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**APPENDIX K**  
**DRAFT EIS PUBLIC COMMENTS AND RESPONSES**

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**FEDERAL AGENCIES**



Letter F-1

Comments

Responses



**United States Department of the Interior**

OFFICE OF THE SECRETARY  
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 1111 Jackson Street, Suite 520  
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September 20, 2005

ER#: 05/631

Lieutenant Colonel David E. Anderson, U.S. Army  
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22 SEP 2005	
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PI-E	

Subject: Review of Draft Environmental Impact Statement on Military Training Activities At Makua Military Reservation, Hawaii (ER05/0631).

Dear Lieutenant Colonel Anderson,

The Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (DEIS) on Military Training Activities at Makua Military Reservation (MMR), Hawaii. The DEIS was prepared by the U.S. Army Corps of Engineers, Honolulu District, on behalf of the 25<sup>th</sup> Infantry Division (Light) and the U.S. Army Garrison, Hawaii. This letter has been prepared under the authority of and in accordance with provisions of the National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq.*; 83 Stat. 852, as amended [NEPA]); Fish and Wildlife Coordination Act of 1934 (16 U.S.C. 661 *et seq.*; 48 Stat. 401, as amended [FWCA]); Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq.*; 87 Stat. 884, as amended [ESA]); and other authorities mandating Department concern for environmental values.

The Department's comments address the content of the DEIS in terms of its adequacy in describing and assessing the potential impacts of the Proposed Action on the natural and human environment, as defined by NEPA guidelines. Please note that the Army reinitiated consultation with the Service, pursuant to ESA section 7 on August 5, 2005, for all training actions at MMR described in the DEIS as the Army's preferred alternative for the Proposed Action. The consultation will address military training impacts to federally listed threatened and endangered species within the Army's proposed action area, including 34 plant taxa (species, subspecies, and varieties), the Oahu tree snail *Achatinella mustelina*, and the Oahu elepaio (*Chasiempis sandwichensis ibidis*), and to designated critical habitat for 25 listed plant taxa and the Oahu elepaio.

Comments

Responses

GENERAL COMMENTS

The Department recognizes the critical importance of maintaining training readiness for the Nation’s defense forces. The Army and the Department have cooperated in many mutually beneficial programs to meet military needs and achieve natural resource conservation goals in Hawaii and nationwide. We believe that careful attention to the recommendations provided in the following general and specific comments will assist the Army to accomplish its training mission at MMR as an exemplary steward of the Federal lands and resources under its control.

Preferred Alternative: The preferred alternative for the Army’s Proposed Action for routine military training at MMR would increase the frequency and intensity of live-fire training above current levels, by increasing the amount and type of weapons systems and munitions used, and the area used for live-fire and ground-training. The Department’s concern for biological resources identified in the DEIS at MMR is the increased risk of wildfire associated with up to 242 training days, including 50 CALFEXs, per year. Live-fire training would occur at least once a week throughout the year, including during the most fire-prone, dry summer months. Tracers, illumination rounds, inert TOW missiles, 2.75-caliber rockets, and Javelin anti-tank missiles have great potential for igniting wildfires due to their explosive and flammable properties. Furthermore, TOW missiles, 2.75-caliber rockets, and Javelins are capable of landing outside the firebreak road, and may misfire or ricochet beyond their specified target areas. The risk of wildfire ignition also would increase with the use of MMR’s center ridge (“C-ridge”) for sniper training and the use of the Kaena Point and Kuaokala trails outside MMR for ground training (troop marches). According to the DEIS, the preferred alternative’s weapons systems and munitions would increase the potential for wildfire ignition at MMR beyond the Army’s ability to adequately manage or mitigate its impacts to biological resources. For these reasons, the Department, through the Service, recommends the Army select another preferred alternative that does not impact the Department’s resources so detrimentally in the final EIS.

Significance of Impacts: The DEIS states that all alternatives addressed in the DEIS, including no action, would result in significant, unmitigable impacts to biological resources due to wildfire and the spread of non-native invasive species. The Department is concerned that several endangered plant species within the DEIS Region of Influence (ROI) persist only in very low numbers, and some of these species exist nowhere else in the world. Loss of individual plants resulting from military training would have grave consequences for the viability of these species. The Department, through the Service, considers the information presented in the DEIS not adequate for a meaningful analysis of such consequences to native flora and fauna. In particular, the Department, through the Service, recommends the final EIS identify and add information regarding the Army’s wildfire impact methodology and proposed mitigation programs, as discussed in the following general and specific comments. In addition, the Department, through the Service, recommends the Final EIS clarify the level of significance for each of the significance criteria identified for each alternative’s impacts to biological resources. For example, Table ES-3 (pages ES-37 through ES-42) indicates that Alternative 1 would

F1-1  
The EIS now includes evaluation of an alternative in which training proposed for MMR would be conducted at the Pohakuloa Training Area, island of Hawaii (See Chapter 2 for a description of this alternative). This alternative was added in response to public comments received on the Draft EIS. Use of MMR, however, remains the preferred alternative.

F1-2  
Section 4.14.1 describes the impact methodology for wildfires. Section 4.14.3 describes the mitigation for wildfires. In addition, Appendix J addresses wildfire methodology and impacts to natural resources. The specific impacts to each species were analyzed in the Section 7 consultation process which was concluded with the BO in 2007.

F1-3  
The EIS was prepared in accordance with the National Environmental Policy Act and with applicable Federal and Army regulations. Review of the Draft EIS by the US Environmental Protection Agency found the document to be adequate. The EIS addresses the significance criteria and the corresponding level of significance for each of the impact issues identified in Section 4.0.

F1-4  
Section 4.9 provided information on biological impacts. Text has been added to Section 4.9.4 to state that the severity of wildlife-related impacts will increase as the potential for wildfires increases. Text also has been added to the Chapter 4 introduction.

**Comments**

**Responses**

F1-4 | have significant wildfire ignition impacts that would be mitigable to less than significant. However, the table indicates that Alternative 1 would have significant, unmitigable impacts on sensitive terrestrial species and sensitive habitat resulting from fire. The Department, through the Service, recommends that the final EIS clarify the relationship between wildfire ignition, fire impacts, and significance of impacts on biological resources, including threatened and endangered species, for each alternative.

F1-5 | Risk Assessment of the Three Action Alternatives: There is a probability of wildfire ignition associated with training-related actions for each of the action alternatives. We think it is reasonable to assume that the risk of wildfire increases from Alternative 1 to Alternative 3, as fire related factors such as type of weaponry, number of training days, and land use increases. However, this wildfire risk assessment between alternatives is not adequately explained in the DEIS and yet, this is a fundamental component for assessing the potential impacts of each alternative to listed species. While all alternatives have a level of risk of wildfire from training actions, it should be made clear that there is a scale of wildfire risk and Alternative 1 has less of a risk than Alternative 2 and so on. The Department recommends the final EIS address the scale of risk for wildfire between the three action alternatives and clearly describe what would be the biologically preferred alternative pursuant to NEPA guidelines.

