

1 **4.6 HAWAII**

2 **4.6.1 HAWAII OFFSHORE**

3 **4.6.1.1 KAWAIHAE PIER OFFSHORE**

4 Table 4.6.1.1-1 lists ongoing training operations for the No-action Alternative and proposed  
5 training operations for Alternatives 1 and 2 offshore at Kawaihae Pier. Alternative 2 is the  
6 preferred alternative.

**Table 4.6.1.1-1. Training Operations Occurring Offshore at Kawaihae Pier**

Training Operations	
• Expeditionary Assault	• Special Warfare Operations (SPECWAROPS)

7

8 A review of the 13 resources against offshore program training operations under the No-action  
9 Alternative, Alternative 1, or Alternative 2 was performed for Kawaihae Pier. The following  
10 resources are not addressed because the proposed Alternatives have no potential to adversely  
11 affect such resources air quality, airspace, cultural resources, geology and soils, hazardous  
12 material and waste, health and safety, land use, noise, socioeconomics, transportation, utilities,  
13 and water resources.

14 No air emissions would be generated from Kawaihae Pier offshore training operations unless  
15 use of diesel generators would be required for backup power. Use of Kawaihae Pier does not  
16 require control of the airspace above this land area. Kawaihae Pier has no prehistoric and  
17 historic artifacts, archaeological sites (including underwater sites), historic buildings or  
18 structures, or traditional resources that could be affected by Hawaii Range Complex (HRC)  
19 operations. Because no ground disturbance or building modifications would occur as a result of  
20 proposed operations, there would be no impact to geology and soils.

21 Offshore training operations associated with Kawaihae Pier adhere to policies and regulations  
22 governing hazardous materials and waste, health and safety, and noise, as discussed in  
23 Appendix C. There are no concerns with noise as it relates to offshore HRC training operations  
24 at Kawaihae Pier. There would be no impact to socioeconomics, transportation, utilities, and  
25 land use because the training population is transient, all services (food, transportation, lodging,  
26 fuel) are supplied by the military, and training sites remain the same for each alternative.  
27 Training operations would not generate any waste streams that could impact local water quality.

28 **4.6.1.1.1 Biological Resources—Kawaihae Pier—Offshore**

29 **4.6.1.1.1.1 No-action Alternative (Biological Resources—Kawaihae Pier—Offshore)**

30 **HRC Training Operations and Major Exercises**

31 *Vegetation*

32 The small beach area located immediately adjacent to the pier contains no vegetation. No  
33 threatened or endangered vegetation has been identified in the Kawaihae Harbor area (U.S.  
34 Department of the Navy, 2002a).

1 Expeditionary Assault landing personnel are briefed on existing procedures for entering the  
2 harbor and unloading equipment and supplies at the boat ramp. These procedures include  
3 inspections by appropriate Federal and/or State agencies of vehicles and equipment from  
4 foreign countries to prevent the introduction of invasive or alien species. A recycling wash rack  
5 is used to clean foreign country vehicles and equipment prior to back-loading to control the  
6 spread of alien species.

#### 7 *Wildlife*

8 The Expeditionary Assault will continue to be conducted in compliance with Executive Order  
9 (EO) 13089, *Coral Reef Protection*. Expeditionary Assault landing personnel are briefed on  
10 existing procedures for entering the harbor and unloading equipment and supplies at the boat  
11 ramp. Before each major landing exercise is conducted, a hydrographic survey is performed to  
12 map out the precise transit routes through sandy bottom areas. Within 1 hour of initiation of the  
13 Expeditionary Assault landing operations, the landing routes and beach areas are determined to  
14 be clear of marine mammals and sea turtles. If any are seen, the exercise will be delayed until  
15 the animals leave the area. During the landing the crews follow established procedures, such  
16 as having a designated lookout watching for other vessels, obstructions to navigation, marine  
17 mammals (whales or monk seals), or sea turtles. The water on this leeward side of the island  
18 provides habitat for humpback mother and calf pods and for resting dolphin pods. No  
19 threatened or endangered species have been identified within the harbor (U.S. Department of  
20 the Navy, 2002a).

21 During Special Warfare Operations (SPECWAROPS), crews for amphibious inserts follow  
22 established procedures, such as having a designated lookout watching for other vessels,  
23 obstructions to navigation, marine mammals (whales or Hawaiian monk seals), and sea turtles.  
24 Personnel review training overlays that identify the insertion points and any nearby restricted  
25 areas; sensitive biological resource areas are avoided.

#### 26 *Hawaiian Islands Humpback Whale National Marine Sanctuary*

27 Although the Kawaihae Pier area is not included within the Hawaiian Islands Humpback Whale  
28 National Main Sanctuary (HIHWNMS) located off the northwestern shore of Hawaii, Army and  
29 Marine Corps helicopter training operations regularly occur over the area within the HIHWNMS  
30 boundary. Navy and Army landing craft frequently offload and load supplies and equipment at  
31 Kawaihae Pier in support of military training at Pohakuloa Training Area. These training  
32 operations will continue as approved military actions in the HIHWNMS Environmental Impact  
33 Statement/Management Plan.

