

CHAPTER 4

ENVIRONMENTAL CONSEQUENCES

This chapter presents a summary of the overall potential environmental impacts of the alternatives described in Chapter 2—No Action (no live-fire training at MMR), Alternative 1 (Reduced Capacity Use with Some Weapons Restrictions), Alternative 2 (Full Capacity Use with Some Weapons Restrictions), Alternative 3 (Full Capacity Use with Fewer Weapons Restrictions), and Alternative 4 (Full Capacity Use with Fewer Weapons Restrictions), Pōhakuloa Training Area. Together with the current conditions presented in Chapter 3, the conditions under No Action provide a baseline for analysis of the Proposed Action alternatives (Alternatives 1, 2, 3, and 4).

Alternatives 1, 2, 3, and 4 would involve 242 days of training per year. Alternative 1 involves conducting 19 to 28 company-level CALFEXs per year using modified live-fire (i.e., without the use of tracer ammunition, inert TOW missiles, or illumination munitions). Alternatives 2, 3, and 4 are maximum installation use alternatives that include up to 50 company-level CALFEXs per year. Alternative 2 includes the use of tracer ammunition, and training under Alternatives 3 and 4 uses tracer ammunition, inert TOW missiles, 2.75-caliber rockets, and illumination munitions. These alternatives are described in detail in Section 2.4. Impacts have been assessed based on the assumptions presented in the Chapter 3 resource sections. Alternatives 1, 2, 3, and 4 also reflect units conducting convoy live-fire (CLF) training.

Each section in this chapter includes a discussion of impact methodology and factors used to determine the significance of direct and indirect impacts (40 CFR 1508.8) and proposed mitigation where appropriate. Direct impacts are those that are caused by implementing the proposed training activities and occur at the same time and place. Indirect impacts

are those caused by implementing the proposed training activities, but the impacts occur later in time or are farther removed in distance from those activities. While the impact analysis primarily addresses CALFEX training exercises, the impacts of convoy LFX and other exercises are identified and described where they are substantially different or greater in magnitude than those from the CALFEXs. Cumulative impacts are presented in Chapter 5, and other required NEPA analyses are addressed in Chapter 6.

As is common practice in NEPA documents, the word “would” is used in this EIS when discussing impacts, as in “noise impacts would result from the Proposed Action.” It is used in conjunction with identified impacts, regardless of the probability of impact occurrence. There is never complete certainty that an expected impact would occur, and the use of “would” is not intended to make that implication. In some cases, a number of factors would have to be present for an impact to result.

To determine whether an impact is significant, CEQ regulations also require the consideration of context and intensity of potential impacts (40 CFR 1508.27). Context normally refers to the setting, whether local or regional, and intensity refers to the severity of the impact. Also, EISs should include a discussion of the possible conflicts between the Proposed Action and the objectives of federal, regional, state, and local land use plans and policies for the area concerned (40 CFR 1502.16).

Pursuant to the CEQ regulations, factors considered for determining significance of impacts have been established for each resource and are presented for each resource section. If any project activity would exceed one of those factors, the impact is considered significant.

Impacts are defined in the following categories:

- Significant impact;
- Significant impact mitigable to less than significant;
- Less than significant impact;
- No impact; and
- Beneficial impact.

Impacts in the first two categories (significant impact and significant impact mitigable to less than significant) are assigned an impact number in the text (e.g., Impact 1: Modification of the existing view) with a corresponding numbered mitigation. Impacts in the next two categories (less than significant or no impact) are not assigned an impact number

(e.g., consistency with visual resource policies). Beneficial impacts are also described when applicable.

Summary tables provide an overview of impacts by resource and by alternative. These tables show the highest level of impact for each resource by issue area. Text supporting these conclusions is presented and mitigation measures are listed for significant impacts and less than significant impacts, where mitigation is possible. There may be both adverse and beneficial impacts within a single resource category. Where there are both adverse and beneficial impacts, both are listed on the tables and in the text.