F1-6 | Mitigation of Impacts to Biological Resources: The general mitigation approach proposed in the DEIS is based on the Army’s Integrated Natural Resources Management Plan (INRMP) and Integrated Wildland Fire Management Plan (IWFMP) and the interagency Makua Implementation Plan (MIP; see general comments on “Previous ESA Consultations,” below). The Department, through the Service, is concerned that the INRMP, IWFMP, and MIP are not available for review with the DEIS. These documents are fundamental to fully understanding the Army’s commitment to mitigate training impacts to sensitive species and their habitats at MMR. For example, the INRMP describes in detail the Army’s Integrated Training Area Management program (ITAM). The ITAM program is cited throughout the DEIS as the sole mechanism to control erosion and address runoff impacts due to soil disturbance, but the actual erosion control actions proposed for implementation are not stated in the DEIS. At a minimum, the final EIS should discuss the range of activities that are routinely performed under the ITAM program. In addition, the final EIS should discuss the ITAM program’s overall effectiveness and limitations (for example, land area that cannot be treated for erosion control because of unexploded ordinance). The final EIS should similarly describe the effectiveness and limitations of the IWFMP’s standard operating procedures for wildfire pre-suppression and suppression, including prescribed burns for fuels reduction. In addition, without more information regarding how the INRMP and IWFMP would be modified to account for the Army’s preferred alternative, the Service is unable to evaluate the adequacy of the impact methodology and mitigation proposals contained in the DEIS. Therefore, the Department, through the Service, recommends that specific changes to these documents be fully explained in the final EIS.

Previous ESA Consultations: Previous ESA section 7 consultations between the Army and the Service have resulted in the following documents: Biological Opinion of the U.S.

F1-5 | This has been clarified in the Executive Summary. An explanation of the potential impact of fire on biological resources for each alternative (addressing the varying fire intensity, extent, firefighting capabilities, and frequency of fire) can be found in Section 4.9. NEPA does not require the identification of a biologically preferred alternative.

F1-6 | The Army determined that the information provided in the EIS, including the appendices, provided sufficient information to allow for a detailed review of the Draft EIS. The IWFMP was summarized in Section 3.14.4 and excerpted in Appendix J. The MIP was summarized in Section 4.9 and illustrated in Figure 4-11. In addition, the Army did not receive any requests from the public for the documents referenced in this comment during the review period. Any changes to the INRMP, IWFMP or MIP would be made in coordination with the USFWS, thus giving the USFWS the opportunity to fully evaluate the adequacy of the impact methodology and mitigation proposals.

F1-7 | The MMR activities conducted under the program are presented on Page 2-28 of the Draft EIS. Regular monitoring of the training area assesses the effectiveness of current ITAM activities and the need to modify those activities.

F1-8 | Standard Operating Procedures for pre-suppression and suppression include, first, restricting fire to green and yellow hours of the day, in which statistical studies of previous fire starts has shown that fires are not likely to occur. Second, a team of wildland fire firefighters will be stationed at Makua during firing to enable rapid initial attack on fires. Adequate equipment to support the effort, including aircraft and ground vehicles will be available to the team.

**Comments**

**Responses**

(Cont.)

F1-8

Limitations of fire suppression are that the more successful we are at keeping fire off the steep ground below sensitive areas, the more fuel will accumulate. This can be mitigated by a program of prescribed burning and judicious use of herbicides. Herbicides would be used to control further grass invasion at the grass/forest ecotone and to kill standing grasses below sensitive areas in order to allow their burning at times when vegetation is too green to support burning. Further studies should be done to see if other mitigation measures can be used to restore ridge forests that have been pushed up the slope by successive fires.

F1-9

In addition to those measures contained in the 2003 IWFMP, the June 2007 BO identifies additional wildfire minimization measures to be adopted by the Army. The Army is currently updating the IWFMP to incorporate these changes. Any changes to the INRMP or the IWFMP would be made in coordination with the USFWS thus giving the USFWS the opportunity to fully evaluate the adequacy of the impact methodology and mitigation proposals. Further, no training at MMR would occur without full compliance with Section 7 of the Endangered Species Act.

**Comments**

Fish and Wildlife Service for Routine Military Training at Makua Military Reservation (July 23, 1999); Amendments to the Biological Opinion for Routine Military Training at Makua Military Reservation (March 16, 2001); Supplement to the Biological Opinion and Conference Opinion of the Proposed Critical Habitat of the U.S. Fish and Wildlife Service for Routine Military Training at Makua Military Reservation (October 3, 2001); and Reinitiation of the 1999 Biological Opinion of the U.S. Fish and Wildlife Service for Routine Military Training at Makua Military Reservation, Island of Oahu (September 24, 2004). These biological opinions cover an action area that corresponds to the ROI, with the exception of the Kaena Point and Kuaokala trails. The project description (biological opinions 2001 and 2004) is similar in scope to the DEIS Alternative 1 (i.e., 242 training days per year, with no use of tracers, illumination rounds, TOW missiles, 2.75-caliber rockets, or Javelins), with the exception of night live-fire training, use of Stryker vehicles, and trail use.

F1-10 | The Service’s biological opinions cover a total 57 listed taxa, including 51 endangered and two threatened plant taxa, and designated critical habitat for 41 plant taxa (including 12 taxa that are not present but for which critical habitat has been designated within the ROI); one endangered tree snail species; two endangered bird taxa and designated critical habitat for one of them; and one endangered bat subspecies. The species lists contained in the DEIS are incomplete (see specific comments, below); however, copies of the Service’s biological opinion documents (excluding the March 16, 2001, Amendments) are provided in DEIS Appendix H. The DEIS does not specifically address impacts to each listed taxon, but encompasses all in an ecosystem-based analysis of impacts to biological resources. Therefore, we recommend that the final EIS address potential training and wildfire effects to listed species for each alternative.

F1-11 |

The Service’s October 1999 biological opinion concluded that routine military training with implementation of certain specified conservation measures would not jeopardize listed species in the MMR action area. In particular, the no-jeopardy conclusion was based on development and implementation of the IWFMP and MIP. The MIP finalized in May 2003 details procedures and timeframes for stabilization of 27 endangered plant taxa and the endangered Oahu tree snail. The no-jeopardy determination, based on implementation of the MIP, was confirmed by the Service’s October 2001 biological opinion supplement and September 2004 reinitiated biological opinion. The Army reinitiated formal section 7 consultation for the preferred alternative on August 5, 2005. As part of that proposed action under consultation, the Army has prepared and submitted modifications to the MIP in an MIP Addendum.

F1-12 | Trail Use: The Department, through the Service, is concerned about impacts to biological resources associated with regular use of the Kaena Point and Kuaokala trails for ground training. According to the DEIS, Army use of these trails for monthly troop marches would be undertaken under permit by the State, and that the State would maintain the trails to prevent erosion. The Service is concerned that the State may not have the resources to adequately maintain these trails, given the high level of use proposed by the Army. The Service is further concerned that impacts to nesting seabirds and native vegetation, including endangered species and critical habitat, cannot be

F1-13 |

**Responses**

F1-10  
Section 3.9 has been revised to include all of the species covered in relevant Section 7 consultations.

F1-11  
The Army is conducting a thorough analysis of the impact of potential training and wildfire effects to each species during formal consultation pursuant to Section 7 of the Endangered Species Act. No training at MMR would occur without full compliance with Section 7 of the Endangered Species Act.

F1-12  
Analyzing the availability of State funds is beyond the scope of the EIS. Impacts to these trails are evaluated in Section 4.9.

F1-13  
Impacts to nesting seabirds and native vegetation were assessed in Section 4.9 of the Draft EIS. During the 2007 consultation process, the Army decided to no longer use Kaena Point. The Army will abide by terms and conditions developed by the State of Hawaii for the use of Kuaokala Trail.

