

## 4.14 WILDFIRES

### 4.14.1 Impact Methodology

Most fire history files for MMR and PTA are incomplete and were primarily retained as manual records, which were destroyed after five years, following disposition of records, in accordance with the Modern Army Recordkeeping System (USARHAW and 25th ID[L] 2003). As a result, limited historical wildfire records are still available and complete to compare wildfire incidences from previous training to the proposed training. Therefore, the following documents were used as the primary sources of summarized historical wildfire information:

- *Integrated Wildland Fire Management Plan, O'ahu and Pōhakuloa Training Areas* (USARHAW and 25th ID[L] 2003);
- *Analysis of Fire Management Concerns at Mākuā Military Reservation* (Beavers et al. 1999);
- *Integrated Natural Resources Management Plan and Environmental Assessment/Finding of No Significant Impact 2002-2006 O'ahu* (USARHAW and 25th ID[L] 2001b);
- *Integrated Natural Resources Management Plan and Environmental Assessment/Finding of No Significant Impact 2002-2006 Pōhakuloa Training Area* (USARHAW and 25th ID[L] 2001c); and
- *Final Environmental Impact Statement, Permanent Stationing of the 2/25th Stryker Brigade Combat Team* (US Army and USAEC 2008)

Based on the background wildfire information provided by these documents and on previous Army training activities, the likelihood of proposed training activities to start a wildfire was assessed. The following issues influence wildfire ignition:

- Frequency, timing, and location of training activities;
- Type of weapons used during training;
- Implementation of the IWFMP; and
- Vegetation composition.

Potential direct impacts from wildfires include, for example, damage to biological resources and cultural resources and impairment of air quality. Examples of potential indirect impacts from wildfires include increased soil erosion rates due to removal of vegetation from the land and diminished water quality from water running over land cleared by fire.

These impacts are addressed in their respective resource sections in this chapter and could occur from the ignition and spread of a wildfire, either from activities associated with training or the re-ignition of a fire thought to be extinguished. Because it is possible for many fires to affect a relatively limited area, resulting in limited impacts, and for one fire to affect a large area, resulting in many impacts, the frequency of wildfires is not used as a means for assessing the impacts of wildfires. Instead, the potential for wildfire ignition is used as the criterion for assessing wildfire impacts.

This methodology assumes no white phosphorus would be used during training and that vegetation management would take place at MMR and PTA under Alternatives 1, 2, 3, and 4; only the fuel breaks would be maintained under No Action.

Vegetation management is used to prevent the spread of a fire by creating firebreaks and to control the abundance of highly flammable plants so that fires cannot easily ignite. Conducting prescribed burns is one form of vegetation management; mowing and applying herbicides are others. The Army is evaluating the environmental effects of vegetation management, including prescribed burns, in a separate NEPA document.

Under Alternatives 1, 2, 3, and 4, smoking may be permitted only in the administration area, bivouac site, or other designated areas. In the event of a fire at any location, training is stopped immediately and the unit takes all appropriate actions to put out the fire.

#### **4.14.2 Factors Considered for Determining Significance of Impacts**

Factors considered in determining whether an alternative would have a significant wildfire ignition potential include the extent or degree to which implementing the alternative would involve the following wildfire ignition issues:

- Use of weapons with a history of causing wildfires at MMR or PTA;
- Occurrence of nighttime training;
- Use of weapons not previously used at MMR or PTA; and
- Use of weapons capable of landing outside the firebreak road.

The potential ignition of a wildfire was analyzed within the ROI. There would be less than significant impacts under No Action. The potential for the ignition of a wildfire would have a significant and mitigable impact under Alternative 1. Alternatives 2, 3, and 4 would have significant impacts.

### 4.14.3 Summary of Impacts

#### Summary of Potential Wildfire 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)
Wildfire ignition	⊖	⊖	⊗	⊗	⊗

LEGEND:

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

#### ***No Action Alternative***

##### ***Mitigable to Less than Significant Impacts***

***Wildfire ignition.*** No military live-fire training would occur under No Action. Under this alternative, the Range and Training Land Program, the ITAM program, the IWFMP, and other environmental management activities and programs would continue but at a reduced level. While Army live-fire and other types of weapons firing activities, the primary sources of historical wildfire ignition, would no longer be present, the continuation of range management would prevent highly flammable exotic plant species to increase thus reducing risk of a fire from spreading. The maintenance of fire and fuel breaks would also reduce the probability of fires igniting on post from spreading into sensitive areas. However, the reduction in fire-fighting support during training activities proposed under the No Action Alternative, could leave the area vulnerable if a fire were to ignite.

***Regulatory and administrative mitigation.*** The Army would continue to implement the INRMP and fire prevention measures contained within the IWFMP.

***Additional mitigation.*** Potential mitigation measures for this impact include having standby wildland fire suppression staffing available for the non live-fire events.

