

3 Urban and Rural Land Uses

Chapter 3 evaluates potential impacts to urban and rural land uses from Program implementation. The focus of this chapter is on the consistency of the Program with local and regional land use plans and policies in effect in the Program Area. Because the exact location and timing of potential vector control activities are unknown, this analysis has been conducted at a programmatic level.

Section 4.1, Environmental Setting, presents an overview of the types of land uses found in the Program Area, including a description of public lands in the Program Area where vector control measures could be implemented. It also presents federal, state, and local ordinances and regulations that are related to pesticide use in the Program Area. Section 4.2, Environmental Impacts and Mitigation Measures, presents the following:

- > Environmental concerns and evaluation criteria
- > Evaluation methods and assumptions
- > Discussion of the land use impacts from the No Program and Program alternatives, and recommendations for mitigation, if required, for those impacts
- > Cumulative impacts related to land use
- > Summary of environmental impacts due to land use conflicts

3.1 Environmental Setting

3.1.1 Overview of Urban and Rural Land Use

Generally, implementation of vector control activities could occur on a wide range of land uses within the Program Area covered under the Proposed Program, which covers Marin and Sonoma counties. In addition, actions can also be taken in adjacent counties as needed, including Lake, Mendocino, Napa, and Solano counties. This six-county region representing the Program Area is characterized by both urban and rural settings. Urban areas include residential, commercial, and industrial uses that tend to be located in incorporated areas. Other parts of the Program Area are rural in character, including agricultural land, rural residential, open space, and other public lands that are generally undeveloped.

Control measures specific to mosquitoes are focused on aquatic habitats, including man-made and natural areas, such as marshes, lakes and ponds, rivers and streams, seasonal wetlands, and irrigated pastures. These types of habitats typically are found in rural areas. Mosquito control measures can also occur at developed facilities found in urban areas or other areas that retain water, such as stormwater detention basins, flood control channels, spreading grounds, street drains and gutters, wash drains, animal troughs, artificial containers, tire piles, fountains, ornamental fishponds, and swimming pools.

3.1.2 Public Lands

Although vector control measures can be implemented on lands irrespective of landownership, large expanses of aquatic and terrestrial habitat are commonly found on public lands, such as National Wildlife Refuges administered at the federal level by the USFWS. Table 3-1 presents the extent of federal land in the Program Area based on US Department of the Interior information for lands eligible for “payments in lieu of taxes” to county governments. Many lands within the National Wildlife Refuge (NWR) system administered by USFWS are not eligible for payments in lieu of taxes and are not included in the table, which is focused on lands eligible for “payments in lieu of taxes.” Federal lands (e.g., Bureau of Land Management and NWRs) do not pay property taxes to the state, counties, or local governments. To

address this issue, the federal government has established a program called Payment In Lieu of Taxes (PILT) that makes nominal payments to the state and counties to help defray part of the tax revenues lost due to the establishment of designated federal lands (e.g., some NWRs). Local (noncounty) governments are not eligible to receive the funds, as they are not a state or county taxing entity that has lost tax base due to federal action.

The Program Area also has extensive areas of public land managed by state agencies, namely California State Parks, as well as community and regional parks managed by local parks and recreation departments of affected municipalities and special districts.

Table 3-1 Federal Lands in the Program Area, FY-2012 (acres)

County	Agency						Total
	BLM	USFS	USBR	NPS	USACE	USFWS*	
Lake	126,656	256,613	80	0	0	0	383,349
Marin	0	0	0	78,713	0	0	78,713
Mendocino	121,313	178,884	0	0	3,109	0	303,306
Napa	31,737	0	28,585	0	5	0	60,327
Solano	2,157	0	881	0	2,720	0	5,758
Sonoma	7,158	0	0	0	14,317	0	21,475
Total	289,021	435,497	29,546	78,713	20,151	0	852,928

Source: US Department of Interior (2013)

Notes:

*Many lands within the National Wildlife Refuge system administered by USFWS are not eligible for payments in lieu of taxes and are not included in the table.