Mitigation is the reduction or elimination of the severity of an impact. The intention of mitigation is to reduce the effects of an action on the environment. CEQ defines mitigation as (1) *avoiding* an impact altogether by not taking a certain action or parts of an action; (2) *minimizing* impacts by limiting the degree or magnitude of an action; (3) *rectifying* the impact by repairing, rehabilitating, or restoring the environment; (4) *reducing or eliminating* an impact over time by using preservation and maintenance operations; and (5) *compensating* for an impact by replacing or providing substitute resources or environments (40 CFR 1508.20). Mitigation measures have been proposed that would reduce the impact of the proposed action. Mitigation, though, as defined the CEQ regulations (40 C.F.R. 1502.14[f]) must be appropriate. Therefore, as with alternatives, mitigation measures are proposed only if they would be technically feasible and if they would allow the proposed project to meet the project purpose and need.

Mitigation measures in this EIS are divided into two categories:

- Regulatory and administrative mitigation, which is required in compliance with federal environmental laws and regulations, that are existing SOPs or BMPs, or that are part of an ongoing program; and
- Additional mitigation, which is proposed by the Army, other agencies, or the public and which may be implemented. The Army has listed these additional mitigations to provide the public and regulatory agencies with information on all possible mitigations and to request input on which mitigations should be implemented. The Army will identify in the ROD which of these mitigations it will implement. Because the Army has determined that mitigation measures that modify its training exercises would not be feasible because they would affect its ability to adequately train its Soldiers, those types of measures have not been identified and would not be implemented.

4.1 LAND USE AND RECREATION

4.1.1 Impact Methodology

This section evaluates impacts on land use in the ROI, as described in Chapter 3, Affected Environment. Land use includes activities that are being carried out on the land in the ROI and the designation of land as determined in local, state, and federal land use policies. This section describes the methods and significance criteria used to assess the level of impact from project alternatives on land use, provides an overview of land use and recreation noise factors, and then describes the impacts from No Action and the four action alternatives.

Impacts on land use were assessed based on the consistency of project activities with state and local plans and on compatibility with land uses in the project area and surrounding area. Impacts on recreational resources were assessed by determining the types of recreational uses in and around the project area, then determining the sensitivity of those uses to the short-term and long-term project effects, such as noise and visual disturbance. Also considered was the consistency of project activities with the objectives and policies of state and local recreation plans.

The Army has coordinated with the State of Hawai'i to meet CZM consistency requirements and submitted a CZM consistency determination to the State Department of Business, Economic Development & Tourism (DBEDT) for training activities at MMR. Appendix H-7 includes the CZM consistency concurrence received in 2008 from the DBEDT. This section also evaluates the compatibility of the project activities against the objectives and policies of the HCZMP.

General issues regarding training noise compatibility with surrounding land use designations are addressed primarily in Section 4.5, where long-term and averaged noise analysis is used. The effects of noise and other training-related disturbances on individuals and groups using recreation areas are addressed in this section; because analysis of recreational impacts is based on different evaluation factors, the impacts identified in this section may be different from those discussed in Section 4.5. Land use issues regarding Native Hawaiian cultural practices are discussed under Section 4.10.

Noise/Recreation Overview

Quiet or natural sound can be considered a natural resource by users of open space and remote recreation areas. Certain open space areas are regulated to manage noise and airplane and helicopter overflights (Ernenwein and Henry 1997).

As explained in Section 3.5, noise is considered unwanted or undesirable sound. One common response to noise is annoyance. A person's expectation of a sound/noise level associated with an activity has a direct bearing on the level of annoyance. Five factors used to estimate community complaints to noise are type of neighborhood, type of noise, amount of repetition, time of day, and amount of previous exposure.

For instance, while some beach users may not expect a quiet and peaceful recreation experience, others who travel to remote locations seek these specific conditions. Mākua Beach offers typical recreational beach opportunities in a remote area, making it an attractive alternative to beaches in other highly populated areas of O'ahu. While background noise levels at Mākua Beach are higher than those monitored farther inland, the background sounds at Mākua Beach (e.g., breaking waves and wind) are generally natural and desirable. Similarly, many of those who use forests for recreation, including hiking, biking, and bird watching, expect quiet or natural sounds. Natural background noise, which is also desirable in forest recreation areas, exists in the natural areas adjacent to and near MMR: Keawa'ula Bay Beach, Mokulē'ia Forest Reserve, Wai'anae Kai Forest Preserve, Pāhole Natural Area Reserve, and the Mākua Kea'au Forest Reserve. This background noise is less prevalent than at Mākua Beach.