***Alternative 1 (Reduced Capacity Use with Some Weapons Restrictions)******Significant Impacts Mitigable to Less Than Significant***

***Impact 1: Wildfire ignition.*** Under Alternative 1, the Army would conduct live-fire training during 19 to 28 CALFEXs and other training exercises. This would include the use of ammunition (such as 120mm HE mortars, 84mm HE anti-tank rockets, Javelins, launcher assault rockets, and the 155mm HE howitzer) that is explosive and flammable, and/or new to training at MMR, and capable of landing outside the firebreak road. This alternative also would include other training activities that are capable of starting wildfires, such as demolitions training.

The proposed weapons and ammunition have historical wildfire ignition records and are capable of igniting wildfires because of their explosive and flammable properties. The 120mm HE mortar, the 155mm HE howitzer, and the Javelin would be the only HE weapons that have not been previously used during training at MMR. The standing operating procedures for MMR in the IWFMP were prepared to address potential wildfire ignition from weapons previously used at MMR. It is expected that the standing operating procedures would be sufficient for managing the newly introduced weapons under this alternative because they are similar to the weapons previously used at MMR. For example, according to the MMR Range Manager, use of the 155mm HE howitzer would be similar to recent use of the 105mm HE howitzer, which did not cause any fires during the 23 recently conducted, live-fire training events (Husemann undated).

Weapons capable of starting wildfires would be used during both the daytime and nighttime exercises. Based on these factors, the potential for wildfire ignition would be significant and mitigable to less than significant.

***Regulatory and administrative mitigation 1.*** A fire manager at MMR is needed to implement the IWFMP. According to *Analysis of Fire Management Concerns at Mākuā Military Reservation*, one of the most frequently cited reasons for the decrease in fire prevention and suppression success in the 1990s has been the lack of a well-trained, devoted fire manager on-site at MMR, who could be relied on to implement the IWFMP. At present, MMR does not have a devoted fire manager on-site to implement the IWFMP. The IWFMP outlines the standing operating procedures, which include, for example, the fire danger rating system for MMR. Mitigation measures that were considered include training the MMR range safety manager to also act as the fire manager.

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As recommended in *Analysis of Fire Management Concerns at MMR*, additional data input categories would be added to the fire incident report (Beavers et al. 1999). These data input categories include the following:

- Date fire declared out;
- Time of escape (if appropriate);
- Burning index and fire danger rating category every hour that the fire burns;
- Resources used to suppress the fire (including number and type of equipment and personnel);
- Location of the fire burn boundary;
- The number of acres that burned outside of the firebreak road;
- The number of acres that burned inside the firebreak road;
- Whether any of the known endangered species locations were burned;
- Copy of the remote automated weather stations data collected during the fire; and
- Fire situation analysis and large fire narrative for fires that escape initial attack and grow beyond approximately 100 acres (40.5 hectares) in size.

Adding these data input categories to the fire incident report form would improve fire management at MMR by providing more details for post-fire analyses.

USARHAW would continue to inform troops before training about methods for preventing and responding to wildfires.

*Additional mitigation 1.* Potential mitigation measures for this impact include the Army Range Division enforcing fire-related procedures and policies and taking appropriate action when range safety procedures and policies are violated. Units would be disciplined or admonished administratively when procedures and policies pertaining to wildfires are not followed. Enforcing fire-related procedures and policies and taking appropriate action when range safety procedures and policies are violated would further emphasize to Soldiers the importance of preventing fires at MMR.

The IWFMP would be updated to address nighttime training and management of wildfires. The Army would implement the new nighttime

presuppression and suppression procedures identified in the IWFMP to minimize the wildfire risk from nighttime training.

The Army would provide funding and a funding mechanism that would better support the IWFMP, which contains specific guidance, procedures, and protocols for managing wildfires. Also, the Army would install fiber optics to improve local area network telecommunications during fire fighting operations.

## ***Alternative 2 (Full Capacity Use with Some Weapons Restrictions)***

### ***Significant Impacts***

*Impact 1: Wildfire ignition.* The impacts addressed above under Alternative 1 for wildfires would also occur under Alternative 2. Additionally, under Alternative 2, up to 50 CALFEXs would be conducted in one year, which would result in at least 50 days of live-fire training.

Under Alternative 2, the Army would resume the use of tracers, in addition to using the weapons and artillery discussed above under Alternative 1. The burning compound in tracers can ignite a wildfire. Historically, tracers accounted for 49 percent of the wildfire ignition sources; therefore, the potential for wildfire ignition and spread is expected to increase under Alternative 2.

Resuming the use of tracers dramatically increases the quantity of weapons that have records for igniting most of the historical fires at MMR. These weapons would also be used during nighttime training, when it is more difficult to extinguish a fire. They would also be used approximately once per week, including during the most fire-prone months at MMR; therefore, the potential for igniting a wildfire under this alternative would be significant. Although potential mitigation is identified, it is not expected to reduce the impacts to less than significant, because the IWFMP has only been relied upon to a limited extent in the past to manage wildfire ignition, and this didn't include the use of tracers.

*Regulatory and administrative mitigation 1.* Mitigation measures considered include those described for Alternative 1.