- BLM = Bureau of Land Management
- NPS = National Park Service
- USACE = US Army Corps of Engineers
- USBR = US Bureau of Reclamation
- USFS = USDA Forest Service
- USFWS = US Fish and Wildlife Service

The USFWS manages San Pablo Bay NWR. San Pablo Bay NWR was established to protect important stopover and wintering grounds for waterfowl, shorebirds, and other migratory birds. It is also designed to support recovery of endangered species, in particular, the salt marsh harvest mouse and California clapper rail. The NWR comprises 23,700 acres of land and water in Marin, Sonoma, Napa, and Solano counties. The District provides mosquito surveillance and control on approximately 5,067 acres of the NWR’s tidal marsh habitat.

Marin County is comprised of 11 cities and towns and unincorporated area covering 606 square miles of land and water. County goals include “*A Healthy and Safe Lifestyle. Marin residents will have access to a proper diet, health care, and opportunities to exercise, and the community will maintain very low tobacco, alcohol, drug abuse, and crime rate*” (Marin County 2007, p. 1.3-12). An estimated 47 percent of the county has been developed with urban, suburban residential, and agricultural uses (Marin County 2007, p. 2.4-9). Marin County Open Space District (MCOSD) is the local agency responsible for creating the County’s own system of public open space. The district’s mission is “*to enhance quality of life in Marin through the acquisition, protection and responsible stewardship of ridgeland, baylands, and environmentally sensitive lands targeted for preservation in the Countywide Plan*” (Marin County 2007, p. 2.8-2). The Open Space District (2014) currently manages 34 open-space preserves comprising approximately 16,000 acres. Other

public agencies and nongovernmental organizations, most notably Golden Gate National Recreation Area, Point Reyes National Seashore, California State Parks, Marin Municipal Water District, North Marin Water District, and Marin Agricultural Land Trust, also protect open-space land in Marin, but according to their own missions and for their own purposes. All (with the exception of Marin Agricultural Land Trust) share a responsibility for managing extensive lands, amounting to thousands of acres each, that are more or less in a natural condition and open to the public (Marin County 2007, p. 2.8-2).

Sonoma County has a total area of 1,768 square miles, of which 1,576 square miles is land and 192 square miles (10.9 percent) is water according to the US Census Bureau (cited in Wikipedia 2014). The boundary with Marin County runs from the mouth of Estero Americano at Bodega Bay, up Americano Creek, then overland to San Antonio Creek, and down the Petaluma River to its mouth at the northwestern corner of San Pablo Bay, which adjoins San Francisco Bay. The southern edge of Sonoma County comprises the northern shore of San Pablo Bay between the Marin County border at the Petaluma River and the border with Solano County at Sonoma Creek. The Petaluma River, which flows into San Pablo Bay, is navigable up to the city of Petaluma. The Petaluma River, Tolay Creek, and Sonoma Creek enter the bay at the county's southernmost tip. The intertidal zone where they join the bay is Napa Sonoma Marsh. This marsh has an area of 48,000 acres, of which 13,000 acres are abandoned salt evaporation ponds. The United States Government has designated 13,000 acres in Napa Sonoma Marsh as San Pablo Bay National Wildlife Refuge (Wikipedia 2014). Sonoma County contains 52 regional parks with 777 developed acres, 57,203 undeveloped acres, 175 miles of trails, and annual park users/park visits of 5,603,743 (Sonoma County 2014).

3.1.3 Regulatory Setting

3.1.3.1 *Federal*

No federal regulations and/or policies govern land use in the Program Area, except for management plans related to federal land holdings. However, the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)¹ regulates, at the federal level, pesticide distribution, sale, and use. For more information on FIFRA, refer to Section 7.1.4.1.1 (Human Health).