**Comments**

F1-13 adequately mitigated, particularly in the State’s Kaena Point Natural Area Reserve (NAR; see specific comments, below). Therefore, the Department recommends that the final  
 F1-14 EIS eliminate consideration of these trails. However, in the event these trails are used by the Army, we recommend the Army enter into an agreement with the State to financially and logistically support trail maintenance. In addition, the approach to the Kuaokala trail may involve some access over agricultural roads on private lands. If troop maneuvers  
 F1-15 will occur on private lands, the final EIS should describe the Army’s coordination with landowners for easements or other legal access, including plans and agreements to mitigate potential impacts to natural resources, agricultural activities, historic sites, and cultural activities on private lands.

**SPECIFIC COMMENTS**

F1-16 Page 2-8, No Action Alternative: The DEIS provides insufficient information for the Service to fully evaluate the no action alternative, and the description of future management and conditions at MMR under no action is inadequate. Little information is provided regarding the minimum land management required under current Army policy for facilities that are phased out of active use (e.g., natural resources management, cultural resources preservation, and ordnance disposal). The Department, through the  
 F1-17 Service, recommends that the DEIS explain in more detail why no action would result in significant, unmitigable impacts to biological resources due to wildfire and the spread of non-native invasive species. The DEIS assumes little or no conservation stewardship would occur, especially regarding the control of highly flammable, nonnative plants. However, wildfire impacts would be less than significant because only five percent of historical wildfires at MMR have been ignited by non-military sources. Due to the lack  
 F1-18 of detail provided in the brief description of impacts expected with no action, the DEIS analysis of future environmental conditions under all alternatives is incomplete. The Department, through the Service, recommends that the final EIS fully examine  
 F1-16 conservation options in the absence of military training, including the potential for other Federal, State, community, and non-governmental organizations to assume responsibility for stewardship of Makua.

F1-19 Page 2-31 and page 2-32, Alternative 1: According to the DEIS, Alternative 1 involves less intensive training than Alternatives 2 and 3, with 19-28 CALFEXs (or about 19-28 days of live-fire training) per year. The Department, through the Service, recommends that the Army select Alternative 1, excluding the use of Stryker vehicles and the use of Kaena Point and Kuaokala trails, as the preferred alternative for evaluation in the final EIS.

F1-20 Page 2-32, Alternative 2: Based on the analysis in the DEIS, Alternative 2 would incur significant, unmitigable wildfire ignition impacts associated with increasing the intensity of actions described under Alternative 1. Up to 50 CALFEXs (or about 50 days of live-fire training) per year would involve the use of tracer ammunition in day and night exercises. Tracers have historically accounted for about 49 percent of all wildfire ignitions at MMR for which complete records are available. To fully evaluate Alternative 2, the final EIS should describe procedures for fighting fires at night and

**Responses**

F1-14 Analyzing the availability of State funds is beyond the scope of the EIS. Impacts to these trails are evaluated in Section 4.9. The Army will abide by conditions set forth by the maneuver license from the land owner to avoid impacts to sensitive resources.

F1-15 This area is included in the ROI and is included in the Section 4.9 analyses of erosion, noise and fire impacts on biological resources. The Army will abide by conditions set forth by the maneuver license from the land owner to avoid impacts to sensitive resources.

F1-16 The Draft EIS represents the level of management that the Army expects to provide in the absence of training at MMR. Because future disposal of the property is not proposed at this time and identifying subsequent uses would be highly speculative, those actions are not considered components of the No Action Alternative. In addition, any actions beyond those addressed in this EIS would be assessed in a separate NEPA document, as stated on Page 2-8 of the Draft EIS.

F1-17 The No Action Alternative would involve not resuming military training at MMR. The current level of management at MMR is that which would enable the Army to resume training should that decision be reached. Accordingly, a reduced level of management would be required if there is no training at MMR. For example, suppression of any fires could be delayed, or sensitive species management could be reduced; however, proposed management would be coordinated with US Fish and Wildlife Service and other agencies. The text in Section 2.3 has been revised.

**Comments**

**Responses**

F1-18 Please see the response to Comment F1-17.

F1-19

The Army thanks you for your comment and appreciates your recommendations and will consider them as it moves forward with the NEPA process. Your comment has been considered and has been included as part of the administrative record for this process.

## Comments

- F1-20 address options for night training that do not require tracers, such as night-vision equipment.
- Pages 2-32 through 2-35, Alternative 3: Based on the analysis in the DEIS, Alternative 3, the Army's preferred alternative, would incur significant, unmitigable impacts due to intensified training levels above those associated with Alternative 2. In addition to tracers, wildfire risk would be elevated even more with the use of illumination rounds, new weapons systems and munitions not previously used at MMR, and the use of C-ridge for sniper training. The DEIS notes a general potential for misfire associated with these new weapons but provides no information on how often live projectiles would land outside the firebreak road. All three action alternatives also involve the use of Stryker vehicles as elevated platforms for firing 120mm HE mortars and 155mm HE howitzers. Use of Strykers at MMR was not evaluated in the Army's May 2004 Final Environmental Impact Statement for Transformation of the 2<sup>nd</sup> Brigade of the 25<sup>th</sup> Infantry Division (Light) to a Stryker Brigade Combat Team. The final EIS should clarify whether the use of Stryker vehicles would facilitate the landing of misfired projectiles outside the firebreak road. Furthermore, we recommend the final EIS also should fully address the background risk of malfunction and misfire associated with the preferred alternative's weapons systems and munitions, including an estimate of the frequency projectiles would land outside the firebreak road. Due to the severity and significance of impacts under Alternative 3, we recommend that Alternative 3 be eliminated from further consideration.
- F1-21
- F1-22
- F1-23
- F1-24 Page 2-35, footnote: The final EIS should note that the Service's biological opinions have not evaluated or recommended restrictions for all features of the preferred alternative that would be encompassed by general training parameters, such as use of weapons systems and munitions not previously used at MMR (i.e., 155-mm HE howitzers, 2.75-caliber rockets, and Javelins).
- F1-25 Page 3-20, third paragraph, eighth bulleted item: The final EIS should discuss, either here or in Section 3.9, seabird activity in the vicinity of Kaena Point NAR where low-altitude, offshore helicopter operations would take place. Flight altitudes below 500 feet represent a bird-strike risk to Laysan Albatross (*Phoebastria immutabilis*) and Wedge-tailed Shearwaters (*Puffinus pacificus*) at Kaena Point.
- F1-26 Pages 3-69 through 3-93, Water Resources: The DEIS does not mention the existence of spring or seep habitats (rheocrenes) in the steep interior of MMR. If present, springs and seeps could support rare aquatic organisms such as native damselflies (genus *Megalagrion*), Dipteran flies (families Dolichopidae, Empidae, Ephydriidae, Tipulidae, and others), moths (genus *Hypomocoma*), and other invertebrates such as aquatic snails (family Lymnaeidae). If present, these easily overlooked habitat types typically would be located deep in interior valleys where they would be exposed to the risk of wildfire. The Department, through the Service, recommends that the presence or absence of these habitat types be confirmed in the final EIS.
- F1-27 Page 3-82, Section 3.7 Water Resources, Groundwater Occurrence and Flow, 2nd full paragraph: The concept of "sustainable yield," the amount of water that can be removed

## Responses

- F1-20 Tracers are not linked exclusively to nighttime live-fire training; they are used to sight the impact of bullets, which cannot be seen by the naked eye during the day or with night vision goggles at night. The 2007 BO does not allow nighttime live fire training of any kind until helicopter usage is approved for fighting wildfires at night.
- F1-21 The use of Strykers actually reduces the chance of rounds landing outside of the impact area due to the advanced targeting systems that each vehicle uses. The text in Section 2.4.1 has been revised.
- F1-22 The environmental effects of malfunctions and misfires are largely localized, i.e., the round does not leave the weapon system. The Army has no historical data on the frequency of projectiles landing outside the firebreak road. The Draft EIS assesses the impacts resulting from projectiles landing outside the firebreak road, but does not attempt to quantify the risk of such occurrences, due to the lack of historical data. Furthermore, no training at MMR would occur without compliance with Section 7 of the Endangered Species Act.
- F1-23 The Army thanks you for your comment and appreciates your recommendations and will consider them as it moves forward with the NEPA process. Your comment has been considered and has been included as part of the administrative record for this process. Any action implemented will be coordinated with the US Fish and Wildlife Service and meet the requirements of Section 7 of the Endangered Species Act.
- F1-24 The BO issued in June 2007 covers all munitions proposed for use at MMR in the EIS. This information has been incorporated into Section 2.4.7 of the EIS.