4.1.2 Factors Considered for Determining Significance of Impacts

As described in Section 4.5, the noise/land use criteria considered in determining land use conflicts include Army land use compatibility guidelines (US Army 1997a, 1998, 2002c) and US Army CHPPM guidelines for evaluating the significance of short-term blast noise events (US Army CHPPM 2001). An action is considered to have a significant land use and recreation impact if it would result in any of the following:

- Disrupt recreational use of the beach, ocean, or land-based resources, such as parks or recreational paths, or interfere with the public's right of access to the sea;
- Prevent long-term recreational use or use during peak season or impede or discourage existing recreational activities;
- Conflict with existing or planned land uses on or around the site;
- Conflict with HCZMP recreation policies; or
- Conflict with or be incompatible with the objectives, policies, or guidance of state and local land use plans.

4.1.3 Summary of Impacts

Summary of Potential Land Use and Recreation Impacts					
Impact Issues	No Action Alternative	Alternative 1 MMR (Reduced Capacity Use with Some Weapons Restrictions)	Alternative 2 MMR (Full Capacity Use with Some Weapons Restrictions)	Alternative 3 MMR (Full Capacity Use with Fewer Weapons Restrictions)	Alternative 4 PTA (Full Capacity Use with Fewer Weapons Restrictions)
Conflicts or incompatibilities with the objectives, policies, or guidance of state and local plans	⊙	⊙	⊙	⊙	⊙
Conflicts with existing or planned land uses	⊙	⊗	⊗	⊗	⊙
Impacts on recreational resources due to training	⊙	⊗	⊗	⊗	○

LEGEND:

- ⊗ = Significant impact
- ⊙ = Significant impact mitigable to less than significant
- ⊙ = Less than significant impact
- = No impact
- + = Beneficial impact

Below is a summary of impacts associated with land use and recreation. Significant impacts are expected for recreational resources under each alternative due to the effect of frequent helicopter activity and explosive noise levels on users of Mākua Beach. For Alternatives 1, 2, and 3 significant impacts also are expected to result from land use conflicts between the projected training noise levels and existing recreational land use. No significant impacts are expected to occur regarding compatibility with the objectives, policies, or guidance of state and local plans.

No Action Alternative

There would be no live-fire military training at MMR under No Action. CALFEXs or convoy LFXs would have to be conducted at other training installations, and Army maintenance and stewardship programs would continue at a reduced level, due to the absence of live-fire training at MMR.

Less than Significant Impacts

Conflicts or incompatibilities with the objectives, policies, or guidance of state and local plans. As discussed in Section 4.14, there is a potential for wildfires, once initiated, to burn more intensely and to remain uncontrolled for longer periods of time under No Action than under existing conditions. This would be due to less fuel management and a potentially longer response time to fires when the MMR facility has a reduced level of management. Currently, necessary firefighting activities on land adjacent to MMR, but outside of the installation boundary, are coordinated between the Army and DLNR. Without this cooperation, DLNR is unlikely to manage a fire in the vicinity of MMR as terrain greatly limits vehicle and personnel access and water sources are few. A reduction in stewardship measures would increase the potential for a fire to damage sensitive terrestrial species and habitat outside of MMR. Additionally, nonnative plant species such as guinea grass are highly flammable. Reducing natural resource management at MMR would lead to an increase in the area's fuel load and increase the risk of fire. This adverse land use effect would be less than significant.

Conflicts with existing or planned land uses. The absence of live-fire training at MMR would reduce the potential for conflicts with nearby land uses and would increase the installation's compatibility with recreation areas. The reduced activities proposed under this alternative would be consistent with the site's military training designation in the Wai'anae Sustainable Communities Plan.

Impacts on recreational resources due to training. Under the No Action Alternative, there would be continued overflight of the Mākua Beach and UAV operations over MMR. This would decrease the quality of the recreational experience.