3.1.3.2 *State*

Similar to the federal level, the State of California has no direct authority on local land use on private lands with the exception of requirements related to general plan development and zoning consistency. Specifically, California Government Code Section 65300 et seq. establishes the obligation of cities and counties to adopt and implement general plans. A general plan is a comprehensive, long-term strategy document that sets forth the expected location and general type of physical development expected in the city or county developing the document. In addition, State Zoning Law (California Government Code Section 65800 et seq.) establishes that zoning ordinances, which are laws that define allowable land uses in a specific district, are required to be consistent with the general plan and any applicable specific plans. Land use on state-managed public lands is regulated pursuant to any applicable land use plans and policies administered by each state agency.

From a land use perspective, the key regulatory consideration at the state level is related to the concept of preemption. Preemption refers to laws at one level of government taking precedence over laws of a lower level. As such, no entity at the lower level can pass a law inconsistent with the law at the higher level. The California Constitution also allows the state to preempt local jurisdictions. California Food and Agricultural Code Section 11501.1 states that no ordinance or regulation of local government “*may prohibit or in any way attempt to regulate any matter relating to the registration, sale, transportation, or use of pesticides, and any of these ordinances, laws or regulations are void and of no force or effect*”.

¹ 7 United States Code (USC) Section 136 et seq. (1996)

3.1.3.3 *Local*

Each of the municipalities (i.e., counties and incorporated cities) in the Program Area maintains its own general plan and/or zoning ordinance that regulates allowable land use and related activities for designated areas within its jurisdiction. For example, the Land Use Element of the Marin Countywide Plan provides the distribution, location, and extent of uses of land for housing, business, industry, open space, agriculture, natural resources, recreation, and enjoyment of scenic beauty, education, public buildings and grounds, solid and liquid waste disposal facilities, and other uses (Marin County 2008). For each appropriate land-use category, it includes standards for population density and building intensity.

Typically, policies and programs related directly to pesticide use are outside the purview of local planning and zoning regulation. However, some cities and counties have enacted regulations on pesticide use as part of their municipal code. Local governing bodies may pass ordinances that regulate or restrict pesticide use in their own operations. However, these restrictions do not apply to state operations and would not be applicable to treatments the District proposes under the Program because California state law preempts local regulation and restriction of pesticide use. The District is a regulatory agency formed pursuant to California Health and Safety Code Section 2000 et seq. State law charges the District with the authority and responsibility to take all necessary or proper steps for the control of mosquitoes and other vectors in the District (see Section 1.1.3).

Several municipalities within the Program Area have adopted specific regulations regarding the use of pesticides and/or have developed IPM plans or programs. In the Program Area, these municipalities include, but are not limited to (Californians for Pesticide Reform 2013):

- > City of Belvedere. Repealed the City's previous herbicide and pesticide use policy that eliminated pesticide and herbicide/landscape maintenance products that adversely affect the health of humans and the environment on June 9, 2014, when a new Integrated Pest Management (IPM) Policy was adopted. The new IPM Policy serves as the basis of the required Pesticide-Related Toxicity Program. An exception to this new pesticide policy was made in order to ". . . control the proliferation of biting or stinging insects such as yellow jackets, wasps, mosquitoes, and other similar pests. As control of those pests on City property is normally performed by the Marin-Sonoma Mosquito and Vector Control District, the City authorizes pesticide use, but will advocate for the use of the least toxic product on a case-by-case basis. In addition, the City will exempt any governmental entity from the provisions of this Resolution whose authority pre-empts that of the City." (City of Belvedere 2014)
- > Town of Fairfax. Prohibited the use of pesticides (including herbicides) on public land. Effective April 6, 2001, Ordinance #687 prohibits the use of pesticides (including herbicides) on Fairfax parks, open space parcels and public rights of way and buildings owned and maintained by the Town of Fairfax. "Use" shall be defined as both aerial and ground spraying and or dusting and all other ground applications. The only exceptions to the use of pesticides under Section 8.40.30 are the same as those found in Section 8.40.44; and, in addition an exception may be approved by a two-thirds super majority vote of the full Town Council with a mandatory finding that the health, safety and welfare of the community is so threatened that an emergency exists, that no reasonable alternative is available, and the prohibition of the use of pesticides would create the potential for allowing a significant adverse impact on the town. (Town of Fairfax 2001)
- > County of Marin. Enacted Integrated Pest Management (IPM) Ordinance No. 3521 that created an IPM plan for the county of Marin that governs and guides the control of pests on property the County of Marin owns, manages, and leases. The IPM program uses best practices and science to protect the health of the public and environment, manage their properties, minimize loss due to pests, and reduce pesticide use (see Draft PEIR Section 4.1.3.3.1). The Countywide General Plan contains the following open space implementation policy in the Natural Systems and Agriculture Element (Marin County 2007, p. 2.8-6):