**Comments**

**Responses**

(Cont.)

F1-25

A description of seabird activity offshore of the Kaena Point Natural Area Reserve has been added to Section 3.9.5 of the EIS. There have been no bird strikes with Army helicopters in this area since 1990, the earliest date such records were kept. These impacts would be largely avoided as a result of the aircraft flight patterns. The Army follows all FAA and local airspace regulations.

F1-26

None of these species or habitats have been observed in similar areas that natural resources staff frequent.

F1-27

The EIS was prepared in accordance with the National Environmental Policy Act and with applicable Federal and Army regulations. Review of the Draft EIS by the US Environmental Protection Agency found the document to be adequate. The Army is not using sustainable yield to justify any proposed actions. Sustainable yield was provided for background information.

Comments	Responses
<p>F1-27 from a system without impact, related to the amount of rainfall that recharges the aquifer, is deceptive. The classic interpretation, that water levels will not decline if the amount of ground water that is removed from the system is no greater than the amount of recharge, is true; however, the current understanding (Todd, 1980, and Alley and others, 1999) is that removal of ground water will still have an impact. Potential impacts could be reduction in discharge to streams or springs, or in the amount of water discharged to the ocean, changing the salinity of brackish coastal ponds or allowing a landward shift in the salt-water/fresh-water interface.</p>	<p>F1-28 This information has been incorporated into Sections 3.9.1 and 3.9.2 of the EIS.</p>
<p>F1-28 <u>Page 3-114, first paragraph bulleted items:</u> The final EIS should note that the Service's existing biological opinions do not cover the Kaena Point and Kuaokala trail portions of the ROI. The final EIS also should clarify whether buffer areas along the trails extend 164 feet (50 meters) from each side of the trail centerline or from both trail edges.</p>	<p>F1-29 Assumptions have been presented where applicable for each resource evaluated in the EIS. These assumptions include formal standard operating procedures, measures from regulations and previous agreements/consultation, and other commitments specific to this proposed action. The term "assumptions" has been retained as a generic reference to measures incorporated from these various sources.</p>
<p>F1-29 <u>Page 3-115, last paragraph bulleted items:</u> The final EIS should clarify that the bulleted items used to analyze the impact of troop marches along the Kaena Point and Kuaokala trails are standard operating procedures, not "assumptions." The Service recommends that the Army outline a process in the final EIS for periodically reviewing these standard operating procedures and modifying them if damages to biological resources occur.</p>	<p>F1-30 Text describing the Army's monitoring of training effects has been added to Section 3.9.1.</p>
<p>F1-31 <u>Pages 3-118 and 3-119, Biological Resource Management:</u> The final EIS should note that the MIP was developed to offset impacts associated with an action area that does not include the Kaena Point and Kuaokala trails, use of Stryker vehicles, or the impacts of sniper training on C-ridge. The MIP also was developed to offset impacts associated with the types of weapons systems and munitions proposed for Alternatives 1 and 2 (including tracers and inert TOW missiles), but not for Alternative 3 (155mm HE howitzers, 2.75-caliber rockets, and Javelin anti-tank missiles). Please clarify the MIP's project scope in the final EIS.</p>	<p>F1-31 Since the formal consultation has been completed, the MIP and the MIP addendum do cover Alternative 3. This information has been incorporated into Section 3.9.2 of the EIS.</p>
<p>F1-32 <u>Page 3-127 and page 3-128, Coastal/Coral Communities, and pages 3-130 and through 3-137, Marine Fauna:</u> The description of coral reef resources contained in the DEIS lacks detail and understates the benthic and nearshore marine resources found in the project area, the relative value of the marine fauna, and the regulatory requirements for their protection. For example, the reference cited on page 3-131, second paragraph, is for a coral study at the Kahe Point Power Plant outfall, approximately 14 miles south of MMR. The relevance of this location to the coral reef resources within the ROI is unclear and should be explained in the final EIS. In addition, information on page 3-127, first</p>	<p>F1-32 Our investigations have shown that there are limited coral reef resources in the ROI. Text has been added to Section 3.9.4 of the EIS clarifying the relationship between the coral study at Kahe Point Power Plant and the ROI.</p>
<p>F1-33 paragraph, should be expanded to incorporate other relevant sources that better describe the minimum extent of the marine fauna associated with coral reef and other marine bottom types within the ROI. For example, a number of references that cite specific marine resource surveys within the ROI can be found in the 1979 Corps of Engineers report on the Hawaii Coral Reef Inventory for Oahu. This report indicates that although much of the bottom topography in the nearshore marine environment offshore MMR is low-relief limestone pavement and sand, live coral cover is as high as 20 percent in the northern part of the ROI. The report also cites at least 125 species of reef fish observed</p>	<p>F1-33 Text has been added to Section 3.9.4 of the EIS addressing this issue.</p>

## Comments

- F1-34 in the area, which indicates a high biodiversity of fish fauna. Because the Service considers all coral reefs as areas of management concern, the final EIS should describe the ROI's coral reef resources in more detail, as mandated by the Coral Reef Protection Act of 1999 and Executive Order 13089 for Coral Reef Protection. The final EIS also
- F1-35 should note that institutional significance for coral reefs was established through their formal designation as "special aquatic sites" under the Clean Water Act (40 CFR Part §230.44/FR v.45 n.249).
- F1-36 Page 3-129, third paragraph: The final EIS should note that although commonly found in moist environments, the coqui frog (*Eleutherodactylus coqui*) does not require aquatic habitat (surface water) to complete its life cycle. In addition, the final EIS should note that the similar greenhouse frog (*Eleutherodactylus planirostris*) is now very widespread on Oahu and potentially could occur at MMR.
- F1-37 Pages 3-138 through 3-140, Table 3-24: Table 3-24 omits the following listed plant taxa covered within the ROI by existing biological opinions (excluding the Kaena Point and Kuaokala trails): *Abutilon sandwicense*, *Chamaesyce herbstii*, *Colubrina oppositifolia*, *Cyanea longiflora*, *Cyanea grimesiana* ssp. *obatae*, *Hesperomannia arbuscula*, *Neraudia angulata* var. *angulata*, *Peucedanum sandwicense*, *Phyllostegia kaalaensis*, and *Schiedea kaalae*. The table also omits the following taxa for which critical habitat has been designated within the ROI (excluding the Kaena Point and Kuaokala trails): *Alsindendron trinerve*, *Chamaesyce herbstii*, *Colubrina oppositifolia*, *Cyanea acuminata*, *Cyanea grimesiana* ssp. *obatae*, *Cyanea longiflora*, *Diplazium molokaiense*, *Gouania vitifolia*, *Hesperomannia arbuscula*, *Isodendron laurifolium*, *Isodendron longifolium*, *Isodendron pyriformis*, *Labordia cyrtandrae*, *Mariscus pennatifolius*, *Melicope pallida*, *Phyllostegia hirsuta*, *Phyllostegia kaalaensis*, *Schiedea kaalae*, and *Solanum sandwicense*. The table incorrectly notes critical habitat as designated and/or present for *Ctenitis squamigera*, *Lepidium arbuscula*, *Lipochaeta oahuensis*, *Lobelia nīihauensis*, *Silene lanceolata*, *Tetramolopium filiforme*, and *Viola chamissoniana* ssp. *chamissoniana*. Please revise this table in the final EIS and ensure that information in tables, text, figures, and appendices is consistent throughout the document.
- F1-38 Pages 3-149 through 3-155, Invertebrates and Birds: Please define the meaning of "FSOC" in the final EIS (note that there is no "Federal Species of Concern" classification).
- F1-39 Pages 3-150 and 3-151, Table 3-25, and page 3-152, Figure 3-20: *Lasiurus cinereus semotus* appears in the table but not on the figure; *Paroreomyza maculata* appears in the table but not on the figure or in the text; and *Achatinella valida* and *Megalagrion nigrohamatum nigrolineatum* appear on the figure but do not appear in the table or text. Please ensure that information in tables, text, figures, and appendices is consistent in the final EIS.
- Page 3-151, Table 3-25, and page 3-155, last paragraph: Although a possibly large population of Hawaiian hoary bats (*Lasiurus cinereus semotus*) historically occurred on Oahu, the Service considers this endangered subspecies as now resident only on Kauai,

