

# Summary of San Mateo County Policies Relating to Anadromous Fish Habitat Conservation

*Excerpted from the study: Effects of County Land Use Policies and Management Practices on Anadromous Salmonids and Their Habitat*

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A list of activities considered to have potential impacts on fish and fish habitat was developed through the work of the County Planning Teams and the FishNet 4C Program Director. These activities are either conducted by county departments directly, or are regulated by the county with a county agency serving as the Lead Agency under the California Environmental Quality Act (CEQA). The identified activities were then categorized by the potential impacts they may have on anadromous salmonids and their habitat. This categorization is based upon Spence et. al. (1996). (See TABLE-1)

TABLE-1, Impact Categories for Identified Activities

<b>Potential Impact to Anadromous Salmonids</b>	<b>County or County Regulated Activity</b>
A. Streamflow Quantity Modifications	Road surfacing (impervious surfaces)
	Domestic water use
	Storm drainage
	Retention basins/overflow channels
	Road watering
B. Riparian Clearing	Floodplain clearing
	Channel clearing
	Levee construction
	Channel construction
	Site clearing
	Roadside brushing
C. Sedimentation	Grading/excavation/filling/
	Culvert installation
	Bridge construction
	Emergency grading
	Culvert clearance/repair
	Bridge repair
	Road regrading/resurfacing
	Channel clearing
	Levee repair
	Landslide removal
D. Instream Habitat Modification (physical)	Erosion control and channel armoring
	Channel clearing
	Retention basins/overflow channels
	Channel structure installation
E. Water Quality Impairment (thermal, biological or chemical)	Site clearing
	Channel structure installation
	Channel clearing

Potential Impact to Anadromous Salmonids	County or County Regulated Activity
	Floodplain clearing
	Herbicide spraying
	Storm drainage
	Waste water discharge
	Domestic animals
F. Migration Barriers	Channel structure installation
	Retention basins/overflow channels
	Channel construction
	Culvert installation

This list of activities and impacts was the basis for the policy analysis. All San Mateo County general plan elements and ordinances which regulate these activities were analyzed (See TABLE-2). Policies which help avoid or mitigate impacts were identified, as were areas in which formal policies were missing. The specific policies along with relevant sections are presented in a series of tables at the end of this document. Highlights of the review are discussed below, by area of impact.

TABE-2: General Plan Elements and Ordinances Reviewed

County	General Plan Elements	Ordinances
San Mateo	Vegetation, water, fish , wildlife, Chapter 1	Storm water management ordinance, Section 5000
	Soil resources, Chapter 2	Zoning ordinance, Section 6300
	Mineral resources, Chapter 3	Flood hazard areas, Section 6820
	Visual quality, Chapter 4	Coastal zoning ordinance, Section 6900
	Historical and resources, Chapter 5	Excavation, grading, filling, clearing, Section 8600
	Park and recreation resources, Chapter 6	
	General land use, Chapter 7	Significant tree ordinance 11,000 - 12,000
	Urban land use, Chapter 8	Riparian corridor/ zoning ordinance update
	Rural land use, Chapter 9	
	Water supply, Chapter 10	
	Waste water, Chapter 11	Programs
	Transportation, Chapter 12	Performance standards for rural road maintenance
	Solid waste, Chapter 13	Grading permit standards handbook
	Housing, Chapter 14	
	Natural hazards, Chapter 15	
	Man-made hazards, Chapter 16	
	Local coastal plan	

### DISCUSSION:

Guiding principles found in San Mateo County’s General Plan are implemented through county ordinances and performance standards. Protection of fish habitat is most rigorous in San Mateo County’s Coastal Zone. To comply with California’s Coastal Protection Act, all county governments in California have adopted Coastal Plans and Coastal Zoning Ordinances, which require fairly comprehensive protections for salmonid habitat. There has been no similar state requirement for salmonid habitat conservation beyond the Coastal Zone.

There are however, a number of policies in place in the remainder of San Mateo County that serve to protect fish habitat, even if that is not always their specific intention. These policies are put in place to protect wildlife habitat in general, to prevent erosion and sedimentation, and to regulate stream channel modification.