“OS-1.c Utilize Integrated Pest Management. Minimize the use of pesticides and herbicides in open space management.”

- > Town of Corte Madera. Adopted Resolution No. 3257 approving an Integrated Pest Management Program dated Aug. 6, 2002, that contains procedures, rules, policies and suggested practices applicable to the use of pesticides. It is the policy of the Town to use least-toxic IPM principles to manage pest populations on Town property. Except for pesticides granted an emergency exemption, the Town will not use any products on the banned use product list. If it is determined that an EPA registered pesticide must be used, then the least-hazardous material will be chosen. Products will be divided into three classifications: Approved Use List, Limited Use List and Banned Use List. If the use of a material not on either the Approved Use List or the Limited Use List is deemed necessary, the IPM Coordinator may apply for an emergency exemption. The Approved List includes, but is not limited to:
- Insecticides, rodenticides, baits and traps
 - Natural products on the FIFRA's 25 (b) list (40 CFR part 152.25 (g) (I))
 - Natural products on the California Certified Organic Farmers organic list
 - EPA GRAS-generally recognized as safe products pursuant to federal EPA
 - Biological controls, such as parasites and predators
 - Microbial pesticides
 - Insect growth regulators

The IPM Coordinator will make a recommendation to the Town Council to allow a pesticide not on the Approved Use List or Limited Use List based upon a finding that the protection of public health requires the use of that pesticide due to an emergency. (Town of Corte Madera 2002)

- > Town of San Anselmo. Committed to a least toxic IPM policy to reduce the dependence on chemical products for pest management. No pesticides may be used at Town sites, except in accordance with the Town's printed IPM Policy. The Policy contains provisions similar to Corte Madera's IPM Policy described above. (Town of San Anselmo undated)

3.2 Environmental Impacts and Mitigation Measures

The evaluation of land use impacts in the Program Area is presented below. Program impacts on urban and rural land uses were evaluated based on the significance criteria presented in Section 3.2.1.

3.2.1 Evaluation Concerns and Criteria

The following concerns associated with urban and rural land uses were raised during the public scoping process:

- > Aspects of the Program that diminish recreational experience of park visitors of the regional parks and trails within the Program Area.
- Effects on recreational land use are covered in this section.
- > Impacts at school sites.
- The Program would not alter land uses at public or private school sites and schools would continue to operate similarly to existing conditions. However, the District coordinates and often works collaboratively with individual schools and school districts regarding vector control. The District notifies schools prior to performing vector control activities on school grounds (i.e., larvicide and adulticide applications, trapping, and surveillance). These activities have been modified based on the response from the school involved.

- > Local community regulations regarding pesticides.
 - Potential effects related to consistency with local community regulations are covered in this section.

Based on the CEQA Guidelines and professional judgment, Program impacts to urban and rural land uses would be considered potentially significant if the Program would:

- > Physically divide an established community.
 - The Program does not propose any change in land use or new developments and, therefore, would have no impact related to physically dividing an established community; as a result, this criterion is not applicable to the Program.
- > Result in adverse impacts on the quantity and/or quality of recreational land uses.
- > Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Program (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- > Conflict with any applicable habitat conservation plan or natural community conservation plan.
 - The Program's potential to conflict with any applicable habitat conservation plan or natural community conservation plan is discussed in Chapter 4, *Biological Resources – Aquatic*, and in Chapter 5, *Biological Resources – Terrestrial*.