## Responses

- F1-34 Section 3.9.4 of the EIS now includes text that expands on this issue.
- F1-35 Text to this effect has been added to Section 3.9.4 of the EIS.
- F1-36 This information has been incorporated into Section 3.9.5 of the EIS.
- F1-37 This information has been incorporated into Table 3-24 of the EIS. The critical habitat designator (CH) used in the table applies to the species only and is not used to indicate the absence or presence of critical habitat within the ROI.
- F1-38 This classification has been deleted from Section 3.9 of the EIS.
- F1-39 There is no mapping data for some of these sightings. In addition, through the 1999 and current Section 7 consultations, the US Fish and Wildlife Service determined that the Army was not required to consult on the Hawaiian hoary bat because the presence of that species was determined to be historical and not current. The text, tables, and figures in Section 3.9 have been revised to address the species information consistently.

## Comments

- F1-40 Maui, and Hawaii. Infrequent observations of Hawaiian hoary bats on Oahu since 1963, amounting to 11 reports of single bat sightings over 42 years, are considered to be migrant or vagrant individuals from other islands. The final EIS should re-evaluate the status of the Hawaiian hoary bat in the ROI, which the DEIS identifies as “confirmed,” by describing all historic and current records available.
- F1-41 Pages 3-153, last paragraph, and page 3-154, first two paragraphs: Please note in the final EIS that the Oahu elepaio (*Chasiempis sandwichensis ibidis*) is a subspecies endemic to the island of Oahu; the species is not endemic to Oahu. Please also note the Oahu elepaio inhabits not only native forest, but also forests dominated by non-native plants. In addition, please clarify that both the Oahu elepaio and portions of its critical habitat are known to occur within the ROI. The final EIS also should include a summary of information collected by Army environmental staff on Oahu elepaio abundance and distribution within the ROI.
- F1-42 Page 3-154, fourth paragraph, and page 3-155, second paragraph: The final EIS should discuss the numbers of Laysan Albatross and Wedge-tailed Shearwaters nesting at Kaena Point NAR, which have increased substantially over the past few years in response to management by the Hawaii Division of Forestry and Wildlife (DOFAW). Considerable effort has been expended by DOFAW and other natural resource management agencies to remove non-native predators from Kaena Point NAR. As a result, Laysan Albatross and Wedge-tailed Shearwaters are nesting there in increasing numbers. Approximately 2,000 pairs of Wedge-tailed Shearwaters nest in burrows located over much of the area and in some places directly on the trail. The final EIS also should discuss seabird breeding and foraging activity in relation to seabird flight altitudes at Kaena Point NAR.
- F1-43
- F1-44 Page 3-160, first paragraph: The discussion of critical habitat here and elsewhere in the DEIS does not discuss the Service’s existing September 2004 reinitiated biological opinion. In that opinion, the Service determined that routine military training at MMR would not result in destruction or adverse modification of critical habitat, based on the Army’s agreement to implement the May 2003 Makua Implementation Plan (MIP). The preferred alternative with its elevated wildfire risk does not correspond to the action evaluated in the biological opinion. Furthermore, the Army recently reinitiated consultation with the Service regarding the preferred alternative and the Army’s proposed MIP Addendum. The final EIS should note that the critical habitat analysis in the
- F1-45 existing biological opinion will be re-evaluated based on the MIP Addendum’s reduced number and smaller acreage of Management Units for protection of endangered plants.
- F1-46 Page 3-228, first paragraph: The DEIS is unclear regarding the status of tracer ammunition and white phosphorus as hazardous unexploded ordnance at MMR, stating that “no tracer ammunition is used.” The final EIS should note that tracers and white phosphorus were used at MMR prior to 1998 and tracers are proposed for resumed use under the Proposed Action.
- F1-47 Page 3-250, second paragraph, fifth bulleted item, and last paragraph: The final EIS should address white phosphorus as a continuing wildfire ignition source at MMR. On

## Responses

- F1-40  
Through the 1999 and current Section 7 consultations, the US Fish and Wildlife Service determined that the Army was not required to consult on the Hawaiian hoary bat because the presence of that species was determined to be historical and not current. This information has been incorporated into Section 3.9.5 of the EIS.
- F1-41  
The text in Section 3.9.6 has been revised to clarify this information.
- F1-42  
Information on wedge-tailed Shearwater nesting is found on Page 3-130 of the Draft EIS. Additional information on the numbers of these species has been incorporated into Sections 3.9.5 and 3.9.6 of the EIS.
- F1-43  
Additional seabird information has been incorporated into Sections 3.9.5 and 4.9.4 of the EIS. There have been no known bird strikes with Army helicopters in this area since 1990 when the Army began keeping records.
- F1-44  
This Biological Opinion was discussed in Section 3.9 page 3-120, paragraph 2 of the Draft EIS. Additional information has been incorporated into Section 3.9 of the EIS.
- F1-45  
Section 3.9 of the EIS has been revised to state that the Makua Implementation Plan Addendum has been evaluated as part of the Section 7 consultation for the proposed training at MMR. Critical habitat analysis has been completed and is covered by the MIP Addendum.

**Comments**

**Responses**

(cont.)

F1-46

Chapter 2 and Chapter 4 address the proposed use of tracers under Alternatives 2 and 3. Section 3.14.2 discusses previous use of tracers and white phosphorous as it relates to past wildfires at MMR.

F1-47

Areas where white phosphorus was previously used, as well as the location and amount of white phosphorus still in the soil, are unknown. Fires started by exposing white phosphorus during training would be put out in accordance with IWFMP guidance with the aid of Soldiers.

## Comments

F1-47 August 3, 2005, a wildfire unofficially attributed to spontaneous ignition of white phosphorus burned approximately 300 acres and escaped the south firebreak road, where it damaged about 25 acres of vegetation close to occurrences of listed plants. The Department, through the Service, recommends that the final EIS describe the location of past ordnance impact areas and surface danger zones used for white phosphorus rounds, and provide an estimate of the amount and location of white phosphorus likely still present in soils at MMR.