#### 34 **4.6.1.1.1.2 Alternative 1 (Biological Resources—Kawaihae Pier—Offshore)**

35 No increases in training operations and Major Exercises at Kawaihae Pier are expected.  
36 Impacts would be the same as those discussed above for the No-action Alternative.

#### 37 **4.6.1.1.1.3 Alternative 2 (Biological Resources—Kawaihae Pier—Offshore)**

##### 38 **Increased Tempo and Frequency of Training Operations**

39 Under Alternative 2, the tempo of training operations would be increased and the frequency of  
40 operations could also increase. The intensity and duration of wildlife startle responses decrease  
41 with the number and frequency of exposures. The tendency of a bird to flush from a nest

1 declines with habituation to the noise, although the startle response is not completely eliminated  
2 (U.S. Fish and Wildlife Service, 2003c).

3 **Additional Major Exercises—Multiple Strike Group Training**

4 Up to three Strike Groups would visit the area for up to 10 days per exercise. The exercises  
5 would be similar to those occurring during the Rim of the Pacific (RIMPAC) Exercise and the  
6 Undersea Warfare Exercise (USWEX), with impacts to biological resource similar to those  
7 described above for the No-action Alternative.

## 1 4.6.2 HAWAII ONSHORE

### 2 4.6.2.1 POHAKULOA TRAINING AREA

3 Table 4.6.2.1-1 lists ongoing training and research, development, test and evaluation (RDT&E)  
4 operations for the No-action Alternative and proposed training and RDT&E operations for  
5 Alternatives 1 and 2 at Pohakuloa Training Area (PTA). Alternative 2 is the preferred  
6 alternative.

**Table 4.6.2.1-1. Training and RDT&E Operations Occurring at Pohakuloa Training Area**

Training Operations	Research, Development, Test, and Evaluation (RDT&E) Operations
<ul style="list-style-type: none"><li>• Air-to-Ground Gunnery Exercise (GUNEX)</li><li>• Bombing Exercises</li><li>• Special Warfare Operations (SPECWAROPS)</li><li>• Live Fire Exercise (LFX)</li></ul>	<ul style="list-style-type: none"><li>• Large Area Tracking Range Upgrade (Alternative 1)</li><li>• Enhanced Electronic Warfare Training (Alternative 1)</li><li>• Expanded Training Capability for Transient Air Wings (Alternative 1)</li></ul>

7

8 A review of the 13 resources against program training and RDT&E operations under the No-  
9 action Alternative, Alternative 1, or Alternative 2 was performed for PTA. Initial analysis  
10 indicated that the proposed alternatives would not result in either short- or long-term impacts to:  
11 air quality, hazardous materials and hazardous waste, geology and soils, land use,  
12 socioeconomics, transportation, utilities, and water resources.

13 The southern portion of PTA proposed for Navy training and RDT&E operations is located within  
14 6.2 mi of the Hawaii Volcanoes National Park, which is a Prevention of Significant Deterioration  
15 Class I area as defined by the Clean Air Act. No air emissions would be generated from site  
16 operations unless use of diesel generators would be required for backup power; therefore the  
17 proposed alternatives would not effect this special air quality designation. No building  
18 modifications would occur. Any ground disturbance as a result of training and RDT&E  
19 operations would be handled in accordance with existing practices, and no impact to geology  
20 and soils is expected.

21 The use of hazardous materials and generation of hazardous waste at PTA would be in  
22 accordance with applicable regulations. PTA is compatible with existing surrounding land uses.  
23 HRC training and RDT&E operations would not affect local transportation levels of service or  
24 utilities. The socioeconomic characteristics of the area are not affected by training and RDT&E  
25 operations associated with this site. Training and RDT&E operations would not generate any  
26 hazardous waste streams that could impact local water quality.

#### 27 4.6.2.1.1 Airspace—Pohakuloa Training Area

##### 28 4.6.2.1.1.1 No-action Alternative (Airspace—Pohakuloa Training Area)

#### 29 HRC Training Operations

30 HRC training operations can include Live Fire Exercises (LFXs) at PTA. These types of training  
31 operations are confined to the special use airspace R-3103 located above the range associated  
32 with PTA. Air activity is controlled and coordinated by PTA Range Control. For training

1 operations including 10 or more aircraft, the Bradshaw Army Airfield manager submits a Notice  
2 to Airmen (NOTAM) to the Federal Aviation Administration (FAA) Honolulu Flight Service  
3 Station to be published as a Honolulu Local NOTAM and as a Class D NOTAM. The Bradshaw  
4 Army Airfield manager provides this information to the airfield Air Traffic Information Service  
5 (U.S. Army Garrison, Hawaii, 1996).

6 The nearest en route airway is located approximately 10 nm north of R-3103. Access to R-3103  
7 would be via Air Traffic Control Assigned Airspace (ATCAA) Pele, shown on Figure 3.6.2.1.1-1.  
8 This access route would be above the en route airways and Class D and Class E airspace  
9 above Kona Airport. By appropriately containing military activities within the Restricted Airspace  
10 and coordinating the use of the ATCAA area, non-participating traffic is advised or separated  
11 accordingly, resulting in minimal impacts to airspace from HRC training operations.