The environmental impact topics of the potential to conflict with applicable plans, policies, or regulations within the Program treatment areas and potential effects on recreational land uses are evaluated for each Program alternative below. Vector management activities have the potential to affect the experience of recreationists on designated park lands and human activities occurring in rural areas (e.g., bicyclists along rural roads, hikers, and winery visitors). Program activities would occur in agricultural areas, including vineyards and wineries, but not inhibit normal operations in these areas.

3.2.2 Evaluation Methods and Assumptions

The methodology for evaluating land use impacts consists of (1) reviewing existing recreational opportunities in the Program Area and analyzing how proposed vector control measures would affect recreational land uses and (2) reviewing the Program alternatives in the context of state and local laws and regulations pertaining to pesticide use.

The District has implemented and will continue to implement the following BMPs (from Table 2-6) that are applicable to District activities in all areas within the Program Area including rural recreational, agricultural, and open-space areas:

- > District staff has had long standing and continues to have cooperative, collaborative relationships with federal, state, and local agencies. The District regularly communicates with agencies regarding the District's operations and/or the necessity and opportunity for increased access for surveillance, source reduction, habitat enhancement, and the presence of special-status species and wildlife. The District often participates in and contributes to interagency projects. The District will continue to foster these relationships, communication, and collaboration. (BMP A1)
- > District staff will work with care and caution to minimize potential disturbance to wildlife while performing surveillance and vector treatment/population management activities. (BMP A6)
- > Vehicles driving on levees to travel through tidal marsh or to access sloughs or channels for surveillance or treatment activities will travel at speeds no greater than 10 miles per hour to minimize noise and dust disturbance. (BMP A8)

- > Operation of noise-generating equipment (e.g., chainsaws, wood chippers, brush-cutters, pickup trucks) will abide by the time-of-day restrictions established by the applicable local jurisdiction (i.e., City and/or County) if such noise activities would be audible to receptors (e.g., residential land uses, schools, hospitals, places of worship) located in the applicable local jurisdiction. Shut down all motorized equipment when not in use. (BMP A11)
- > For operations that generate noise expected to be of concern to the public, the following measures will be implemented: (BMP A12)
 - Measure 1: Provide Advance Notices: A variety of measures are implemented depending on the magnitude/nature of the activities the District undertakes and may include, but are not limited to, press releases, social media, District websites, emails, phone messages, hand-delivered flyers, and posted signs. Public agencies and elected officials also may be notified of the nature and duration of the activities, including the Board of Supervisors or City Council, environmental health and agricultural agencies, emergency service providers, and airports.
 - Measure 2: Provide Mechanism to Address Complaints: District staff is available during regular business hours to respond to service calls and address concerns about nighttime operations.

3.2.3 Surveillance Alternative

Impacts on Recreational Land Uses

The Surveillance Alternative involves utilization of various methods to monitor targeted vectors in terms of their location and distribution. District staff may implement surveillance techniques in recreational settings, but they would not likely interfere with existing recreational uses. Recreationists would continue to use recreation areas; and potential impacts on the quality of the recreational experience, such as from noise, would be minor.

Impact LU-1: Surveillance of vectors would not appreciably impact the quantity and/or quality of recreational opportunities in the Program Area. This impact is **less than significant** and no mitigation is required.

Conflict with Applicable Land Use Regulations and Policies

This alternative does not involve the use of chemical pesticides to control vectors and, therefore, would not be inconsistent with local policies on IPM and local ordinances restricting pesticide use.

Impact LU-2: Surveillance of vectors would not be inconsistent with applicable land use regulations. **No impact** would occur.