## **Wildlife Habitat**

Fish habitat in San Mateo County is protected by the same means as other sensitive wildlife habitat, through analysis during the CEQA environmental review process. As in many other counties of California, protections of sensitive habitat are most rigorous in the coastal zone. In this zone, Sensitive Habitat is defined as habitat containing or supporting “rare and endangered species” as defined by the State Fish and Game Commission, and all perennial and intermittent streams and their tributaries including riparian corridors (LCP-7.1). The Local Coastal Plan requires the county to prohibit land use or development which would have significant adverse impact to a sensitive habitat and to require development in areas adjacent to sensitive habitats to be sited and designed to prevent impacts (LCP-7.3). Only resource dependent uses such as education and research, consumptive uses allowed by Fish and Game, fish and wildlife management, trails, and water supply projects are allowed. When no feasible alternative exists, aquaculture, flood control projects, bridges, pipelines, repair and maintenance of existing roads, logging, and agricultural uses which maintain existing riparian vegetation are allowed (LCP-7.9)

Applicants for development permits must show that there will be no significant impact on sensitive habitats. Performance standards for development in buffer zones are established which require minimizing vegetation removal, land exposure during construction, and erosion, sedimentation and runoff through appropriate grading and replanting (LCP-7.13).

***Non-Coastal Zone:*** Sensitive habitat is also designated in the non-coastal areas of San Mateo County.. Direction for conserving sensitive habitat is given in the General Plan’s Chapter 1 dealing with vegetative, water, fish and wildlife resources and is similar to that in the coastal zone. Buffer zones adjacent to sensitive habitats are to be. Uses within buffer zones must be compatible with protection of habitat. However if no feasible alternative exists, land uses compatible with surrounding land uses are permitted in the buffer zone. The general plan directs the county to establish performance criteria and development standards which prevent or mitigate impacts to sensitive habitats (GP-1.32).San Mateo’s Zoning Ordinance establishes Resource Management Districts and (6325.2) requires supplemental review for proposed projects within those areas., The criteria for review prohibit significant reduction of primary habitat areas, change in ecological characteristics, and development in spawning and nesting areas. In addition, the ordinance states that watersheds whose streams are used for fish spawning and nurseries should be managed to maintain stream flow for fish.

County staff report that they check all proposed discretionary projects for proximity to sensitive habitat

### ***IDENTIFIED AND POTENTIAL POLICY GAPS:***

- The extent to which Sensitive Habitat and Resource Management Districts coverage overlaps with salmonid habitat is unknown.
- Sensitive habitat buffer zones are applied on a case-by-case basis. Requirements may be modified if no feasible development alternative exists on the parcel.
- Performance criteria and development standards for sensitive habitat buffer areas are established only for Resource Management Districts.
- There is no specific Sensitive Habitats Ordinance to implement these provisions. This means that only discretionary projects are checked for proximity to sensitive habitat.

- Habitat data is not field checked by county staff.

## **Streamflow Quantity Modification**

Streamflow quantity can be affected through withdrawals of water for domestic use and through increases in accumulated run off from surfaces hardened by development. Counties do not directly regulate water withdrawals, but they are responsible for permitting of developments which withdraw water and for regulation of drainage from developments.

**Instream Flow Withdrawals:** San Mateo County coastal zone policies limit the number of building permits in South Coast watersheds according to available water supply. Exceptions may be made for large-scale master planned developments when a qualified hydrologist determines that the cumulative impact will not adversely affect streams, riparian habitats and wildlife (LCP-1.23). The county is directed to establish a monitoring program on a watershed by watershed basis to determine water availability for new development consistent with resource protection (LCP-1.25).

In non-coastal areas, San Mateo's General Plan directs the county to ensure that development maintains adequate stream flows for fish habitat and to avoid depletion of groundwater (GP-1.25). Supplementary review criteria for projects in Resource Management Districts require that watersheds whose streams are used for fish spawning grounds and nurseries are managed to maintain the flow of fresh water needed for habitat.