## 12 **Major Exercises**

13 Major Exercises such as RIMPAC and USWEX include combinations of ongoing training  
14 operations. For PTA this includes LFX and SPECWAROPS. These types of training operations  
15 are confined to the special use airspace R-3103 located above the range associated with PTA.  
16 Air activity is controlled and coordinated by PTA Range Control. For training operations  
17 including 10 or more aircraft, the Bradshaw Army Airfield manager submits a NOTAM to  
18 Honolulu Flight Service Station to be published as a Honolulu Local NOTAM and as a Class D  
19 NOTAM. The Bradshaw Army Airfield manager provides this information to the airfield Air  
20 Traffic Information Service (U.S. Army Garrison, Hawaii, 1996).

21 RIMPAC planning conferences, which include coordination with the FAA, are conducted  
22 beginning in March of the year prior to each RIMPAC. Each of the USWEX training operations,  
23 up to six per year, will include coordination with the FAA well in advance of each 3- or 4-day  
24 exercise. The advanced planning and coordination with the FAA regarding scheduling of  
25 special use airspace and coordination of Navy training operations relative to en route airways  
26 and jet routes result in minimal impacts on airspace from Major Exercises.

### 27 **4.6.2.1.1.2 Alternative 1 (Airspace—Pohakuloa Training Area)**

#### 28 **Increased Tempo and Frequency of Training Operations**

29 Increased training operations could include additional LFXs at PTA. The total number of  
30 training operations that affect airspace could increase by approximately 29 percent above the  
31 No-action Alternative. No new airspace proposal or any modification to the existing controlled  
32 airspace would be required. The training operations would continue to use the existing special  
33 use airspace including the R-3103 Restricted Airspace and the Pele ATCAA shown on Figure  
34 3.6.2.1.1-1. By appropriately containing military activities within the Restricted Airspace and  
35 coordinating the use of the ATCAA area, non-participating traffic is advised or separated  
36 accordingly.

37 The increase in training operations under Alternative 1 would require an increase in coordination  
38 and scheduling by the Navy, Bradshaw Army Airfield and the FAA. The increase in training  
39 operations would be readily accommodated within the existing airspace. Consequently, there  
40 would be no airspace conflicts.

1 **HRC Enhancements**

2 HRC enhancements would include a new ground relay station to support the Large Area  
3 Tracking Range. The relay station would be added to an existing building. Use of the new  
4 ground relay station would not require control of the airspace above this land area.

5 **Major Exercises**

6 Major Exercises such as RIMPAC and USWEX include combinations of ongoing training  
7 operations. For PTA this includes LFX and SPECWAROPS. These types of training operations  
8 are confined to the special use airspace R-3103 located above the range associated with PTA.  
9 Air activity is controlled and coordinated by PTA Range Control. For training operations  
10 including 10 or more aircraft, the Bradshaw Army Airfield manager submits a NOTAM to  
11 Honolulu Flight Service Station to be published as a Honolulu Local NOTAM and as a Class D  
12 NOTAM. The Bradshaw Army Airfield manager provides this information to the airfield Air  
13 Traffic Information Service (U.S. Army Garrison, Hawaii, 1996).

14 RIMPAC planning conferences, which include coordination with the FAA, are conducted  
15 beginning in March of the year prior to each RIMPAC. The increase from one aircraft carrier to  
16 two during RIMPAC under Alternative 1 would require a minor increase in coordination and  
17 scheduling by the Navy and FAA. Each of the USWEX training operations, up to six per year,  
18 will include coordination with the FAA well in advance of each 3- or 4-day exercise. The  
19 advance planning and coordination with the FAA regarding scheduling of special use airspace  
20 and coordination of Navy training operations relative to en route airways and jet routes result in  
21 minimal impacts on airspace from Major Exercises.

22 **4.6.2.1.1.3 Alternative 2 (Airspace—Pohakuloa Training Area)**

23 **Increased Tempo and Frequency of Training Operations**

24 Increased tempo and frequency of training operations could result in additional LFXs at PTA.  
25 The total number of training operations that affect airspace could increase by approximately 48  
26 percent above the No-action Alternative. No new airspace proposal or any modification to the  
27 existing controlled airspace would be required. The training operations would continue to use  
28 the existing special use airspace including the R-3103 Restricted Airspace and the Pele ATCAA  
29 shown on Figure 3.6.2.1.1-1. By appropriately containing military activities within the Restricted  
30 Airspace and coordinating the use of the ATCAA area, non-participating traffic is advised or  
31 separated accordingly.

32 The increase in training operations under Alternative 1 would require an increase in coordination  
33 and scheduling by the Navy, Bradshaw Army Airfield, and the FAA. The increase in training  
34 operations would be accommodated within the existing airspace. Consequently, there would be  
35 no airspace conflicts.