3.2.4 Physical Control Alternative

Impacts on Recreational Land Uses

The Physical Control Alternative entails changes to the extent or composition of vector habitats as a means of vector control or “source reduction”. Alterations of certain types of habitats for vector control may adversely affect the recreational quality of that habitat, particularly applicable to aquatic habitats that are used either directly or indirectly for recreational purposes, e.g., water bodies used by anglers or waterfowl that are targeted by hunters. The District undertakes a variety of physical control projects in freshwater bodies and saline habitats, including marshes and ponds, consistent with regulatory requirements (see Section 2.8) in a manner that generally maintains or improves habitat values for desirable species to control mosquitoes. The control of mosquitoes in aquatic habitats prevents them from annoying/biting recreationists, which enhances the recreational experience. In addition, physical control measures that would be implemented would target other types of vector habitats that generally do not support recreational uses. As a result, this alternative would continue with practices used under existing conditions, and would not be likely to interfere with existing recreational uses except on a limited basis

(i.e., ditch/channel maintenance using equipment and vehicles that could close a trail or introduce noise), and recreationists would continue to use recreation areas in a similar fashion to the present. Potential impacts on the quality of the recreational experience, including noise-related effects, would be minor.

Impact LU-3: Physical control of vector habitat would not appreciably impact the quantity and/or quality of recreational opportunities in the Program Area. This impact is **less than significant** and no mitigation is required.

Conflict with Applicable Land Use Regulations and Policies

Physical control does not alter the type of land use (e.g., residential, commercial, industrial, resource conservation, and agricultural). This alternative does not interfere with existing land uses and does not involve the use of chemical pesticides to control vectors and, therefore, would not be inconsistent with local land use plans and local ordinances restricting pesticide use.

Impact LU-4: Physical control of vectors would not be inconsistent with applicable land use regulations. **No impact** would occur.

3.2.5 Vegetation Management Alternative

Impacts on Recreational Land Uses

The Vegetation Management Alternative involves control or removal of vegetation in an effort to control or facilitate surveillance and control of vectors and could occur in parks and wildlife protection areas. The District coordinates with landowners/managers and, where applicable, resource agencies prior to commencing work, whether trimming or herbiciding. Recreational uses generally do not rely on vegetation removal to be carried out, except for trail maintenance; and vegetation management techniques including herbicides would not likely interfere with existing recreational uses. The herbicides would be applied from the ground using a truck-mounted sprayer, backpack sprayer, hand equipment, or ATV sprayer. These measures would not require closure of treated areas. Recreationists would maintain access and continue to use recreation areas, and potential impacts on the quality of the recreational experience, including noise-related effects, would be minor.

Impact LU-5: Vegetation management would not appreciably impact the quantity and/or quality of recreational opportunities in the Program Area. This impact is **less than significant** and no mitigation is required.

Conflict with Applicable Land Use Regulations and Policies

This alternative does involve the potential use of herbicides primarily to facilitate access for vector surveillance and control, control vectors through habitat management/source reduction and, therefore, could be inconsistent with local ordinances restricting pesticide use when those ordinances apply to herbicide use. Most of the local pesticide ordinances include herbicides in their definition of pesticides. However, state law preempts local restrictions on the use of pesticides, local ordinances prohibiting their use on public property are not directly applicable to the Program. The limited use of herbicides is not inconsistent with Marin County's IPM policies, which are contained in its Countywide Plan.

Impact LU-6: Vegetation management would not be inconsistent with applicable land use regulations. **No impact** would occur.

3.2.6 Biological Control Alternative

Impacts on Recreational Land Uses

The Biological Control Alternative entails the use of pathogens and predators to control target vectors. Mosquito pathogens are covered under the Chemical Control Alternative. The predator technique requires placement of mosquitofish in controlled water bodies such as ornamental ponds and water gardens. Such

methods would not be noticeable in recreational settings and would not likely interfere with existing recreational uses. Recreationists would maintain access and continue to use recreation areas as they do under existing conditions, and potential impacts on the quality of the recreational experience would be negligible.