**Stormwater Retention:** Development projects typically create hardened surfaces which change hydrologic regimes affecting the magnitude and timing of stream flow. San Mateo's Zoning Ordinance requires that development projects maintain surface water runoff at or near existing levels within designated Resource Management Zones (6324.1). For areas of primary fish and wildlife habitat and water resource areas, the county must ensure that construction, including impermeable surfacing or compaction, does not disrupt natural patterns of groundwater recharge (6325.4).

### ***IDENTIFIED AND POTENTIAL POLICY GAPS:***

- Although the General Plan directs the county to ensure adequate stream flow for fish, review of development projects for effects on streamflow is required only in Resource Management Districts, and only in watersheds important for spawning and rearing.
- Although the General Plan directs the county to prevent and mitigate significant adverse impacts on water resources, development projects are required to maintain surface water runoff only in Resource Management Districts.

## **Riparian Vegetation**

**Coastal zone:** San Mateo County protects riparian vegetation in its Coastal Zone as is required by the State Coastal Zone Protection Act. The Local Coastal Plan (7.7) restricts most new development within a defined riparian corridor with exceptions made for road maintenance and

repair, placement of wells and utilities, and maintenance of existing flood control structures. New development, including single-family dwellings on existing lots, may occur within coastal streamside management areas with a discretionary permit when there is no feasible alternative site within the parcel. Any development requires a Coastal Development Permit from the Coastal Commission.

***Non-coastal zone:*** San Mateo has no riparian buffer requirements outside coastal areas. The general plan directs the County to develop guidelines for vegetation and debris control in riparian corridors and to encourage voluntary implementation by landowners. (GP-1.47).

The county is currently developing a revision of its Zoning Ordinance to establish riparian corridors in one watershed, the San Francisquito. The zoning amendment is due to be considered by the Board of Supervisors by December 2000. No timetable has been established for designation of riparian corridors throughout the rest of the county.

In addition to specific riparian corridor protections, other ordinances may function to protect riparian vegetation in some cases. These include tree preservation ordinances, runoff control ordinances, vineyard development ordinances, and flood control ordinances (Table 5).

San Mateo's Heritage Tree and Significant Tree Ordinance (12,000) prohibits removal of trees with a diameter at breast height of over 38" (28" for some species) without a permit. Removal of individual trees with diameter over 55" is prohibited in Resource Management Districts (6324.2). The Storm Water Management Ordinance prohibits removal of healthy streambank vegetation beyond the amount necessary for maintenance (5024). And the County's Rural Road Maintenance Performance Standards prohibit removal of live vegetation from channels except for exotics and plants causing instability (IE and IID).

***IDENTIFIED AND POTENTIAL POLICY GAPS:***

- Riparian buffers are designated in the Coastal Zone only and not the county as a whole.

## **Floodplain Management**

Riparian areas are by definition, a portion of the stream's floodplain. Some floodplain management policies may serve to protect riparian and stream functioning when they prohibit structures from the floodplain. Once structures are built on a floodplain, measures to prevent flooding such as installation of levees, clearing of riparian vegetation, or hardening of channel banks, often follow, all of which impact fish habitat.

San Mateo County manages the floodplain based on federal policy which seeks to minimize damage to property and people from flooding. The floodplain area is divided into two major sections, the floodway or primary floodplain and the flood zone, or secondary floodplain. The floodway is defined as the stream channel and immediately adjacent lands (i.e., bankfull). The floodzone is the area prone to flooding during the 100-year flood as defined by the Flood Insurance Rate Map (FIRM) delineated by the Federal Emergency Management Agency (FEMA).

San Mateo's Natural Hazards Policies (GP-15) require the county to determine appropriate densities and development standards for new developments proposed in flood hazard areas and to require detailed analysis of hazard risk and design of mitigation when development is proposed in these areas. The county is directed to retain natural floodplains and to guide development away from flood-prone areas. Flood hazard areas must be identified on any approved subdivision map.