36 **Additional Major Exercises—Multiple Strike Group Training**

37 In addition to RIMPAC and USWEX, Alternative 2 includes a Multiple Strike Group training  
38 exercise that could include additional LFXs at PTA. The advance planning and coordination  
39 with the FAA regarding scheduling of special use airspace, and coordination of Navy training  
40 operations relative to en route airways and jet routes result in minimal impacts on airspace from  
41 Major Exercises. The use of three aircraft carriers during a Major Exercise would require an

1 increase in coordination and scheduling by the Navy, Bradshaw Army Airfield, and the FAA.  
2 The increased training operations would be accommodated within the existing airspace.

### 3 **4.6.2.1.2 Biological Resources—Pohakuloa Training Area**

#### 4 **4.6.2.1.2.1 No-action Alternative (Biological Resources—Pohakuloa Training Area)**

##### 5 **HRC Training Operations and Major Exercises**

###### 6 *Vegetation*

7 LFXs, which are confined to the Impact Area, are conducted at PTA as part of ongoing training.  
8 RIMPAC and USWEX Strike Warfare includes Bombing and Air-to-Ground Gunnery Exercises  
9 (GUNEX) are also confined to the Impact Area. Air-to-Ground GUNEX involve helicopter crews  
10 fire guns against stationary land targets for live fire target practice. SPECWAROPS primarily  
11 use existing trails and roads. Personnel review training overlays that identify the insertion points  
12 and any nearby restricted areas. Although the Impact Area has not been surveyed for biological  
13 resources—due to the risks posed by unexploded ordnance—impacts from ordnance and other  
14 munitions landing over a long period of use have most likely already degraded the habitat. In  
15 addition, numerous ordnance-related fires over the years have tended to favor non-native  
16 invasive species over Native Hawaiian species, which generally are not fire-adapted and  
17 recover slowly after a fire.

18 Military activities, other than fire, seem to have had little impact on rare plants. Approximately  
19 25 percent of the installation is covered by lava, with little vegetative development. Dust from  
20 training operations can also negatively impact a threatened or endangered species, as listed in  
21 Table 3.6.2.1.2-1, if it is growing close to a road. However, many of the threatened and  
22 endangered plants inhabit remote areas of PTA with little or no chance of being impacted by  
23 military activity. (Shaw, 1997)

24 An Integrated Natural Resources Management Plan (INRMP) has been prepared to address  
25 protection and management of resources for PTA. Compliance with this plan and the  
26 Ecosystem Management Plan during training operations and exercises further reduces the  
27 potential for effects of training operations on biological resources and limits the potential for  
28 introduction of invasive weed plant species. The risk of impacting threatened or endangered  
29 plants can be further minimized by locating training operations away from areas with these  
30 species whenever possible. The effects of continued training operations on biological resources  
31 within the Impact Area will be minor in the context of the overall quantity of ordnance deliveries  
32 to this area from various training operations.

33 Air-to-surface missile training as part of strike warfare at PTA is confined to the special use  
34 airspace R-3103 associated with Bradshaw Army Airfield and the impact area associated with  
35 PTA. Air activity is coordinated by PTA Range Control. The following restrictions from the PTA  
36 External Standard Operating Procedures (SOPs) are applicable to all training areas on the  
37 installation:

- 38 • All off-road driving is prohibited
- 39 • All fenced areas are off-limits
- 40 • All lava tubes and sinkholes are off-limits
- 41 • Digging is only permitted in previously disturbed areas

1  
2 *Wildlife*  
3 The U.S. National Park Service, through an interagency agreement, fenced approximately 6,500  
4 acres to keep feral goats, sheep, and pigs from disturbing native habitat and listed species. The  
5 U.S. Department of Agriculture, Wildlife Services staff removes the feral animals. Explosive  
6 ordnance disposal specialists assist in these efforts due to safety considerations. (U.S. Army  
7 Corps of Engineers, 2001)

8 For missile and weapons systems, PTA Safety establishes criteria for the safe execution of the  
9 test operation in the form of Range Safety Approval and Range Safety Operational Plan  
10 documents. These plans are required for all weapon and target systems using PTA. The plans  
11 include the allowable launch and flight conditions, and flight control methods necessary to  
12 contain the missile flight and impacts within the predetermined impact hazard areas. PTA  
13 safety criteria also provide for protection of biological and cultural resources. The impact area is  
14 in a barren and isolated area with restricted access.

15 Military readiness activities are exempt from the take prohibitions of the Migratory Bird Treaty  
16 Act (MBTA) provided they do not result in a significant adverse effect on the population of a  
17 migratory bird species. The low probability of one of the training operations being capable of  
18 affecting a population of the migratory species that occur in the PTA area should exempt the  
19 HRC from the take prohibitions.

20 Native birds common to PTA, such as honeycreepers (`apapane and Hawaiian `amakihi), can  
21 be startled or flushed by intermittent noise associated with training operations. The `io  
22 (Hawaiian hawk) and nene, which are the only endangered forest birds seen on PTA, can also  
23 be startled or flushed. These effects, however, are temporary and the birds continue to return to  
24 the area following completion of training operations. Compliance with the PTA INRMP and  
25 Ecosystem Management Plan during training operations can further reduce the potential for  
26 effects on wildlife. The continuance of current training operations is not likely to adversely affect  
27 the long-term well-being, reproduction rates, or survival of these native or listed species.