Alternative 1 (Reduced Capacity Use with Some Weapons Restrictions)**Significant Impacts**

Impact 1: Conflicts with existing or planned land uses (Mākua Beach). Section 4.5 includes quantitative analysis of noise impacts. Projected noise contours under Alternative 1 indicate that Mākua Beach would be within Zone III (greater than 70 dB CDNL). In accordance with DA PAM 200-1, this noise zone is not compatible with recreational land use. This conflict with the existing recreational land use is a significant impact under Alternative 1.

Figures 4.5-1 and 4.5-2 in Section 4.5 represent the noise levels expected under Alternative 1, primarily from mortar and medium-heavy artillery use. The Zone III contour extends over the beach area. For land use

planning, this zone is not considered compatible with residential, school, hospital, and recreational land uses. No mitigation measures have been identified to reduce the magnitude of this impact.

Impact 2: Impacts on recreational resources due to training (Mākua Beach). The introduced noise at Mākua Beach caused by the proposed military training would result from helicopter overflights, mortars and artillery, demolitions training, and other ordnance use.

The loudest expected noise source would be shape and cratering charges used during demolitions training. This training would generate noise levels between 113 and 130 dB at Mākua Beach and is expected to occur four to five times each month. Other high decibel noises include the use of high explosive 105mm howitzers and 120mm mortars.

In addition, helicopter hovering and flyovers contribute potential adverse impacts on recreation. Army studies have found that approximately 27 percent of bystanders are highly annoyed by aircraft flyovers producing 85 dBA and approximately 60 percent of bystanders are highly annoyed by impulse levels over 85 dBA (see figures in Appendix F-1). Noise from helicopter flyovers and ordnance detonation is expected to exceed those levels at Mākua Beach (see figures in Appendix F-1). Impacts on recreation from Alternative 1 would be significant when beach goers are present during training activities.

Regulatory and administrative mitigation 2. No regulatory and administrative mitigation measures have been identified.

Additional mitigation 2. Potential mitigation measures for this impact include the Army notifying beach users at least one week in advance of planned training activities. Notices would be posted on the Mākua Beach access gates, in local newspapers, and on the DLNR Division of State Parks Web site or other such Web sites. This notification would provide beach users the opportunity to plan recreational activities around the hours that the Army would conduct training. Because these events are normally scheduled for weekday mornings, beach users who are notified would have the opportunity to change their visits to other weekday mornings, weekday afternoons, or weekends. Also, there are similar beaches just to the north and south of Mākua Beach that are not highly used on weekday mornings. Due to the intensity and frequency of this noise disturbance, this mitigation would not be sufficient to reduce this impact to less than significant.

Less than Significant Impacts

Conflicts or incompatibilities with the objectives, policies, or guidance of state and local plans. The military training activities conducted at MMR would be consistent with the site's military training designation in the Wai'anae Sustainable Communities Plan. Section 3.12.2.2 of the Wai'anae Sustainable Communities Plan recognizes the importance of the military to the economy of the State of Hawai'i and of the continued use of these lands for military purposes for the foreseeable future.

Proposed Alternative 1 activities comply with HCZMP land use policies. The relevant Coastal Management Program land use policies aim to protect coastal access and streams, and Alternative 1 would not negatively affect coastal ecosystems or access or streams. The Army and State of Hawai'i follow a long-standing policy of permitting access to the Mākua Beach area. This policy would continue under Alternative 1. Regarding stream protection, Alternative 1 does not provide for development in or diversion of streams. Impacts on coastal resources are further discussed in Sections 4.7 and 4.9.

The State of Hawai'i has designated areas as SMAs or conservation subzones for purposes of controlling uses through permitting programs. Presently, use of MMR for military training does not conflict with surrounding Conservation District policies, and land use would not change under this alternative. Although state permits are not required, the Army would attempt to comply with Conservation District subzone policies for its activities at MMR. Similarly, the Army would attempt to comply with SMA policies. Environmental management activities described in Chapters 2 and 3 would foster protection of resources in the Mākua Valley consistent with long-term preservation of resources.

Conflicts with existing or planned land uses (conservation areas and Keawa'ula Bay Beach). Under Alternative 1, training exercises conducted at MMR would not be expected to cause any change or have any impact on land use resulting in conflicts with surrounding conservation area land uses.

