

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 3.1, 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 3.2, 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 all rural and urban land uses within the Napa County Mosquito Abatement District (NCMAD; the District) Service Area of Napa County covered under the Proposed Program. Of the 506,000 acres in Napa County, the County Assessor has designated 50 percent as Rural Lands; and 72 percent of this land is vacant due in large part to steep terrain, mountain ridges, and narrow valleys. Napa County has seen very little development or growth within its unincorporated areas over the past 15 years in large part due to the Napa County General Plan strongly emphasizing preservation of agriculture and open-space resources (Napa County Watershed Information Center & Conservancy 2014). In addition, Program actions can also be taken in adjacent counties as needed upon request, including Lake, Solano, Sonoma, and Yolo counties. This 5-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, wildlife management areas/refuges, 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, vernal pools and other 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. Within Napa County, agricultural land uses can also be significant, especially with respect to vineyards and wineries. The District treats their irrigation and waste ponds for mosquitoes and occasionally fogs for adult mosquitoes in or near the work and visitor areas. Control measures for other vectors (e.g. yellow jackets, ticks, and rodents) typically occur in terrestrial habitats near mosquito

habitats, and at man-made areas and facilities. The District also performs yellow jacket control at winery facilities and in the vineyards.

3.1.2 Public Lands

Although vector control measures can be implemented on lands irrespective of land ownership, large expanses of aquatic and terrestrial habitat are commonly found on public lands, such as National Wildlife Refuges (NWRs) 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. Many lands within the 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., BLM 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 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.

For example, the 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 in Marin, Sonoma, Napa, and Solano counties. Currently, approximately 28 acres in the NWR’s Cullinan Ranch Unit is within Napa County (Brubaker, pers. comm., 2014). The District is not eligible to receive payments in lieu of taxes for USFWS lands where vector control services are provided. In Napa County, more than 89,800 acres are designated as Parks and Open Space and another 6,850 acres are designated Public/Quasi-public (Napa County Watershed Information Center & Conservancy 2014).

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

County	Agency					Total
	BLM	USFS	USBR	USFWS	USACE	
Lake	126,656	256,613	80	0	0	383,349
Napa	31,737	0	28,585	0	5	60,327
Solano	2,157	0	881	0	2,720	5,758
Sonoma	7,158	0	0	0	14,317	21,475
Yolo	29,692	0	391	0	1,180	31,263
Total	197,400	256,613	29,937	0	18,222	502,172

Source: US Department of Interior (2013)

BLM = Bureau of Land Management

USACE = US Army Corps of Engineers

USBR = US Bureau of Reclamation

USFS = USDA Forest Service

USFWS = US Fish and Wildlife Service: Many lands within the NWR system administered by USFWS are not eligible for payments in lieu of taxes and are not included in the table.

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. CDFW manages the Napa Plant Site Restoration Project, 1,460 acres of former salt ponds roughly 1 mile northwest of American Canyon in Napa County. This site is part of CDFW’s larger 11,251-acre Napa-Sonoma Marsh Complex, a significant

portion of which resides within Napa County. This complex consists of the American Canyon Unit, Coon Island Unit, Green Island Unit, Huichica Creek Unit, Napa River Unit, Southern Crossing Unit, Ringstrom Bay Unit, Wingo Unit, South Tolay Creek Unit, and North Tolay Creek Unit (CDFW 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.”

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. 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, but they do not occur at present in the District’s Program Area. 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 proposed by the District 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). None of the jurisdictions in the District’s Service Area have prohibitions on pesticide use at present.

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

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:

- > Need to analyze and minimize 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 with schools to notify them prior to performing vector control activities (i.e., spraying, fogging, 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 (including land use) are covered in this section.

Based on the State 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.

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 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. (Table 2-9, 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. (Table 2-9, 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. (Table 2-9, 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. (Table 2-9, BMP A11)
- > For operations that generate noise expected to be of concern to the public, the following measures will be implemented: (Table 2-9, BMP 12)
 - 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, 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 utilize 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 conflict with local land use plans. No local ordinances restrict pesticide use.

Impact LU-2: Surveillance of vectors would not conflict 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., waterbodies 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 utilize 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

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 conflict with local ordinances governing land uses. No ordinances restrict pesticide use.

Impact LU-4: Physical control of vectors would not conflict 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 vectors. 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 along some trails), and vegetation management techniques including herbicides would not likely interfere with existing recreational uses.

Recreationists would maintain access and continue to utilize 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 involves the use of herbicides to facilitate access for vector surveillance and control, to control vectors and, therefore, could be inconsistent with local ordinances restricting pesticide use if those ordinances were to apply to herbicide use. However, such ordinances do not exist at present. Agricultural activities are widespread within the Program Area, and some operations are organic using only those pesticides approved for use on organic crops by the US Department of Agriculture and permitted by the

landowner. Herbicide use by the District would not occur on organic fields but could occur at winery waste ponds. No local ordinances restrict use of herbicides in the District's Program Area. Furthermore, because state law preempts local restrictions on the use of pesticides, local ordinances prohibiting their use if enacted would not be applicable to the Proposed Program.

Impact LU-6: Vegetation management would not conflict 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 waterbodies 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 utilize 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 the use of chemical pesticides at present to control vectors and, therefore, would not conflict with local ordinances regulating land uses or future ordinances restricting pesticide use if adopted because state law preempts local restrictions on the use of pesticides.

Impact LU-8: Biological control of vectors would not conflict 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 and rodenticides 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 effects from vectors. 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 (including BMPs A12 and H13) calls for public notification in advance of chemical application in public areas (including notification of recreation area managers as

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

necessary for large-scale activities involving aircraft, ATVs, and airboat), which would allow recreationists to adjust their recreational patterns, e.g., visiting alternative recreational 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, they are considered **less than significant** and no mitigation is required.

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, if they were to be enacted in the future. However, because state law preempts local restrictions on the use of pesticides, local ordinances prohibiting their use are not applicable to the Program.

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 utilize 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 conflict 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 conflict 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 conflict 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 conflict 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, 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.