#### 28 *Environmentally Sensitive Habitat*

29 The U.S. Fish and Wildlife Service (USFWS) determined that critical habitat for the listed plant  
30 species was not necessary since the PTA INRMP and Ecosystem Management Plan  
31 encompass management actions that will benefit the listed species for which critical habitat was  
32 originally proposed (Federal Register, 2003b).

33 The critical habitat established for the endangered palila, a finch-billed honeycreeper, is located  
34 outside the areas likely to be affected by the current training operations.

#### 35 **4.6.2.1.2.2 Alternative 1 (Biological Resources—Pohakuloa Training Area)**

##### 36 **Increased Tempo and Frequency of Training Operations and Major Exercises**

37 Air-to-Ground Gunnery would increase in number from 16 per year to 18 (See Table 2.2.3.1-1),  
38 The likelihood of a similar increase in adverse impacts to biological resources would be small  
39 since different areas of PTA's Impact Area would be used for each independent activity, and  
40 only two additional exercises are being added per year. Other training at PTA will not increase;  
41 LFX will remain at three per year.

1 *Vegetation*

2 Training operations would continue to take place at existing locations; no expansion of the area  
3 would be involved. Compliance with the PTA INRMP and Ecosystem Management Plan during  
4 increased training operations would minimize the potential for effects on vegetation, as well as  
5 limit the potential for introduction of invasive plant species. The risk of impacting threatened or  
6 endangered plants could be further minimized by continuing to locate training operations away  
7 from areas with native, threatened, or endangered plant species, whenever possible.

8 *Wildlife*

9 Impacts to wildlife would be similar to those described previously for the No-action Alternative.  
10 The increased training operations would comply with the PTA INRMP and Ecosystem  
11 Management Plan, which could further reduce the potential for effects on wildlife.

12 *Environmentally Sensitive Habitat*

13 The critical habitat established for the endangered palila is located outside the areas likely to be  
14 affected by the increased training and Major Exercises.

15 **HRC Enhancements**

16 To support the Large Area Tracking Range, a new ground relay station would be added to PTA.  
17 The relay station would not require new construction, but would be added to an existing  
18 building. No impacts to wildlife other than temporary startling by additional personnel involved  
19 in the installation are anticipated.

20 **4.6.2.1.2.3 Alternative 2 (Biological Resources—Pohakuloa Training Area)**

21 **Increased Tempo and Frequency of Training Operations**

22 Under this portion of Alternative 2, the tempo of training operations would be increased and  
23 frequency of operations could also be increased. Wildlife exhibits a wide variety of responses to  
24 noise. Some species are more sensitive to noise disturbances than others. The intensity and  
25 duration of wildlife startle responses decrease with the number and frequency of exposures.  
26 The tendency of a bird to flush from a nest declines with habituation to the noise, although the  
27 startle response is not completely eliminated (U.S. Fish and Wildlife Service, 2003c).

28 **Additional Major Exercises—Multiple Strike Group Training**

29 Up to three Strike Groups would visit the area for up to 10 days per exercise. The exercises  
30 proposed would be similar to those occurring during RIMPAC and USWEX, with impacts to  
31 biological resources similar to those described above.

32 **4.6.2.1.3 Cultural Resources—Pohakuloa Training Area**

33 **4.6.2.1.3.1 No-action Alternative (Cultural Resources—Pohakuloa Training Area)**

34 **HRC Training Operations and Major Exercises**

35 *Live Fire Exercises (LFX)*

36 LFXs involve activities within the PTA impact area and along designated, heavily disturbed  
37 roads and trails.

1 Approximately 30 percent of PTA has been surveyed for cultural resources, and approximately  
2 300 archaeological and traditional Hawaiian sites have been identified; some of the sites are  
3 eligible for inclusion in the National Register of Historic Places. Some of the identified sites are  
4 located in proximity to existing trails and roads; however, none are located within the impact  
5 training area (U.S. Army Garrison, Hawaii, and U.S. Army Corps of Engineers, 1998; U.S.  
6 Department of the Navy, 2002a). Personnel review training overlays that identify insertion  
7 points and nearby restricted areas and sensitive biological and cultural resource areas are  
8 avoided (U.S. Department of the Navy, 2002a). In the event unexpected cultural materials are  
9 encountered (particularly human remains) during LFX, activities in the immediate vicinity of the  
10 find will cease and the Schofield Barracks Cultural Resources Manager will be contacted. In  
11 addition, if the alignment of trails requires alteration or grading, or other ground disturbing  
12 activities are required, coordination with the Schofield Barracks Cultural Resources Manager  
13 would be required. Because of the required preplanning of LFX activities and the  
14 implementation of the described mitigation measures, no impacts are expected to cultural  
15 resources at PTA.

16 The Army will continue to provide Native Hawaiians with access to traditional religious and  
17 cultural properties, in accordance with the American Indian Religious Freedom Act and EO  
18 13007, on a case-by-case basis.