F1-48 Pages 3-251 through 3-255, Wildfire History and Fire Fighting Resources: The Service recommends that the Army commit to implementation of all actions proposed in the DEIS to improve wildfire suppression and pre-suppression management, including prescribed burns. The Department, through the Service, also recommends that the final EIS state the Army's commitment to ensure priority funding for implementing the Army's IWFMP.

F1-50 Pages 4-17 through 4-22, Summary of Impacts (Airspace): The final EIS should address the potential for bird-helicopter interactions associated with both day and night aircraft operations in the vicinity of Kaena Point NAR. Helicopter flight altitudes below 500 feet in this area would create a bird-strike risk impossible to mitigate. Throughout the nesting season, seabirds are flying between their nesting sites and offshore foraging areas, Laysan Albatross during the day and Wedge-tailed Shearwaters at night. Please address options to avoid bird strikes in the final EIS.

F1-51 Page 4-42, second paragraph: The final EIS should describe noise levels expected in ROI locations occupied by Oahu elepaio, assess potential effects, and propose mitigation for each alternative.

F1-52 Pages 4-70 through 4-85, Water Resources: The DEIS discussion of flooding is limited primarily to potential flood damage risk. Management actions specified in the Army's INRMP (e.g., ITAM program) and IWFMP (e.g., fire pre-suppression, vegetation control, and suppression) directly affect the land's ability to absorb and retain rainfall and runoff. In particular, relatively minor 5-year and 10-year storm events could transport large amounts of sediments and contaminants to sensitive nearshore marine environments. The Department, through the Service, recommends that the final EIS include an analysis of the potential effects to biological resources for each alternative due to any increase or decrease in frequency, duration, or magnitude of flood events.

F1-53 Page 4-76, Section 4.7 Water Resources, first paragraph: The discussion of dioxin movement in the fifth and seventh sentences seems contradictory. The fifth sentence states that dioxin is extremely insoluble and likely to be bound to sediment particles, which is true (EPA, 2005). The seventh sentence implies that dioxin is soluble enough to be transported in ground water miles from the recharge area.

Pages 4-99 through 4-138, Biological Resources: The DEIS does not adequately describe the potential adverse impacts to coral reef resources due to runoff. Impacts to corals and other benthic fauna from erosion and sediment transported in runoff are incorrectly

## Responses

F1-48

The Army thanks you for your comment and appreciates your recommendations and will consider them as it moves forward with the NEPA process. Your comment has been considered and has been included as part of the administrative record for this process.

F1-49

The Army thanks you for your comment and appreciates your recommendations and will consider them as it moves forward with the NEPA process. Your comment has been considered and has been included as part of the administrative record for this process.

F1-50

This has been discussed in Section 4.9. Please see the response to Comment F1-43.

F1-51

As shown by Figure 3-22 in the Draft EIS, most of the Oahu elepaio critical habitat areas are more than 2 km from the ordnance impact area at MMR. As noted in the Draft EIS, a study (VanderWerf et al. 2000) of the impact of high explosive artillery and mortar shell noise on Oahu elepaio at the Schofield Barracks artillery range found no effects on nesting behavior, brood rearing success, or other population parameters. The Schofield Barracks study included Oahu elepaio nests within 1 kilometer of the edge of the artillery range impact area, with the closest nest only 0.1 kilometers from the impact area. Peak unweighted noise levels at the monitored nest sites were as high as 130 decibels (unweighted peak). Videotapes of birds at the nest showed no response to blast noise events, even at the highest peak noise levels. Section 4.9 of the Draft EIS therefore concludes that noise from CALFEX events at MMR are not expected to have significant ecological effects on the Oahu elepaio.

F1-52

As stated in Section 4.7.3 of the Draft EIS, the proposed action is not expected to affect the frequency, duration, or magnitude of flood events at MMR.

**Comments**

**Responses**

(cont.)

F1-53

As the commenter notes, dioxin is extremely insoluble in water, but it can piggy-back on sediment particles, to which it tends to bind. If dioxin is detected in a groundwater sample, the explanation likely involves sediment that has migrated into the well. The most likely explanation is that contaminated sediment was introduced into the well during well construction or sampling, or by some other localized mechanism. Over time, the contaminated sediment would be purged from the well in the process of sampling. Particle transport by flowing groundwater cannot be entirely ruled out, though as the comment implies, this is unlikely to occur over great distances because sediment tends to be filtered by aquifer materials.

## Comments

F1-54 described as short-term effects from which recovery is rapid. This is not always the case; for example, sediment deposition can be harmful to reef organisms during periods of coral spawning and recruitment. In addition, long-term detrimental effects can result from the timing and magnitude of sediment deposition and other factors. The effects of runoff on coral reefs can be severe and may warrant legal action under the Clean Water Act and other authorities. The Department, through the Service, recommends that the final EIS include an expanded discussion of the potential effects of sedimentation in the nearshore marine environment of the ROI.

F1-55 Page 4-99, fifth paragraph: The final EIS should clarify that the basis for assessing impacts to aquatic resources should include all special aquatic sites defined under the Clean Water Act, including coral reefs.

F1-56 Page 4-101, last paragraph: The final EIS should clarify that the Army's mitigation approach is based in large part on the Army's proposed MIP Addendum provided to the Service in January 2005, not the interagency MIP submitted to the Service in May 2003. The MIP Addendum involves a smaller overall conservation area than the MIP (i.e., 23 Management Units totaling 2,404 acres [972.9 hectares] in the MIP Addendum, compared to 31 Management Units totaling 6,353 acres [2,572 hectares] in the MIP). The proposed MIP Addendum is part of the Army's proposed action for reinitiating ESA section 7 consultation on the preferred alternative. The final EIS should clarify that the Department, through the Service, has not completed our analysis of whether the MIP Addendum contains sufficient protective measures to avoid jeopardizing 28 endangered species identified for stabilization.

F1-58 Page 4-105, top of page: The final EIS should clarify that separate management plans for each type of threat do not require approval by the Service before the Army can begin implementation. Management actions will be reviewed in progress to assure their success, and if necessary will be altered according to adaptive management protocols.

F1-59 Page 4-108, first bulleted item: The final EIS should evaluate the significance of impacts to all aquatic habitats within the ROI, including an evaluation of the extent and degree of anticipated adverse impacts to coral reefs.

F1-60 Page 4-108, first full paragraph and bulleted items through page 4-109: The DEIS appears to limit evaluation of anticipated impacts in the marine environment to analysis of marine mammals under the Marine Mammals Protection Act. The final EIS should analyze all anticipated impacts to freshwater and marine environments (including nearshore marine habitats such as coral reefs and their associated biological communities).

Pages 4-120 through 4-123, Summary of Impacts (Biological Resources): The Department, through the Service, is concerned that impacts to endangered plants and nesting seabirds resulting from ground training on the Kaena Point trail are not adequately mitigated. Laysan Albatross are relatively tolerant of human disturbance. Nonetheless, regular use of the area by ground troops may attract more dogs and cats,

## Responses

F1-54  
Please see response to Comment F1-32.

F1-55  
Please see response to Comment F1-35.

F1-56  
The Army's mitigation approach is based on the level of training; this approach is structured around a mitigation program presented in both the MIP and its addendum. In the EIS, references to the MIP include both the MIP and its addendum.

F1-57  
The MIP Addendum has been analyzed per the Section 7 consultation. This information has been added to Section 4.9.2.

F1-58  
This information has been clarified in Section 4.9 of the EIS.