The county's zoning ordinance restricts development density within the 100-year flood plain in Resource Management Districts to one dwelling unit per 40 acres (6317). Supplementary review criteria in these zones prohibit development projects which require flood control structures or grading or fill in the floodplain (6326.1).

***IDENTIFIED AND POTENTIAL POLICY GAPS:***

- No mandatory setbacks from floodplains were found in county policy documents.
- Policies do not prohibit development in floodplains outside of Resource Management Districts.

## **Sedimentation**

Land development and construction activities may release sediment into anadromous fish streams unless adequately controlled. Policies that address grading and development on steep slopes serve to avoid or reduce these impacts. In addition to development, work such as road maintenance and agricultural cultivation routinely disturb soil. Policies that regulate these activities also avoid sedimentation impacts.

San Mateo's sediment prevention policies are found in a series of plan chapters, ordinances and development standards. The general plan directs the county to protect vegetation which stabilizes slopes or reduces erosion and sedimentation (1.24). The zoning ordinance requires that improvements made in Resource Management Districts be located to fit natural topography and to minimize grading (6324). Throughout the entire county, the Uniform Building Code (Appendix 33) requires applicants for building permits to submit a grading plan. Work may be stopped if violations of the permit occur.

San Mateo's Excavating, Grading, Filling, and Clearing Ordinance requires a grading permit when more than 150 cubic yards of soil is moved or if over 1000 square feet of grading occurs in a Scenic Corridor or within a sensitive habitat (8600). County projects, emergency work, and repair of storm damage are exempt from permitting requirements.

Grading permit applicants must submit a detailed plan for erosion and sediment control during and after construction unless the site has <2% slope. A land clearing permit and erosion control plan is required for removal of vegetation on an area over 5,000 square feet or on slopes greater than 20 percent. The county may require a bond to ensure compliance with permit conditions. The bond is released one year after installation measures are completed, based on performance conditions. A separate security is required for landscaping and erosion control measures. Grading and erosion control measures must meet the standards in the County's Grading Permit Performance Standards Handbook. This handbook specifies schedules for inspections and maintenance of erosion control measures on July 15 and October 15.

San Mateo County prohibits grading between October 15<sup>th</sup> and April 15<sup>th</sup> except in accordance with a Winterization Plan approved by county planning and public works. Staff distributes a set of construction site winterization guidelines to all contractors.

**Development on Steep.** San Mateo restricts development on steep slopes only in the Coastal Zone. In general, development on slopes >30% is prohibited unless no alternative exists. New parcels with building sites available only on slopes >30% are prohibited (LCP-9.18). The coastal zoning ordinance establishes maximum densities based on slope steepness and erodibility (6906).

**Cultivation:** San Mateo County does not regulate agricultural grading.

**Road Maintenance:** San Mateo County has recently developed (June 2000) performance standards for road construction, maintenance, and repairs in rural areas. These performance standards will meet the requirements of the Water Quality Protection Program for the Monterey Bay National Marine Sanctuary and the National Pollutant Elimination System (NPDES) permitting requirements.

Performance standards for road work (Draft Standards Part III) require that road construction, maintenance and repairs near water bodies be performed according to Best Management Practices (BMPs). Planning and design of road projects must include erosion control and promote native vegetation. To prevent and control road related erosion these standards require culvert sizing to account for debris transport, installation of energy dissipaters on culverts, and use of rolling dips and water bars on unpaved roads.

Inboard ditches must be inspected and cleaned annually with debris removed to a stable location. Clearing is to leave vegetation wherever possible. Side casting is prohibited. Spoils from slides and maintenance may not be formed into berms near watercourse and lake protection zones (WLPZs) as defined by the California Forest Practices Rules. Emergency operations including slope stabilization, flood response and emergency road opening measures are to be performed according to blanket permits BMPs when permits do not exist. These standards require the county to conduct annual inspections, train personnel, and report results to the RWCQB.

***IDENTIFIED AND POTENTIAL POLICY GAPS:***

- The county's excavating, grading, filling and clearing ordinance covers only private projects. The Draft Performance Standards for Rural Roads covers only public road projects. There may be county sponsored projects that are not covered by the performance standards for rural roads and would not need to get a grading permit, and therefore might not include erosion control plans in the project.