#### 19 **4.6.2.1.3.2 Alternative 1 (Cultural Resources—Pohakuloa Training Area)**

##### 20 **Increased Tempo and Frequency of Training Operations and Major Exercises**

21 Training operations and Major Exercises under Alternative 1 could increase the potential for  
22 impacts to occur to cultural resources in sensitive areas. For PTA, this would be most apparent  
23 along the roads and trails used for LFX, where there are identified archaeological sites. With  
24 continued implementation of mitigations specified for the No-action Alternative, no impacts  
25 would be anticipated for the increase in tempo and number of training operations that make up  
26 Alternative 1. If no grading, widening, or other alteration of the roads and trails widths or  
27 alignments is required, the increased potential for adverse effects is minimal. However, if  
28 alteration to the roads and trails is necessary, coordination with the Schofield Barracks Cultural  
29 Resources Manager would be completed prior to the changes (see above analysis under the  
30 No-action Alternative for LFX).

##### 31 **HRC Enhancements**

###### 32 *Large Area Tracking Range Upgrade*

33 To support Large Area Tracking Range, a new ground relay station would be added to PTA.  
34 The relay station would not require new construction, but would be added to an existing  
35 building. A 2002 historic evaluation of the 129 buildings and structures with the cantonments at  
36 PTA and Bradshaw Army Airfield identified 107 potential historic buildings. Twenty of the  
37 facilities were recommended for retention; however, the report had not been reviewed by the  
38 Hawaii State Historic Preservation Officer (Godby, 2007). Once the specific building has been  
39 identified for erection of the relay station, coordination with the PTA cultural resources manager  
40 will be required to confirm the eligibility of the facility and determine any potential impacts.

1 **4.6.2.1.3.3 Alternative 2 (Cultural Resources—Pohakuloa Training Area)**

2 **Increased Tempo and Frequency of Training Operations**

3 The tempo and frequency of training operations over and above Alternative 1 could increase the  
4 potential for impacts to cultural resources in sensitive areas. See discussion under Alternative  
5 1. As with Alternative 1, the continued use of mitigations mentioned earlier would minimize  
6 potential impacts to cultural resources.

7 **Additional Major Exercises—Multiple Strike Group Training**

8 Elements of Major Exercises with the potential to affect cultural resources have been analyzed  
9 above for the No-action Alternative and Alternative 1.

10 **4.6.2.1.4 Health and Safety—Pohakuloa Training Area**

11 **4.6.2.1.4.1 No-action Alternative (Health and Safety—Pohakuloa Training Area)**

12 Under the No-action Alternative, existing training operations at PTA will continue and there will  
13 be no adverse impacts to health and safety. PTA takes every reasonable precaution during  
14 planning and execution of training operations to prevent injury to human life or property.

15 **HRC Training Operations**

16 Under the No-action Alternative, LFXs, which are confined to the Impact Area, are conducted at  
17 PTA as part of ongoing HRC training operations. Every reasonable precaution is taken during  
18 the planning and execution of training operations to prevent injury to human life or damage to  
19 property. Specific safety plans have been developed to ensure that each training operation is in  
20 compliance with applicable policy and regulations, and to ensure that the general public and  
21 range personnel and assets are provided an acceptable level of safety. The impact area is in  
22 an isolated area with restricted access located away from the civilian population. Safety and  
23 health precautions are covered in external SOPs and are briefed by the PTA Operations Center.

24 **Major Exercises**

25 Strike Warfare Exercises, LFX, and SPECWAROPS Exercises routinely occur at PTA. Every  
26 reasonable precaution is taken during the planning and execution of training operations to  
27 prevent injury to human life or damage to property. Specific safety plans have been developed  
28 to ensure that each training operation is in compliance with applicable policy and regulations  
29 and to ensure that the general public and range personnel and assets are provided an  
30 acceptable level of safety.

31 For missile and weapons systems, the PTA Safety Office establishes criteria for the safe  
32 execution of training operations in the form of Range Safety Approval and Range Safety  
33 Operational Plan documents, which are required for all weapon and target systems using PTA.  
34 These include the allowable launch and flight conditions and flight control methods to contain  
35 the missile flight and impacts within the predetermined impact hazard areas that have been  
36 determined to be clear of nonessential personnel and aircraft.

37 The impact area is in an isolated area with restricted access located away from the civilian  
38 population. Safety and health precautions are covered in external SOPs and are briefed by the

1 PTA Operations Center. Impacts from the continuing Major Exercises at PTA on safety and  
2 health are not anticipated.

#### 3 **4.6.2.1.4.2 Alternative 1 (Health and Safety—Pohakuloa Training Area)**

##### 4 **Increased Tempo and Frequency of Training Operations and Major Exercises**

5 Alternative 1 would include up to six USWEX per year, the RIMPAC biennial exercise, including  
6 two Strike Groups conducting training operations simultaneously in the HRC, and other  
7 continuing training operations, an increase of approximately 9 percent. While training  
8 operations would increase in number, it is anticipated that existing SOPs and specific safety  
9 plans that have been developed would ensure that the general public and range personnel and  
10 assets are provided an acceptable level of safety.

