacent to the tidal marshes and tidal marsh fringes along the creek should be acquired or otherwise protected. Because of negative environmental impacts, no new bridge over Corte Madera Creek should be constructed.



San Quentin State Prison has been proposed for closure off and on since 1972. Planning for a community of up to several thousand residents took place in 2005 but never proceeded. Redevelopment would create significant traffic problems.



Madera Bay Park adjacent to the Corte Madera Ecological Reserve currently experiences flooding, a situation which will worsen with sea level rise.

Corte Madera Bay Shoreline

The Madera Bay Park (Greene) property is historic bayland that was planned for office development more than 20 years ago. It should be acquired and added to the Corte Madera Ecological Reserve because it is an inappropriate place for any type of development. It is surrounded by the Ecological Reserve on three sides and diked marsh on the fourth side. It is a prime candidate for habitat restoration because of its location and because the fill continues to subside. Habitat restoration could provide additional tidal marsh and needed transition zone habitat for the endangered California clapper rail and allow for landward migration of tidal marsh. The property is at high risk for flooding and is in the direct path of sea level rise.

Golden Gate Bridge and Highway District 72 Acres

The property, which includes filled upland and historic tidal marsh, should be acquired and added to the Corte Madera Ecological Reserve. Most of the property has subsided and reverted to seasonal wetlands. The seasonal wetlands should be protected and enhanced and the remainder of the property restored to tidal marsh and upland transition zone.

Golden Gate Theological Seminary (unincorporated)

The Golden Gate Theological Seminary in Strawberry is preparing a plan for more student and faculty housing and for parcels to be subdivided and sold for private residential development. The project should be consistent with the adopted Strawberry Community Plan policies for areas to be developed or protected as open space. Environmental resources on the site should be preserved and enhanced. New housing units should not exceed the maximum size of 3,500 square feet. The house size calculation should include all enclosed or partially enclosed space that is attached to the living space, with garages regarded as accessory structures.

Paradise Drive Area & Martha Company Property (Easton Point) (incorporated, and unincorporated within Town of Tiburon Sphere of Influence)

Severe environmental constraints and important natural and scenic resources exist throughout the Paradise Drive side of the Tiburon Peninsula. About a dozen undeveloped parcels here are zoned for planned residential development, of which the Martha Company property on Easton Point is the largest. All these parcels are constrained by steep slopes, significant tree stands, and many by ancient landslides, visually prominent ridgelines, serpentine soils, special status plant and animal species, and by drainages, seeps, and other wetlands. In addition, the area is accessible only by the narrow, winding Paradise Drive. Although density is limited by site constraints, the trend is toward large, estate-sized homes that are out of character with the rural and scenic qualities of the area. The significant resources in this area should be preserved. Scenic ridgelines should be purchased or put in conservation easements.

SOUTHERN MARIN SHORELINE

The shoreline along the access road from Highway 101 to Camino Alto, and Sausalito's nearly four-mile long waterfront share many of the same constraints and challenges. Portions of this stretch experience periodic tidal flooding, subsidence and/or liquefaction, overburdened sewer and storm drain systems, and seismic vulnerability. All of these conditions will be aggravated by the accelerated rate of sea level rise now taking place. Intense development is not appropriate for this area.

Potential redevelopment in the Tam Junction commercial area should focus on resident serving uses, consistent with the significant traffic, infrastructure, and environmental constraints that exist in this area in proximity to Bothin Marsh and Richardson Bay. The area along the shoreline is an inappropriate location for large-scale buildings and, given the accelerated intrusion of bay waters, further development along both sides of Shoreline Highway, Almonte, and Miller Avenue south of Camino Alto should be prohibited. The Baylands Corridor should be extended to much of this area, and the Caltrans right-of-way through Bothin Marsh should be protected and restored to marsh. Sea grass beds in this area should be protected and restoration to increase eel grass at suitable sites should be encouraged.

Sausalito Shoreline

The Sausalito Marinship waterfront should remain focused on the historic small-scale working artistic, maritime, and marine industrial uses that have given the city its unique character. Buildings should remain compatible with, and not overwhelm, the nearby residential areas. Water views should be preserved, and uses such as hotels several stories in height should be prohibited. Public open spaces along the waterfront from Highway 101 to downtown should be enhanced, including expansion of Dunphy Park. Eel grass beds, which exist in several places along the city's shoreline should be protected and restored. Pockets of tidal marsh that remain along the shoreline should be protected along with an upland buffer where feasible. The Richardson Bay ordinance prohibiting anchor-outs should be enforced.



Southern Marin communities of Tiburon, Belvedere and Sausalito have many maritime activities.