**Channel Modification and Maintenance**

The primary agencies regulating activities in stream channels are the California Department of Fish and Game through the requirement for Streambed Alteration Agreements, and the US Army Corps of Engineer through the Section 404 permitting process. However, county governments do have some jurisdiction over channels through their responsibilities to review permit applications for installation of bank stability structures and through their own channel clearing and maintenance activities.

**Bank Stability Structures:** San Mateo County requires that private applicants seeking to install bank stabilization structures obtain either a grading permit or a building permit. These permits may require environmental review through the CEQA process. Publicly sponsored bank stabilization in rural areas must meet established performance standards. Standards include minimizing use of rock riprap, incorporation of biotechnical means when practical, removal of exotic vegetation, and reestablishment of native vegetation and canopy on fish bearing streams. Use of gabion baskets is prohibited below the ordinary high water line on fish bearing streams in order to prevent fish gilling (Rural Road Performance Standards IIA-IIE).

**Channel Maintenance:** San Mateo County maintains about nine miles of flood control channel. In addition to conditions imposed by the CDF&G and the US Army Corps of Engineers, San Mateo is developing its own performance standards for channel clearing activities (Rural Road Standards IA-E). Large woody debris remaining after a flood event is to be assessed by the county for impacts on stream banks. LWD deemed stable and not contributing to streambank degradation or fish migration barriers will be left on site, but inspected annually and modified as needed. Complete removal of large woody debris (LWD) from streams on public lands is allowed as a last resort when it threatens public facilities. Live vegetation which provides shade or refuge for fish or wildlife shall only be removed under CDF&G permit guidelines, and only when it is exotic or contributes to undesirable bar formation or bank stability.

In addition, county personnel responsible for direct supervision of design, construction, maintenance, or inspection staff are required to attend a minimum of eight hours of technical training on large woody debris, vegetation management, and streambank stabilization annually.

***IDENTIFIED AND POTENTIAL POLICY GAPS:***

- Bank stability structure permits for private projects do not always require environmental review. Applicants are not required to evaluate the cumulative effects of their projects on fish habitat.
- It is not known to what extent county sponsored bank stability projects require environmental review or analysis of cumulative effects on fish habitat.

## **Water Quality**

**Storm Water Pollution Prevention:** San Mateo's General Plan directs the county to ensure that land uses and development on or near water resources will not impair water quality (GP-1.36). The zoning ordinance implements development review criteria aimed at maintaining water quality in Resource Management Districts (6324). Solid and liquid waste discharge and disposal are not permitted to contaminate water resources, and discharge of water containing organic nutrients must be shifted from the aquatic environment to land whenever possible.

In order to comply with the federal Clean Water Act, San Mateo County has obtained a permit from the National Pollutant Discharge Elimination System (NPDES) for storm drain systems throughout the county. San Mateo, like other counties, must report annually to the Regional Water Quality Board describing the amount of pollution prevented by cleaning storm drains, clearing channels and creeks, collecting material from street sweeping and chemical collection facilities.

San Mateo County also passed a Storm Water Management and Discharge Control Ordinance (5000) to reduce pollutants in storm water discharges, as per NPDES requirements. Non-storm water discharges to a county storm drain are prohibited except when in compliance with an individual (NPDES) permit. Each discharger must comply with BMPs. Exempt discharges include water line flushing, landscape irrigation and lawn watering, irrigation water, diverted stream flows, rising groundwater, infiltration to separate storm drains, uncontaminated pumped groundwater, foundation and footing drains, water from crawl space pumps, air condition condensation, springs, residential car washing, flows from riparian habitats and wetlands, and flows from fire fighting and permitted use of reclaimed water.

**Chemical Use:** San Mateo's Zoning Ordinance requires that pesticide use not lead to significant or persistent adverse effects on the environment within Resource Management Districts (6324). Its Stormwater Pollution Prevention Program (STOPP) includes BMPs for pesticide use by county and municipal agencies. Performance standards for county rural road maintenance require herbicide use to be done along county roads only in conjunction with an approved Vegetation Management Plan. The Agricultural Commissioner's Office has developed a comprehensive program to address the use and application of pesticides relative to impacts on Endangered Species. This program includes outreach to the public as well.