##### 11 **HRC Enhancements**

12 Under Alternative 1 an upgrade to the existing Large Area Tracking Range would include  
13 modifications to existing facilities at the PTA. No construction would be required, and the  
14 proposed minor modifications would be to expand training operation capability. Existing SOPs  
15 and specific safety plans have been developed and would ensure that the general public and  
16 range personnel and assets are provided an acceptable level of safety.

#### 17 **4.6.2.1.4.3 Alternative 2 (Health and Safety—Pohakuloa Training Area)**

##### 18 **Increased Tempo and Frequency of Training Operations**

19 Under Alternative 2, the tempo of training operations would be increased and the frequency of  
20 training operations could also increase. Although the number of training operations would  
21 increase, the types of training operations would remain the same.

##### 22 **Additional Major Exercises—Multiple Strike Group Training**

23 Up to three Strike Groups would be added to the Major Exercises occurring in the HRC. These  
24 ships would not be home ported in Hawaii, but would be in the area for up to 10 days per  
25 exercise. The exercises proposed would be similar to those occurring during Major Exercises,  
26 with potential impacts to health and safety at PTA similar to those described in Section  
27 4.6.2.1.4.1. Existing SOPs and specific safety plans that have been developed would ensure  
28 that the general public and range personnel and assets are provided an acceptable level of  
29 safety.

#### 30 **4.6.2.1.5 Noise—Pohakuloa Training Area**

31 Impacts of noise on human receptors are evaluated based on whether or not a noise event  
32 would exceed Department of Defense (DoD) or Occupational Safety and Health Administration  
33 guidelines. Potential noise effects on wildlife are discussed in Section 4.6.2.1.2, Biological  
34 Resources.

#### 35 **4.6.2.1.5.1 No-action Alternative (Noise—Pohakuloa Training Area)**

##### 36 **HRC Training Operations**

37 Under the No-action Alternative, LFXs, which are confined to the Impact Area, are conducted at  
38 PTA as part of ongoing HRC training operations. PTA maintains a hearing protection program

1 that includes monitoring the hearing of personnel exposed to high noise levels and identifying  
2 and posting notification of noise hazard areas. Personnel required to work in noise hazard  
3 areas are required to use appropriate hearing protection and to bring noise levels within  
4 established safety levels. The impact area is in an isolated area with restricted access located  
5 away from the civilian population.

## 6 **Major Exercises**

7 Major Exercises such as RIMPAC and USWEX include combinations of ongoing training  
8 operations. For PTA this includes LFX and SPECWAROPS. LFX and SPECWAROPS typically  
9 occur at PTA as part of Major Exercises. There will be no increase to existing noise levels  
10 during the continuing exercises listed above. The total perceived noise will be the combination  
11 of ambient noise and noise from the exercises. Noise sources from the exercise will include the  
12 use of helicopters and small arms munitions.

### 13 **4.6.2.1.5.2 Alternative 1 (Noise—Pohakuloa Training Area)**

#### 14 **Increased Tempo and Frequency of Training Operations and Major Exercises**

15 Alternative 1 would include up to six USWEX per year, the RIMPAC biennial exercise, including  
16 two Strike Groups conducting training operations simultaneously in the HRC, and other  
17 continuing training operations, an increase of approximately 9 percent. While training  
18 operations would increase in number, the types of operations would be the same and there  
19 would be no anticipated increase to the level of noise produced.

#### 20 **HRC Enhancements**

21 Under Alternative 1 an upgrade to the existing Large Area Tracking Range would include  
22 modifications to existing facilities at the PTA. No construction would be required, and the  
23 proposed minor modifications would be to expand training operation capability. The Large Area  
24 Tracking Range upgrade would not produce additional noise levels as the proposed expansion  
25 would be contained within existing facilities at PTA.

### 26 **4.6.2.1.5.3 Alternative 2 (Noise—Pohakuloa Training Area)**

#### 27 **Increased Tempo and Frequency of Training Operations**

28 Under Alternative 2, the tempo of training operations would be increased and the frequency of  
29 training operations could also increase. Although the number of training operations would  
30 increase, the types of training operations would remain the same and there would be no  
31 anticipated increase in the level of noise produced.

#### 32 **Additional Major Exercises—Multiple Strike Group Training**

33 Up to three Strike Groups would be added to the Major Exercises occurring in the HRC. These  
34 ships would not be home ported in Hawaii, but would be in the area for up to 10 days per  
35 exercise. The exercises proposed would be similar to those occurring during RIMPAC and  
36 USWEX.

## 1 **4.6.2.2 BRADSHAW ARMY AIRFIELD**

2 Table 4.6.2.2-1 lists ongoing training operations for the No-action Alternative and proposed  
3 training operations for Alternatives 1 and 2 at Bradshaw Army Airfield. Alternative 2 is the  
4 preferred alternative.