Conservation areas within MMR and forest reserve and Natural Area Reserve trails in the areas adjacent to MMR have been temporarily closed in the past due to wildfires, including those caused by prescribed burns. Live-fire training could contribute to the number or scope of wildfires. However, the INRMP and the IWFMP would be implemented for 1 to address wildfire impacts (see Section 4.9 for a discussion of impacts on vegetation). The State of Hawai'i has designated areas as SMAs or conservation subzones to control uses through permitting programs. Because all proposed activities would be on federal land, such permitting

programs do not apply. However, proposed environmental management under Alternative 1 would foster protection of resources in the Mākua Valley, consistent with the long-term goal of preserving resources. Further, the designated 1,136-acre (460-hectare) training area is sufficiently buffered from the adjacent forest reserves to minimize potential land use incompatibilities due to possible fires. Alternative 1, therefore, would have a less than significant effect on land use within conservation areas.

Figures 4.5-1 and 4.5-2 show that the Zone III noise contours for Alternative 1 would not approach the boundary between MMR and the recreation areas in adjacent forest reserves. Unlike Mākua Beach, Keawa‘ula Bay Beach is outside the Zone III noise contour. Therefore, according to DA PAM 200-1, the estimated noise levels at Keawa‘ula Bay Beach would be compatible with recreational land use.

Impacts on recreational resources due to training (Mokulē‘ia Forest Reserve, Wai‘anae Kai Forest Preserve, and Keawa‘ula Bay Beach). Recreational use of nearby hiking trails in certain parts the Mokulē‘ia Forest Reserve and limited areas of the Wai‘anae Kai Forest Preserve would be affected by noise disturbance from certain training activities. Because training at MMR would cause noise disturbances that could be heard by users of recreational resources in the ROI, trail users such as hikers and mountain bikers would be affected by the training activities. However, most users of these forest areas do not reach the rim of Mākua Valley and are therefore shielded from much of the noise. Mountain bikers reaching the Mākua Valley Lookout Point would clearly hear the explosions during training, particularly during a CALFEX (Kennedy 2003). The hikers or mountain bikers that do arrive at the edge of ridges above MMR would experience infrequent maximum noise levels of 70 to 75 dBA.

Live-fire training at MMR is normally conducted during the mornings. Squad section live-fire training, which uses only small arms and is limited to about one-half hour per day, would not create significant impacts on recreational resources. Platoon live-fire exercises would only range from an hour to three hours but could disturb recreational users depending on the weaponry used and the training scenario. Training activities having the greatest noise impact on recreational resources would be the company-level CALFEX, air support and air assault exercises, and demolitions training. While each company-level CALFEX is usually conducted over a five-day period, only the fourth day incorporates the use of live-fire for a time period of about four to five hours (see Chapter 2). The third day is used to calibrate weaponry. Nighttime CALFEXs would involve

helicopter activity and live-fire training during the evening of day four of the CALFEX for about four to five hours.

Mountain bike riders and hikers are aware of these conditions. Their travel up to the Mākua Lookout Point is not necessarily impeded and their recreation use is not significantly disturbed by noise from small arms and explosives and helicopter flights down in Mākua Valley.

Live-fire training is expected to increase the wildfire potential at MMR. Recreational land uses could be affected if wildfires required the trails in adjacent forest preserves to be closed. Such wildfires are expected to be infrequent and are not expected to affect most trails. These wildfires would not require trails to be closed for extended periods and therefore would not have the direct significant impact of limiting trail use in the adjacent forest reserves and preserves. Use of trails on adjacent lands for troop marches, including over the Kuaokalā Access Road and Trail and the Ka'ena Point Trail, would be consistent with other uses of these trails. The potential impact on surrounding land uses would be less than significant.

Keawa'ula Bay Beach, like Mākua Beach, is a relatively remote beach with a natural setting. Use of the beach, picnic areas, and coastal areas for fishing and swimming may be affected by noise disturbance from training activities. While training at MMR would not restrict public access to recreational resources in the ROI, beach users could be disturbed by training activities.