APPENDIX TO BIOLOGICAL RESOURCES

Open Bay. The open waters of San Pablo and San Francisco Bays constitute the largest estuary along the Pacific shore of North and South America. They contain a mixture of marine salt water from the Pacific Ocean and fresh water from the Sacramento and San Joaquin Rivers and Bay watershed, providing the rich and diverse habitats that link aquatic and upland plants and animals. Many species of the open bay utilize the sheltered habitats of marshes as nurseries and adjacent upland areas for feeding, resting or roosting: brown pelican, harbor seal, diving ducks, are a few of the hundreds of species that depend on the association of open water with land. Tomales Bay and Bolinas Lagoon in the Coastal Recreation Corridor are also estuarine, in that they contain a mixture of Pacific Ocean water and fresh water from upland watersheds in West Marin and are transitional between aquatic and land habitats.

Eelgrass Beds. Eelgrass is an important species of the productive submerged aquatic vegetation habitat in the San Francisco Bay Region and a source of food for species such as herring and salmon. The largest eelgrass beds are in shallow subtidal regions of San Pablo and Richardson bays, with smaller beds in shallow areas mainly between Carquinez Strait and Hayward. Direct threats include activities associated with shipping and boating, docks and harbors, and indirect threats come from suspended sediments due to dredging and boat wakes, or shading from structures such as docks.

Shellfish Beds. These are defined as locations where a shellfish species occupies more than half an area of more than a few square meters. Five shellfish species occur in San Francisco Bay, of which the Olympia oyster is the most abundant. Habitat suitable for native shellfish has been identified at a number of sites from China Camp south to Sausalito.

Rocky Shore. In many locations along the Marin shoreline of San Francisco Bay and the Pacific Ocean, high energy waves meet and scour the rocky shoreline. Dense intertidal communities of algae and rich faunas of barnacles and other invertebrates colonize the rock, varying in species composition with exposure to waves and tide level. Both marine and freshwater fish, bird, and mammal species forage for food in these communities. The Pacific Herring lays its eggs on the algae, eelgrass and rocks just below the intertidal zone.

Mud Flats and Salt Marshes. The Pacific coast and San Francisco Bay are subject to twice daily high and low tides. The land areas bounded by the lowest and highest tide levels consist of mud flats at the lowest elevation (i.e., up to slightly above mean sea level), and from about mean sea level up to the highest reach of the tides, vegetated salt marsh colonized by plants adapted to regular inundation and the salt environment. Perennial pickleweed and saltgrass predominate on the higher portions of tidal marshes around the Bay. California cordgrass forms a zone at the lowest elevation of the salt marsh. Both pickleweed and cordgrass are high primary producers of organic material.

Mud flats and salt marshes support a complex web of invertebrates such as worms, mussels, clams, crabs, shrimps, and other crustaceans that comprise the primary food source for thousands of migratory and resident shorebirds and waterfowl. The marsh is home to two endangered species found only in salt marsh: salt marsh harvest mouse and California clapper rail. Raptors such as the Northern harrier and numerous others are common predators, as are the coyote and native gray fox.

Freshwater Marshes. Prior to the diking of tidal marshes around San Pablo and San Francisco Bays, springs and streams at the upper edges of the marsh formed wetlands ranging from freshwater seeps to brackish ponds. A few of these wetlands remain, supporting thickets of arroyo willow, cattail, tule, salt marsh bulrush, and California blackberry. Freshwater wetlands also occur throughout Marin County, associated with creeks, streams, ponds or lakes, or as isolated fresh water seeps or vernal pools. All wetlands are important wildlife habitat, supplying sources of water and food. Wetland plants are very productive and support a wide variety and large number of insect and larger animal species.

Riparian Forest and Willow Grove. Riparian habitats typically border both sides of rivers and streams. Natural riparian habitats are characterized by variable gradients of moisture and light, lush vegetation, and high biological diversity. Riparian zones play a significant ecological and management role in protecting water quality by filtering pollutants from runoff, preventing erosion, trapping sediment, and providing shade, shelter, and food for diverse species of fish, other aquatic organisms, and

wildlife. Willow groves differ from riparian forests in that they are mostly associated with shallow groundwater and areas of groundwater discharge (springs), frequently away from rivers or streams.

Farmed Baylands. Farmed baylands also provide valuable habitat for many wildlife species. They are important as roosting and feeding habitat for wintering shorebirds such as long-billed dowitcher, marbled godwit, western sandpiper, and for waterfowl such as mallard, Canada goose and northern pintail. Many other bird species are commonly found on farm fields. Farm fields also provide habitat for numerous mammal species.

Grasslands and Grazing Lands. Early photographs of the Marin landscape reveal that grassland once covered the majority of the county, with woodlands and forests occurring in ravines and in sheltered, north-facing environments. The “urban forest” has replaced many former grasslands, leaving few native grasslands in the county. The Coastal Prairie Grassland is a dense grassland mosaic of both turf-forming and bunch grasses, mixed with perennial and annual wildflowers. It thrives on the ocean-facing slopes of the coastal range in northwestern Marin County. Because these coastal grasslands are very productive with extremely long growing seasons and available moisture, they form the foundation of grazing agriculture, particularly dairy ranching, in Marin.