F1-59  
Under NEPA, only resources considered to be potentially impacted are discussed in the EIS. Section 4.9 includes assessment of impacts to coral ecosystems.

F1-60  
This is analyzed in Section 4.9 of the EIS.

## Comments

- which are known to kill albatross, and some soldiers may inadvertently harass albatross in nest sites close to the trail. Wedge-tailed Shearwater burrows can be crushed by a single human footstep, killing or trapping the egg or bird inside, and burrows directly on the trail or at its edge could not be avoided by a column of troops. In addition, shearwaters are active at night and are sensitive to disturbance by artificial lighting; disoriented birds often become grounded, where they are vulnerable to predation and vehicle strikes. In general, Kaena Point is a fragile ecosystem that is extremely sensitive to erosion and only now is recovering from years of misuse. Using Kaena Point NAR as a regular ground-training site would directly conflict with the area's legal purpose, as well as with other Federal and State efforts to restore native plants and animals, including a U.S. Fish and Wildlife Service Cooperative Endangered Species Conservation Fund recovery land acquisition grant. In addition to the "BMPs" mentioned in the DEIS, the Service recommends the Army coordinate additional mitigation measures with PIFWO and DOFAW for inclusion in the final EIS. Such measures may include modification of standard operating procedures, habitat restoration efforts, additional predator control, shielding of artificial lights, and inclusion of fire suppression crews on all trail marches. To avoid impacts to nesting seabirds, the Department, through the Service, recommends assessing an alternate sites for trail marches, including Drum Road. Please address these issues in the final EIS.
- F1-61
- F1-62
- F1-63
- Page 4-120, first paragraph: Troops marching by nesting Oahu elepaio could cause a disturbance that would flush elepaio from their nests, and frequent disturbances could adversely affect the subspecies' reproductive fitness. The final EIS should address the potential impacts of noise and disturbance to elepaio resulting from the proposed intensity and frequency of troop marches along the Kuaokala trail.
- F1-64
- Page 4-121, second paragraph: Destruction of Wedge-tailed Shearwater burrows would constitute a violation of the Migratory Bird Treaty Act (MBTA). The MBTA includes no permit provision for authorizing the incidental take of birds, nests, or eggs. The final EIS should clarify how the National Defense Authorization Act for Fiscal Year 2004, which excludes take associated with military readiness activities from MBTA permitting requirements, applies to the proposed action.
- F1-65
- Page 4-121, third paragraph: The Department, through the Service, is concerned that smoking by soldiers cannot be totally prohibited during trail marches, and that trampling of endangered plants and introduction of invasive weeds cannot be totally avoided. Please evaluate these impacts in the final EIS.
- F1-66
- Pages 4-130, last two paragraphs, and 4-131, first three paragraphs: The DEIS does not address the risk of bird strikes in aircraft operation areas in the vicinity of Kaena Point NAR. Helicopters as close as 1,000 feet (305 meters) offshore and 300 feet (91 meters) above the ocean are likely to create bird-strike hazards. Please evaluate this issue in the final EIS.
- F1-67
- Pages 4-135 and 4-136, Summary of Impacts (Biological Resources): The final EIS should specify how greater safety restrictions on weapons and munitions, and more
- F1-68

## Responses

- F1-61  
Please see the response to Comment F1-13.
- F1-62  
Please see the response to Comment F1-13.
- F1-63  
Because these troop marches are conducted as part of live-fire training at MMR, use of alternate routes that do not lead into MMR, including Drum Road, would not be feasible. Use of Kuaokala Trail is subject to the conditions included in the permit issued by the State. For troop marches not conducted as part of MMR training activities, and therefore not included in the alternatives evaluated in the EIS, the Army will consider alternate routes.
- F1-64  
Please see the response to Comment F1-51. As shown on Figure 3-20 of the Draft EIS, there are no known populations of elepaio along the Kuaokala Trail.
- F1-65  
The act stated that the Migratory Bird Treaty Act would not apply to incidental taking of a migratory bird by a member of the Armed Forces during military readiness activities. The act defined "military readiness activity" to include all training and operations of the Armed Forces that relate to combat. As such, all of the actions proposed at MMR, would be considered military readiness activities under the act. In addition, Wedge-Tailed Shearwaters will not be impacted by Army training since the Army decided during formal Section 7 consultation not to use Kaena Point for road marches.
- F1-66  
The Army assures the Department that these measures have been successfully enforced during past training activities and will continue to be enforced as part of future training activities at MMR.
- F1-67  
Please see response to Comments F1-25 and F1-43.

## Comments

- F1-68 effective fire management and revegetation programs, would reduce the severity of impacts associated with the elevated risk of fire associated with the preferred alternative. The Service is concerned about the effectiveness of the INRMP and IWFMP to reduce wildfire ignitions, owing to the fact that about 61 percent of historical fires at MMR for which complete records are available have been ignited by weapons systems and munitions that will be resumed for use under the preferred alternative (tracer ammunition, anti-tank missiles, and TOW missiles). The Department, through the Service, is unable to evaluate the impacts of the preferred alternative due in large part to lack of information on the malfunction/misfire risk of these previously used weapons systems and munitions, and of long-range, high fire-risk weapons systems and munitions that have never been used before at MMR (120mm HE mortars, 155mm HE howitzers, 2.75-caliber rockets, and Javelins). Please address these issues in the final EIS.
- F1-22
- F1-69 Page 4-136, second paragraph: The Department, through the Service, recommends that the Army commit to restoring damaged habitat after each fire, and provide a restoration plan in the final EIS. Given that restoration of native forest in Hawaii has achieved limited success in few locations and only with intensive management, the final EIS should estimate the required timeframe needed to achieve successful restoration after fire.
- F1-70 Page 4-137, first paragraph: The DEIS concludes that night ground training is unlikely to adversely affect wildlife, including Hawaiian hoary bats and Wedge-tailed Shearwaters. However, the DEIS also states that Hawaiian hoary bats have been confirmed in the ROI. If bats are present, it is not clear how night ground training would avoid effects to this species. The final EIS should provide more information to support this conclusion. In addition, the final EIS also should note that night ground training under unshielded, artificial lighting may adversely affect Wedge-tailed Shearwaters in Kaena Point NAR.
- F1-71
- F1-72 Page 4-137, second paragraph: The Department, through the Service, is concerned that the preferred alternative includes sniper training on C-ridge. Use of this area would expose vegetation to damage from trampling and the spread of invasive weeds, and may also adversely affect the ground-nesting Pueo (*Asio flammeus*). This area has burned in the past without direct use, due to misfired projectiles and the July 2003 escaped prescribed burn, which destroyed listed plants. The final EIS should examine the risk of wildfire associated with shooting from C-ridge and include mitigation measures for damage to native species there.
- F1-72
- F1-73 Page 4-177, last paragraph: The final EIS should incorporate an impact assessment methodology that estimates the *frequency* of wildfire in addition to the *probability* of wildfire ignition. The Service is concerned that recurring fires will exacerbate the encroachment of invasive, fire-adapted grasses into native forest. The final EIS should discuss the results of fire behavior models or other geospatial methods that simulate both the spatial and temporal patterns of fire spread resulting from successive, fire-induced vegetation changes. Fire behavior modeling also should simulate fire behavior at ignition points outside the firebreak road, to account for the potential misfire of long-range, high fire-risk weapons systems and munitions. In addition, the final EIS should describe actions the Army has already implemented and will implement in future to reduce
- F1-75

## Responses

- F1-68  
There is a difference between the risk of a small fire starting in the impact zone and the risk that a fire will escape control and damage sensitive areas outside the impact zone. Many fires can ignite safely in the impact area and be contained if the vegetation and weather conditions during training are controlled. This can be done, and is already part of the mitigation plan. If a fire ignition in the impact zone (which is managed by controlling vegetation and weather) does show potential to cross the boundary road and become a threatening fire, a wildland fire team will be on hand to suppress the fire at a safe line within or at the fire boundary road. One issue that invites further study, consultation and planning is vegetation management between the boundary road and the grass/forest ecotone. The management approach considers discouraging the growth of fires that escape suppression at the boundary road and encouraging the recovery of the forest where it once grew in this zone.
- F1-69  
The Army will be developing a post-fire revegetation recommendation as part of the formal Section 7 process with the help of local botanical experts.
- F1-70  
There are no resident bats within the Waianae Mountains. Section 4.9.4 has been revised to clarify this issue. Please see the response to Comment F1-39.
- F1-71  
Wedge-Tailed Shearwaters will not be impacted by Army training since the Army decided during formal Section 7 consultation not to use Kaena Point for road marches.
- F1-72  
During formal Section 7 consultation, the Army has decided not to use C-Ridge due to potential fire impacts.