Compared to Mākua Beach, Keawa'ula Bay Beach would experience a lower degree of noise disturbance because of the increased distance from MMR, because the beach is shielded by the northern ridge of MMR, and because helicopter training approaches typically would be carried out only over Mākua Beach. This level of disturbance is expected to be adverse due to the potential for discouraging recreational use of the beach.

Impacts on Keawa'ula Bay Beach would be extensive due to the noises caused by live-fire training, including use of shape and cratering charges. Additional noise disturbance would result from use of other arms, including mortars and howitzers. However, these impacts would be less than significant due to the factors discussed above. Also, while some noise from demolition activities at MMR would be heard at Keawa'ula Bay Beach, single event noise levels would not be as high as those at Mākua Beach.

Regulatory and administrative mitigation. No regulatory and administrative mitigation measures have been identified.

Additional mitigation. Similar to the mitigation provided under Impact 2, potential mitigation measures for this impact include the Army notifying trail users at least one week in advance of planned live-fire training activities.

Alternative 2 (Full Capacity Use with Some Weapons Restrictions)

Significant Impacts

Impact 1: Conflicts with existing or planned land uses (Mākua Beach).

Impacts under this alternative would be similar to but greater in magnitude than those described under Alternative 1. Figure 4.5-5 in Section 4.5 presents the projected noise levels from 50 CALFEXs under Alternative 2. Under this alternative, Zone III noise levels extend over Mākua Beach. In accordance with DA PAM 200-1, this noise zone is not compatible with recreational land use. No mitigation measures have been identified to reduce the magnitude of this impact.

Impact 2: Impacts on recreational resources due to training (Mākua Beach).

Impacts would be similar to but greater in magnitude than those identified under Alternative 1 due to increasing the number of company-level CALFEXs to an annual maximum of 50. People using Mākua Beach when training activities are occurring would be subject to noise from ordnance use and helicopter flyovers during morning hours an average of once a week.

Regulatory and administrative mitigation 2. No regulatory and administrative mitigation measures have been identified.

Additional mitigation 2. The mitigation measures under this alternative would be the same as described under Alternative 1. While the mitigation would lessen the magnitude of the impact, it would not be sufficient to reduce the impact to less than significant.

Less than Significant Impacts

Conflicts or incompatibilities with the objectives, policies, or guidance of state and local plans. Training activities proposed under Alternative 2 would still be consistent with land uses on MMR and surrounding land uses and would not conflict with policies of the Wai'anae Sustainable Communities Plan, as discussed under Alternative 1. The impacts associated with Alternative 2 would be similar to those described for Alternative 1 and would be less than significant. Impacts regarding compliance with HCZMP land use policies would be similar to those described under Alternative 1.

Conflicts with existing or planned land uses (conservation areas and Keawa‘ula Bay Beach). Impacts on conservation areas and Keawa‘ula Bay Beach would be similar to but greater in magnitude than those identified under Alternative 1 due to increasing the number of company-level CALFEXs to an annual maximum of 50.

Impacts on recreational resources due to training (Mokulē‘ia Forest Reserve, Wai‘anae Kai Forest Preserve, and Keawa‘ula Bay Beach). Impacts would be similar to but greater in magnitude than those identified under Alternative 1 due to increasing the number of company-level CALFEXs to an annual maximum of 50.

Due to the increase in the number of CALFEXs, impacts on Keawa‘ula Bay Beach recreational users due to noise caused by training activities would be similar to, though slightly more adverse, than those identified for Alternative 1.

Regulatory and administrative mitigation. No regulatory and administrative mitigation measures have been identified.

Additional mitigation. Additional mitigation would be the same as those described under Alternative 1

Alternative 3 (Full Capacity Use with Fewer Weapons Restrictions)

Significant Impacts

Impact 1: Conflicts with existing or planned land uses (Mākua Beach). Noise generated from ordnance use under Alternative 3 is expected to be similar to Alternative 2. Figure 4.5-6 in Section 4.5 presents the projected noise levels from 50 CALFEXs under Alternative 3. The addition of inert TOW missiles, 2.75-caliber rockets, and illumination munitions would not substantially change the noise contours generated for Alternative 2. Under Alternative 3, proposed training would not be compatible with adjacent recreational land use, resulting in a significant adverse impact. No mitigation measures have been identified to reduce the magnitude of this impact.