Grasslands at the edge of baylands also provide foraging habitat for many species of wildlife that occur in the baylands. Amphibians, reptiles, birds and small mammals serve as prey for larger raptors and mammal predators. The perennial native species of grass have been largely replaced by Mediterranean annual grasses, which provide less nutritious grazing. This is true of most of the grasslands throughout the county, although in areas in which grazing has ceased, native species such as purple-needle grass have reestablished.

A rare subset of Coastal Grassland is found on serpentine rock on the Tiburon Peninsula (Ring Mountain) and in limited locations on Mount Tamalpais, Carson Ridge and Mount Burdell. Any threat, such as the development that was once proposed on Ring Mountain, would endanger these communities, which support many of Marin’s threatened or endangered plants that are serpentine endemics (found only on serpentine), such as Tiburon jewelflower, Tiburon Mariposa lily, and the Tiburon Indian paintbrush.

Chaparral. Chaparral communities are a distinctive vegetation type in the Mediterranean climate of California. They form a dense, often impenetrable cover of evergreen shrubs ranging from three to 10 feet high, with occasional tree species. Typical chaparral species in Marin County include manzanita, chamise, scrub oak, and numerous other shrubs. Their deep roots can reach pockets of water during summer drought, and surface roots quickly exploit seasonal rain water. Most species are highly flammable and are adapted to survive repeated wildfires. The dense cover and production of fruit makes this an ideal sheltered habitat for wildlife. Chaparral serves an important watershed function for much of the state and for a major part of the MMWD watershed. Serpentine chaparral is found on serpentine outcroppings and soils of Mount Tamalpais, Carson Ridge and Mount Burdell and supports a number of rare, threatened and/or endangered species, such as the Tamalpais manzanita.

Coastal Scrub. The dense shrub community on the steep, coastal slopes above the Pacific and the San Francisco Bay includes species such as coyote brush, lupine, California sagebrush, poison oak and California blackberry. These species are less woody or flammable than chaparral species. Shaped by wind and salt spray, the vegetation stabilizes slopes and provides habitat for many small bird and mammal species and provides specialized food sources for many insects, including special status species such as Mission blue butterfly.

Redwood Forests. Redwood forests in Marin County are primarily confined to alluvial soils of the floor and lower slopes of valleys such as along Redwood Creek in Muir Woods and in many smaller canyons in western and central Marin County. Because they are so tall and grow rapidly, their wide-spreading, shallow root systems require adequate moisture and soil oxygen. Redwoods optimally grow where they can receive 60 inches of annual precipitation, including summer fog drip. Redwoods reproduce vegetatively by sprouts from their base and successfully germinate from seed only where a fire, flood or landslide has exposed the mineral soil. Redwoods are fire-resistant and also resist rot and termites, and thus are highly prized as building material in California. Most of the redwoods in Marin County are second or third growth; virgin trees were felled many years ago, with exception of the protected stands in Muir Woods National Monument.

Oak Woodlands. Coast live oak woodlands occur widely throughout eastern Marin County, where precipitation varies from 22 to 32 inches per year. Occurring with the coast live oak are California bay, California buckeye, madrone, and, in moist locations, black oak. Generally found within the urban or City Centered Corridor of Marin County, this community is particularly subject to removal and other stresses of development. In recent years, coast live oak, California bay, and numerous associated species have been found to be susceptible to a pathogenic organism – a fungus-like organism referred to as “sudden oak death” (SOD), and thousands of oak and tan oak individuals have died in Marin. Many species act as hosts for the disease but do not die. Most of the trees in the woodland community are also sensitive to changes in soil elevation, compaction and/or excess moisture in their root zones. Valley oak also occurs on flat alluvial valley floors, such as in the Ross Valley. Broad areas of grassland studded with occasional valley oaks are called oak savannahs, represented on several dairy lands in North Marin. Blue oaks are restricted primarily to the Bahia area, with isolated occurrences at China Camp State Park and the southeast-facing slopes of Mount Burdell. Oak woodlands are widely used by a variety of wildlife species, including both narrowly and widely adapted bird species. Acorns supply a major food source for many species of mammals and birds that also browse the foliage, particularly black-tailed deer.

Mixed Broadleaf Evergreen/Conifer Forest. Oak/bay woodland and Douglas fir/redwood forest types are mapped separately on the Vegetation Map of Marin County but may also be referred to together as the Broadleaf Evergreen/Conifer Forest, an intermediate forest between moist redwood forest and dry oak woodland. Most of Municipal Water District (MMWD) watershed lands include seven characteristic species – tanbark oak, California bay, Douglas fir, coast redwood, madrone, coast live oak and Sargent cypress – but these never all occur in the same location. Of these trees, tanbark oak, California bay, coast live oak, madrone and coast redwood all are host to the SOD pathogen.