*Additional mitigation 1.* Mitigation measures considered include those described for Alternative 1. Potential mitigation measures include the Army increasing staff to assist the program manager of the Wildfire Management Program. For example, a contracted or full-time 10-person strike team that is wildland fire trained and red carded could be used to respond to fires and assist daily in managing other wildfire prevention areas of the program. This would include working on RAWS, fire cache,

fire vehicle maintenance, wildland fire training, fire bucket repair and maintenance, fire trend analysis, and firebreak and fuelbreak maintenance.

Fire fighting infrastructure would be improved to respond to the increased potential for wildfire ignition throughout the year. An additional larger capacity (60,000-gallon [227,000-liter]) water storage tank would be installed and the existing water distribution system would be upgraded to increase flow capacity from the city's water meter to support the new storage tank, fire hydrant, and overhead filling systems.

### ***Alternative 3 (Full Capacity Use with Fewer Weapons Restrictions)***

#### ***Significant Impacts***

***Impact 1: Wildfire ignition.*** The impacts under this alternative would be similar to those described under Alternative 2. Inert TOW missiles, illumination munitions, and 2.75-caliber rockets would be used under Alternative 3, as well as the weapons and artillery discussed above under Alternatives 1 and 2. These additional weapons and ammunition are capable of igniting a wildfire because of their explosive and flammable properties. The missile or rocket propellant or illumination munitions may not be fully consumed before reaching the ground, creating the potential for igniting a wildfire. The use of the 2.75-caliber rocket would be a new addition to training at MMR, as well as the 120mm HE mortar and the 155mm HE howitzer discussed above under Alternative 1. This would increase the amount and intensity of use of previously used and new weapons that have the potential for igniting a wildfire, including during the most fire-prone months at MMR. Also, these weapons are capable of landing outside the firebreak road; because the 2.75-caliber rocket is fired from a helicopter rather than from a fixed position, this weapon has an increased risk of misfiring.

For these reasons and the reasons identified under Alternative 2, the potential for igniting a wildfire under this alternative would be significant. Although mitigation is identified, it is not expected to reduce the impacts to less than significant because the IWFMP has been relied on only to a limited extent in the past to manage wildfire ignition and this didn't include the use of tracers. Also, the IWFMP would be used to prevent and suppress fires ignited by new weapons systems; the effectiveness of the IWFMP for these weapons systems is not known.

***Regulatory and administrative mitigation 1.*** Mitigation measures considered include those described for Alternatives 1 and 2.

***Additional mitigation 1.*** Mitigation measures considered include those described for Alternatives 1 and 2. Potential mitigation measures include

the Army leasing or procuring an S70A Fire Hawk or similar helicopter that is dedicated to wildland fire standby and response to wildfires on military training lands. Staffing (e.g., for another fire truck) and additional aircraft on-site would be increased. In addition, a water distribution line would be installed to the upper dip pond to improve water resupply capability.

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

***Significant Impacts***

*Impact 1: Wildfire ignition.* Although the activity would occur on a different Island, the impacts under this alternative would be similar to that of Alternative 3. The weapon systems that will be used for CALFEX training under this alternative would create a greater fire risk, especially since there are no other training activities of this intensity within the area. Training at the proposed Twin Pu‘u site would also increase the threat of wildfires for the Kīpuka Kālawamauna area due to its proximity to the range footprint.

The impact of wildfire on listed species and habitat would be greatly reduced by implementing the BO, PIP, INRMP, IWFMP, and ITAM programs, which would diminish the overall significance of fire on the natural resources at PTA. However, even with the implementation of these plans and programs, wildfire could result in an irretrievable loss of individuals of sensitive species or their habitat, thus the impacts may not be reduced to a less than a significant level.

In addition to the mitigation measures addressed below, a number of measures to reduce the impact and ignition potential of fire were identified in Section 4.9, Biological Resources, such as implementing the IWFMP, eradicating fountain grass, establishing fire and fuel breaks, and habitat restoration following a fire.

*Regulatory and administrative mitigation 1.* Mitigation measures considered include modified versions of those described for Alternatives 1, 2, and 3. The additional data input categories identified in Alternative 1 mitigation would be added to the fire incident report for PTA, as well as enforcing fire-related procedures and policies and taking appropriate action when range safety procedures and policies are violated. As addressed in Alternative 2, an increase in staff to assist the program manager of the WFMP and of fire fighting infrastructure would be implemented in this alternative. Lastly, as identified in Alternative 3, PTA would also increase the number of available helicopters to ensure there are enough resources to respond to fires that may occur from multiple training activities that take place concurrently on the installation.

*Additional mitigation 1.* As with the SBCT training, mitigation considered for CALFEX training would be to update the IWFMP to address proposed activities within the Twin Pu'u range. These updates would be completed before activities commence. Additionally, ITAM geographic information systems would be used to monitor the effectiveness of wildfire management activities. To the extent possible, IWFMP wildfire management infrastructure would be constructed before CALFEX training commenced. During training, appropriate personnel and equipment would be assigned to water resources for responding to a wildfire.

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