Impact LU-7: Biological control of vectors would not appreciably impact the quantity and/or quality of recreational opportunities in the Program Area. **No impact** would occur.

Conflict with Applicable Land Use Regulations and Policies

This alternative does not involve alterations to land uses and does not include the use of chemical pesticides to control vectors. Therefore, it would not be inconsistent with local ordinances regulating land uses or restricting pesticide use.

Impact LU-8: Biological control of vectors would not be inconsistent with applicable land use regulations. **No impact** would occur.

3.2.7 Chemical Control Alternative

Impacts on Recreational Land Uses

The Chemical Control Alternative entails the periodic use of insecticides to control target vectors, which would be implemented based on a number of factors, including but not limited to the vector's abundance, density, species composition, proximity to human settlements, water temperature, and presence of predators. Chemical applications routinely occur in agricultural areas by farmers for crop production, so District applications for vector control would not conflict with local land use regulations. The District may apply chemicals in public recreation areas, such as parks and refuges, thereby potentially affecting recreational uses.² Chemical applications in recreation areas would improve the quality of recreational opportunities due to the elimination of impacts from vectors (e.g. biting). However, some factors may result in adverse effects on recreation. First, chemical application techniques may involve the use of heavy equipment, including aircraft for aerial applications, which would diminish the quality of the recreational experience realized by recreationists. Such equipment generates noise, particularly aircraft, and alters the visual landscape, which is inconsistent with the overall character of many recreation areas. Second, the potential exists that chemical applications would deter people from recreating in certain areas in an effort to avoid direct exposure, thereby limiting recreational access for local residents and visitors. The public education component of the Proposed Program (with BMPs A12 and H13) calls for public notification in advance of chemical application in public areas (including notification of recreation area managers as necessary for large-scale activities involving aircraft, ATVs, and airboat), which would allow recreationists to adjust their recreational patterns, e.g., visiting alternative recreation sites in the region. Together, potential impacts on recreational quality from the use of heavy equipment in public areas and impacts on recreational access from deterred visitors would generate impacts on recreational land uses in the Program Area. However, chemical applications in recreation areas would be isolated events similar to existing conditions and implemented on an as-needed basis; therefore, impacts on recreation would be temporary.

Impact LU-9: Chemical application to control vectors would impact recreational access and the quality of recreational opportunities in the Program Area. However, because these impacts would be isolated and short term and would involve public notification for the large events in close proximity to recreation intensive use areas, they are considered **less than significant** and no mitigation is required.

² Table 3-1 shows the extent of federal land holdings in the Program Area, which include areas used for recreational purposes.

Conflict with Applicable Land Use Regulations and Policies

The Chemical Control Alternative could be inconsistent with local land use regulations that restrict pesticide use in some jurisdictions, such as those outlined in Section 3.1.3.3. However, state law preempts local restrictions on the use of pesticides; local ordinances prohibiting their use mostly on public land are not directly applicable to the Program. The use of pesticides under the District's IVMP based on IPM principles is not inconsistent with Marin County's IPM policies and those of cities and towns with IPM policies and exemptions for use of pesticides to protect public health and safety.

Impact LU-10: The Chemical Control Alternative would not be inconsistent with applicable land use regulations because state law preempts local ordinances. **No impact** would occur.

3.2.8 Other Nonchemical Control/Trapping Alternative

Impacts on Recreational Land Uses

The Other Nonchemical Control/Trapping Alternative involves the use of traps to control vectors. Although such traps may be placed in recreational settings, they would not be directly placed in high-use areas during the day and, therefore, would not likely interfere with existing recreational uses. Recreationists would maintain access and continue to use recreation areas, and potential impacts on the quality of the recreational experience, including noise--related effects, would be negligible.