Pine/Sargent Cypress. The Sargent cypress in the MMWD watershed is a serpentine endemic, occurring within serpentine chaparral on Mount Tamalpais and as a forest on Carson Ridge to the northwest. Bishop pine, mapped in the same group, occurs on the Inverness Ridge within and adjacent to the Point Reyes National Seashore. The species

dates back to the last retreating ice age and occurs only in a few maritime locations in California, including Point Reyes Peninsula. The granitic soils there are low in nutrients. The seeds remain for years within closed cones, which open only after a hot fire that opens the cones to release seeds.

Shellfish Beds. Locations where a shellfish species occupies more than half an area of more than a few square meters. Five shellfish species occur in San Francisco Bay of which the Olympia oyster is the most abundant. Habitat suitable for native shellfish has been identified at a number of sites from China Camp south to Sausalito.

Wetlands and Wetland Definitions

Wetlands described above provide many important services, including: habitat for invertebrates that are the basis of the marine food chain, nurseries for fish, foraging and nesting habitat for migratory and resident birds and endangered species, shoreline protection and stabilization, purification of water by absorbing sediment and other pollutants and by ponding runoff/flood waters. They also provide open space and vistas as well as recreational and scientific uses. Because of these many benefits, salt marsh and fresh water wetlands are regulated under the Clean Water Act by the Army Corps of Engineers, 404 Program. The basis of a regulatory program is a definition of wetlands. See below.

Ecotones or transition zones (sometimes also called buffers or setbacks) are essential components of wetland ecosystems, particularly adjacent to tidal marshes. An ecotone may be part of a buffer or setback, but a buffer is not necessarily an ecotone or transition. They are essential refuge habitat for the endangered California clapper rail and salt-marsh harvest mouse to protect find cover from predators during flood tides when marsh vegetation is covered with water. Transition zones should be vegetated with native plants suitable as cover, and ideally should be protected by an additional buffer/setback.

Wetland Definitions. Several definitions are used to denote wetlands. Two definitions in common use are those of the U.S. Army Corps of Engineers’ Regulatory Branch, and U.S. Fish and Wildlife Service, i.e., the “Cowardin definition.” The Army Corps’ definition is: “Wetlands are areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for

life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas.”

The Cowardin definition is as follows:

“Wetlands are lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface, or the land is covered by shallow water. For purposes of this classification, wetlands must have one or more of the following three attributes: 1) at least periodically, the land supports predominantly hydrophytes; 2) the substrate is predominantly undrained hydric soil (soil formed under saturated conditions); and 3) the substrate is non-soil and is saturated with water or covered by shallow water at some time during the growing season of each year.” The basic Cowardin definition is more inclusive of wetland types in that only one of the three conditions above need be present to establish the presence of a wetland.

California Coastal Commission Definition.

The definition used by the California Coastal Commission in the Coastal Zone is even more inclusive, especially where both soils and vegetation may be lacking: “Wetlands are lands where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent or drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salt or other substance in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deepwater habitats.”

The California Coastal Act wetland definition

is less detailed: “Wetland means lands within the coastal zone which may be covered periodically or permanently with shallow water and include saltwater marshes, freshwater marshes, open or closed brackish water marshes, swamps, mudflats or fens.”

Because the Corps’ wetlands definition is less inclusive of potential types of wetlands than other definitions (all three parameters – hydric soil, water and wetland plants – must be present), it is generally preferred by jurisdictional agencies, who may also prefer it because it has been subject to legal tests and because the Corps does the evaluating and permitting work.

Although the Corps does have guidelines for wetlands that are considered special circumstances, in a 2008 decision (*Rapanos vs USA*), federal court determined that the Corps did not have jurisdictional authority over so called “isolated” wetland, i.e., wetlands that are not adjacent to navigable waters. According to the State Water Resources Control Board (SWRCB) this has resulted in 13 different wetland types no longer being regulated. To ensure adequate regulation of California’s wetlands, the state, acting through the SWRCB, has initiated a process to assume regulation over those isolated wetlands no longer regulated by the Corps. As a first step, the water board has developed a wetlands definition that is more inclusive than that of the Corps and has initiated a process of environmental review to establish its own wetlands regulatory program.

The SWRCB definition can apply to wetlands where vegetation is lacking: (an area is wetlands) “. . . if under normal circumstances, it is 1) saturated by ground water or inundated by shallow surface water for a duration sufficient to cause anaerobic conditions in the upper substrate; 2) exhibits hydric substrate conditions indicative of such hydrology; and 3) either lacks vegetation or the vegetation is dominated by hydrophytes.”