**Density:** Counties also address nonpoint source pollution (NPS) concerns by zoning certain areas as low density, minimizing the future sources of NPS from residential, commercial, and industrial development which will be allowed there. San Mateo's Resource Management District sets residential density at one parcel per 5 to 40 acres depending on slope and other criteria and requires that development proposals be reviewed to assure that no use will contribute to water quality deterioration.

***IDENTIFIED AND POTENTIAL POLICY GAPS:***

- Supplemental water quality development review criteria are implemented only in Resource Management Districts.

## **Migration Barriers**

Culverts and bridges over anadromous fish streams may create a barrier to migration of fish when not properly sized or installed. San Mateo County maintains at least 100 culverts and 30 bridges. Routine replacement of culverts and crossings affecting fish bearing streams is reviewed the Department of Fish and Game through the Streambed Alteration Agreement process.

Very little policy on fish migration barriers were found in county documents. The county's draft rural road performance standards do require that large woody debris left in streams on public lands not interfere with fish passage. Large woody material is to be inspected annually and modified as needed.

***IDENTIFIED AND POTENTIAL POLICY GAPS:***

- No written county policies or action plans to mitigate fish migration barriers due to county maintained culverts were identified.
- No written policies requiring review of fish migration impacts due to emergency replacement of county culverts were identified.

## **Summary of Policy Analysis for San Mateo County**

San Mateo County has a number of policies in place that serve to protect fish habitat. These protections are most comprehensive in the coastal zone where strict development standards protect salmonid streams with riparian buffers. Coastal zone rules restrict building in floodplains, channel modification, modification of streamflow quantity through water withdrawals, and they also strictly control grading.

In the non-coastal zone portions of San Mateo County, fish habitat protection is strongest in zoned Resource Management Districts. In these districts, low development densities are maintained and proposed projects require additional review for impacts to sensitive habitat, streamflow, floodplains, and water quality. The entire county is covered by a comprehensive grading ordinance and a storm water pollution prevention ordinance.

While existing policies play an important role in fishery protection in San Mateo County, a number of potential gaps in the protection of fish habitat by county policies were identified by this analysis. These are summarized below. The most notable gap identified is the lack of mandatory riparian buffers in non-coastal areas of the county.

### ***IDENTIFIED AND POTENTIAL POLICY GAPS:***

#### **Wildlife Habitat**

- The extent to which fish habitat is covered by sensitive habitat protections is not known.
- There is no specific sensitive habitats ordinance to implement general plan provisions.
- Performance criteria for developments in designated sensitive habitat are established for Resource Management Districts only.

#### **Streamflow Quantity Modification**

- Review of development projects for affects on streamflow is required only in Resource Management Districts, and only in watersheds important for spawning and rearing.
- Development projects are required to maintain surface water runoff only in Resource Management Districts.

#### **Riparian Buffers**

- Riparian buffers are designated in the Coastal Zone only and not the county as a whole.

#### **Floodplain Management**

- No mandatory setbacks from floodplains were found in county policy documents.
- Policies do not prohibit development in floodplains outside of Resource Management Districts.

#### **Sedimentation**

- The county's grading and erosion control requirements cover only private projects and public rural road maintenance. Other county sponsored projects may not be required to produce erosion control plans and measures.

**Channel Modification and Maintenance**

- Bank stability structure permits for private projects do not always require environmental review. Applicants are not required to evaluate the cumulative effects of their projects on fish habitat.
- It is not known to what extent county sponsored bank stability projects require environmental review or analysis of cumulative effects on fish habitat.

**Water Quality**

- Supplemental water quality development review criteria are implemented only in Resource Management Districts.

**Migration Barriers**

- No written county policies or action plans to mitigate fish migration barriers due to county maintained culverts were identified.
- No written policies requiring review of fish migration impacts due to emergency replacement of county culverts were identified.