Impact 2: Impacts on recreational resources due to training (Mākua Beach). Impacts would be similar but slightly more adverse than those identified under Alternative 2 due to the use of additional weapon systems, which would slightly increase the level of disturbance and further discourage use of Mākua Beach.

Regulatory and administrative mitigation 2. No regulatory and administrative mitigation measures have been identified.

Additional mitigation 2. The mitigation measures under this alternative would be the same as described under Alternative 1. While the mitigation would lessen the magnitude of the impact, it would not be sufficient to reduce the impact to less than significant.

Less than Significant Impacts

Conflicts or incompatibilities with the objectives, policies, or guidance of state and local plans. With the addition of inert TOW missiles, 2.75-caliber rockets, and illumination munitions, the proposed training activities under this alternative would still be consistent with land use policies for MMR and surrounding lands. With impacts similar to those discussed under Alternatives 1 and 2, Alternative 3 would not conflict with policies of the Wai‘anae Sustainable Communities Plan. The impacts associated with Alternative 3 would be similar to those described for Alternative 2 and would be less than significant. Impacts regarding compliance with HCZMP land use policies are similar to those described under Alternative 1.

Conflicts with existing or planned land uses (conservation areas and Keawa‘ula Bay Beach). While fewer restrictions on training would allow use of inert TOW missiles, high explosive 2.75-caliber rockets, and illumination munitions, the proposed training activities under Alternative 3 would not significantly conflict with surrounding conservation areas. Expected noise levels would also be compatible with recreational use of Keawa‘ula Bay Beach. The impacts associated with Alternative 3 would be similar to those described above for Alternative 2 and would be less than significant.

Impacts on recreational resources due to training (Mokulē‘ia Forest Reserve, Wai‘anae Kai Forest Preserve, and Keawa‘ula Bay Beach). Impacts would be similar but slightly more adverse than those identified under Alternative 2 due to the use of additional weapon systems, which would increase the level of disturbance on trails near MMR.

Due to the increase in the use of high explosive weapons, impacts on Keawa‘ula Bay Beach recreational users due to noise caused by training activities would be similar to, though slightly more adverse than those identified for Alternative 2. As with Alternative 2, the Army would conduct up to 50 company-level CALFEXs. However, under Alternative 3 the use of inert TOW missiles, 2.75-caliber rockets, and illumination munitions would potentially increase the impact on recreation due to these additional noise sources.

Regulatory and administrative mitigation. No regulatory and administrative mitigation measures have been identified.

Additional mitigation. The mitigation measures under this alternative would be the same as those described under Alternative 1.

Alternative 4 (Full Capacity Use with Fewer Weapons Restrictions), Pōhakuloa Training Area

Less Than Significant Impacts

Impact 1: Conflicts with the objectives, policies, or guidance of state and local plans. Basic land use would not change with this alternative. The area considered for a range replacement would continue to be used for ongoing military training operations, regardless. Some changes to localized use of training areas would occur as a result of implementing Alternative 4. Due to safety considerations, the new range would lead to minor restrictions or modifications to training on surrounding ranges when in use.

Impact 2: Conflicts with existing or planned land uses. Under this alternative, additional live-fire training would occur as a result of conducting CALFEX training at PTA instead of MMR. This would result in an increase in the number of rounds fired as well as vehicular traffic on PTA. Increased noise, dust, or other indirect effects associated with this alternative would not be expected to affect off-post land uses. The areas surrounding PTA are uninhabited, thus no residential areas, schools, hospitals, or businesses would be affected. Impacts would be localized to the vicinity around the ranges. Land to the north of PTA includes the Kaohe Game Management Area, Mauna Kea State Park, Mauna Kea Forest Reserve, and Mauna Kea National Natural Landmark. Mauna Kea and its associated recreational and natural areas would not be expected to experience any noticeable impacts from increased live-fire training at PTA. UXO would only occur within the impact areas, which would be posted as restricted to public access.

Regulatory and administrative mitigation 2. With continued implementation of current Army SOPs to minimize potential noise, and safety impacts, impacts would be expected to be less than significant. No additional mitigation would be required.

Additional mitigation. No additional mitigation would be required.