Impact LU-11: Trapping of vectors would not appreciably impact the quantity and/or quality of recreational opportunities in the Program Area. This impact is **less than significant** and no mitigation is required.

Conflict with Applicable Land Use Regulations and Policies

This alternative does not involve the use of chemical pesticides to control vectors and, therefore, would not conflict with local ordinances restricting pesticide use.

Impact LU-12: Other nonchemical control and trapping of vectors would not conflict with applicable land use regulations. **No impact** would occur.

3.2.9 Cumulative Impacts

See Section 13.1 for a complete discussion of cumulative impacts including a definition of what constitutes a significant cumulative impact. In summary, due to the extensive recreational opportunities on public lands within the Program Area (i.e., no existing significant cumulative impact within the Program Area), the small incremental potential impacts on recreational opportunities from five of the Proposed Program alternatives when combined would not likely cumulatively contribute to recreational impacts in the region. **No cumulative significant impacts to urban and rural land uses** are anticipated when all of the Program's incremental impacts and the impacts of other activities in the region are considered together.

3.2.10 Environmental Impacts Summary

Table 3-2 presents a summary of impacts related to land use including recreational opportunities and applicable land use regulations.

Table 3-2 Summary of Land Uses Impacts by Alternative

Impact Statement	Surveillance	Physical Control	Vegetation Management	Biological Control	Chemical Control	Other Nonchemical/ Trapping
Effects on Land Uses						
Impact LU-1: Surveillance of vectors would not appreciably impact the quantity and/or quality of recreational opportunities in the Program Area. This impact is less than significant and no mitigation is required.	LS	na	na	na	na	na
Impact LU-2: Surveillance of vectors would not be inconsistent with applicable land use regulations. No impact would occur.	N	na	na	na	na	na
Impact LU-3: Physical control of vector habitat would not appreciably impact the quantity and/or quality of recreational opportunities in the Program Area. This impact is less than significant and no mitigation is required.	na	LS	na	na	na	na
Impact LU-4: Physical control of vectors would not be inconsistent with applicable land use regulations. No impact would occur.	na	N	na	na	na	na
Impact LU-5: Vegetation management would not appreciably impact the quantity and/or quality of recreational opportunities in the Program Area. This impact is less than significant and no mitigation is required.	na	na	LS	na	na	na
Impact LU-6: Vegetation management would not be inconsistent with applicable land use regulations. No impact would occur.	na	na	N	na	na	na
Impact LU-7: Biological control of vectors would not appreciably impact the quantity and/or quality of recreational opportunities in the Program Area. No impact would occur.	na	na	na	N	na	na
Impact LU-8: Biological control of vectors would not be inconsistent with applicable land use regulations. No impact would occur.	na	na	na	N	na	na
Impact LU-9: Chemical application to control vectors would impact recreational access and the quality of recreational opportunities in the Program Area. However, because these impacts would be isolated and short term and would involve public notification for the large events in close proximity to recreation intensive use areas, they are considered less than significant and no mitigation is required.	na	na	na	na	LS	na

Table 3-2 Summary of Land Uses Impacts by Alternative

Impact Statement	Surveillance	Physical Control	Vegetation Management	Biological Control	Chemical Control	Other Nonchemical/ Trapping
Impact LU-10: The Chemical Control Alternative would not be inconsistent with applicable land use regulations because state law preempts local ordinances. No impact would occur.	na	na	na	na	N	na
Impact LU-11: Trapping of vectors would not appreciably impact the quantity and/or quality of recreational opportunities in the Program Area. This impact is less than significant and no mitigation is required.	na	na	na	na	na	LS
Impact LU-12: Other nonchemical control and trapping of vectors would not conflict with applicable land use regulations. No impact would occur.	na	na	na	na	na	N

LS = Less-than-significant impact

N = No impact

na = Not applicable

SM = Potentially significant but mitigable impact

SU = Significant and unavoidable impact

3.2.11 Mitigation and Monitoring

No mitigation or monitoring is required as it relates to land use.

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