**Comments**

**Responses**

(cont.)

F1-73  
This analysis was completed during the formal Section 7 consultation.

F1-74  
The EIS relies on the fire behavior analysis conducted for preparation of the Integrated Wildland Fire Management Plan. Excerpts of this plan are included in Appendix J.

F1-75  
Section 4.14 and Appendix J addressed the impacts of wildfire and mitigation.

## Comments

- F1-75 wildfire risk by restricting the encroachment effect. Clarification of long-term fire risks in the final EIS will help the Department, through the Service, evaluate the effectiveness of the Army's INRMP, IWFMP, and MIP Addendum in protecting native forest from the synergistic, long-term effects of fire and invasive species on biological resources, including listed species. Please address these issues in the final EIS.
- F1-76 Page 4-178, first paragraph: The final EIS should examine the potential of buried white phosphorus to become exposed to spontaneous oxidation/ignition by geomorphological processes and by projectile impacts associated with military training.
- F1-77 Page 4-183, second paragraph: The DEIS does not specify how the existing October 2003 IWFMP would be modified to account for fire response and suppression procedures under the preferred alternative. The Service's existing biological opinion for routine training at MMR is predicated on IWFMP implementation to minimize wildfire impacts to listed species and critical habitat. However, the effectiveness of the IWFMP is untested for managing wildfire response at night and in conjunction with the day or night use of tracers, illumination rounds, 120mm HE mortars, 155mm HE howitzers, inert TOW missiles, 2.75-caliber rockets, and Javelins. The Service is concerned that certain IWFMP modifications may compromise the Army's wildfire response effort in some circumstances. For example, as part of the Army's recent reinitiation of ESA section 7 consultation on the preferred alternative, the Army proposes to relax the IWFMP's requirement for an on-site helicopter and crew during live-fire exercises involving only small arms qualifications (ball ammunition) and demolitions. The final EIS should clarify that IWFMP standard operating procedures apply to all live-fire exercises, not just CALFEXs, and modifications to the October 2003 IWFMP standard operating procedures should be described in detail.
- F1-78 Page 5-69, second full paragraph: The wording of this paragraph is unclear. There is no "USFWS Plant Critical Habitat project" and the mere designation of critical habitat does not protect endangered and threatened species from wildfire. Designation of critical habitat only requires Federal agencies to consult with the Service under ESA section 7 if proposed actions funded, authorized, or permitted by the Federal government may affect the conservation value of critical habitat. Please clarify the meaning of this paragraph in the final EIS.
- F1-79 Page 6-3, last paragraph: The final EIS should explain why resources, staff, and funds for conservation measures such as the MIP would constitute an irreversible and irretrievable commitment of resources under NEPA.

## SUMMARY COMMENTS

The Department, through the Service, is concerned that the Proposed Action in the DEIS is likely to result in significant, unmitigable impacts to biological resources at MMR, including the irretrievable loss of individuals of federally threatened and endangered species, as a result of wildfire and the spread of invasive species. The Department, through the Service, is also concerned that impacts to nesting seabirds, native tree snails,

## Responses

- F1-76  
Fires started by exposed white phosphorus would be put out in accordance with IWFMP guidance.
- F1-77  
To the extent changes are made to the IWFMP, such changes would be made in coordination with the USFWS, thus giving the USFWS the opportunity to fully evaluate the adequacy of the impact methodology and mitigation proposals. Appendix J contains SOPs that would occur during all live-fire exercises.
- F1-78  
The text has been revised in the EIS to clarify the meaning of the paragraph.
- F1-79  
This statement has been deleted from the EIS.

## Comments

and native vegetation cannot be mitigated for the Army's use of the Kaena Point and Kuaokala trails as a regular ground-training site. Major features of the Army's mitigation program are contained in the Army's INRMP, IWFMP, and MIP Addendum, which the Army intends to modify to address impacts associated with the Proposed Action. Drafts of these documents were not provided in the DEIS for public review, and the Army's proposed MIP Addendum is part of the Proposed Action now under ESA section 7 consultation. In addition, the DEIS lacks sufficient information on the misfire risk of the Proposed Action's weapons systems and munitions, and the long-term spatial and temporal effects of recurring wildfires. These important components of the Proposed Action should be made available for public review in the Final EIS, prior to decision-making.

Based on reasons summarized above, the Department considers the information presented in the DEIS inadequate for meaningful analysis of the Proposed Action's significant impacts to biological resources, including listed species and critical habitat. We recommend the final EIS provide additional information regarding the Army's wildfire impact methodology, proposed mitigation programs, and other issues raised in this letter. Furthermore, the Department also recommends the Army identify Alternative 1, with the exception of night live-fire training, use of Stryker vehicles, and use of the Kaena Point and Kuaokala trails, as its preferred alternative in the final EIS because it would reduce the potential risk of wildfire ignitions.

The Department appreciates the opportunity to comment on the DEIS. If you have questions regarding our comments or recommendations, please contact PIFWO Field Supervisor Patrick Leonard at (808) 792-9400 or contact Lloyd Woosley, Chief of the USGS Environmental Affairs Program, at (703) 648-5028 or at [lwoosley@usgs.gov](mailto:lwoosley@usgs.gov).

Sincerely,



Patricia Sanderson Port  
Regional Environmental Officer

cc: OEPC, HQ  
USGS, Reston, VA  
FWS, Portland, OR

## Responses

F1-80

A meaningful analysis of impacts to endangered species and critical habitat was completed during the formal Section 7 consultation process which resulted in a non-jeopardy Biological Opinion. During the formal Section 7 consultation process, the Army decided not to use C-Ridge and Kaena Point for training and illumination munitions because of concerns raised by the USFWS. The Army is actively involved in endangered species management at Kahanahaiki management unit located at the peak of C-Ridge as specified in the MIP addendum.

**Comments**

**Responses**

**REFERENCES**

Alley, W.M. and others, 1999, Sustainability of Ground-Water Resources, Circular 1186, U.S. Geological Survey, Denver, Colorado, page 15.

Todd, D.K., 1980, Groundwater Hydrology, 2nd edition, John Wiley & Sons, New York, page 363 (footnote).

U.S. Environmental Protection Agency, Consumer Fact Sheet on Dioxin, available on the Internet at: [http://www.epa.gov/safewater/contaminants/dw\\_contamfs/dioxin.html](http://www.epa.gov/safewater/contaminants/dw_contamfs/dioxin.html) (accessed August 25, 2005)