**Table 4.6.2.2-1. Training Operations Occurring at Bradshaw Army Airfield**

Training Operations	
• Special Warfare Operations (SPECWAROPS)	• Command and Control
• Air Operations	• Aircraft Support Operations

5  
6 A review of the 13 resources against program training operations under the No-action  
7 Alternative, Alternative 1, or Alternative 2 was performed for Bradshaw Army Airfield. Initial  
8 analysis indicated that the proposed alternatives would not result in either short- or long-term  
9 impacts to air quality, geology and soils, hazardous materials and hazardous waste, health and  
10 safety, land use, noise, socioeconomics, transportation, utilities, and water resources.

11 No significant air emissions would be generated from localized use of rotary wing aircraft or use  
12 of diesel emergency generators at Bradshaw Army Airfield. There would be no ground-  
13 disturbing activities or building modifications that could affect geology and soils at Bradshaw  
14 Army Airfield. The use of hazardous materials and generation of hazardous waste at this site  
15 would be in accordance with applicable regulations (see Appendix C).

16 Training operations at Bradshaw Army Airfield would be performed in accordance with all  
17 applicable safety regulations (see Appendix C). There would be no impact to socioeconomics,  
18 transportation, utilities, and land use because the training population is transient, all services  
19 (food, transportation, lodging, fuel) are supplied by the military, and training sites remain the  
20 same for each alternative. Training operations would not generate any waste streams that  
21 could impact local water quality.

### 22 **4.6.2.2.1 Airspace—Bradshaw Army Airfield**

#### 23 **4.6.2.2.1.1 No-action Alternative (Airspace—Bradshaw Army Airfield)**

##### 24 **HRC Training Operations**

25 HRC training operations can include localized use of rotary wing aircraft within predefined areas  
26 for reconnaissance and survey inserts. Helicopter raids will involve approximately six  
27 helicopters over a 2- to 6-hour period. Airspace use within the Bradshaw Army Airfield Class D  
28 airspace will be coordinated with the PTA Range Control, minimizing potential impacts on  
29 airspace users.

##### 30 **Major Exercises**

31 Major Exercises such as RIMPAC include training operations as described above. Helicopter  
32 raids will involve approximately six helicopters over a 2- to 6-hour period. Airspace use within  
33 the Bradshaw Army Airfield Class D airspace will be coordinated with the PTA Range Control.  
34 RIMPAC planning conferences, which include coordination with the FAA, are conducted

1 beginning in March of the year prior to each RIMPAC. The advanced planning and coordination  
2 with the FAA and Bradshaw Army Airfield regarding scheduling of special use airspace and  
3 coordination of Navy training operations relative to en route airways and jet routes result in  
4 minimal impacts on airspace from major exercises.

5 **4.6.2.2.1.2 Alternative 1 (Airspace—Bradshaw Army Airfield)**

6 **Increased Tempo and Frequency of Training Operations**

7 Increased training operations could result in minor additional use of rotary wing aircraft within  
8 predefined areas for reconnaissance and survey inserts. Helicopter raids will involve  
9 approximately six helicopters over a 2- to 6-hour period. Airspace use within the Bradshaw  
10 Army Airfield Class D airspace will be coordinated with the PTA Range Control, minimizing  
11 potential impacts on airspace users.

12 **Major Exercises**

13 Major Exercises such as RIMPAC include training operations as described above. Helicopter  
14 raids will involve approximately six helicopters over a 2- to 6-hour period. Airspace use within  
15 the Bradshaw Army Airfield Class D airspace will be coordinated with the PTA Range Control.  
16 RIMPAC planning conferences, which include coordination with the FAA, are conducted  
17 beginning in March of the year prior to each RIMPAC. The advanced planning and coordination  
18 with the FAA and Bradshaw Army Airfield regarding scheduling of special use airspace and  
19 coordination of Navy training operations relative to en route airways and jet routes result in  
20 minimal impacts on airspace from Major Exercises.

21 **4.6.2.2.1.3 Alternative 2 (Airspace—Bradshaw Army Airfield)**

22 **Increased Tempo and Frequency of Training Operations**

23 Increased tempo and frequency of training operations could result in minor additional use of  
24 rotary wing aircraft within predefined areas for reconnaissance and survey inserts. Helicopter  
25 raids will involve approximately six helicopters over a 2- to 6-hour period. Airspace use within  
26 the Bradshaw Army Airfield Class D airspace will be coordinated with the PTA Range Control,  
27 minimizing potential impacts on airspace users.

28 **Additional Major Exercises—Multiple Strike Group Training**

29 In addition to RIMPAC and USWEX, a Multiple Strike Group training exercise could include  
30 minor additional use of rotary wing aircraft within predefined areas for reconnaissance and  
31 survey inserts. Airspace use within the Bradshaw Army Airfield Class D airspace will be  
32 coordinated with the PTA Range Control. Advanced planning and coordination with the FAA  
33 and Bradshaw Army Airfield regarding the Multiple Carrier Strike Group exercise and scheduling  
34 of special use airspace and coordination of Navy training operations relative to en route airways  
35 and jet routes result in minimal impacts on airspace from Major Exercises.

36

1 **4.6.2.2.2 Biological Resources—Bradshaw Army Airfield**

2 **4.6.2.2.2.1 No-action Alternative (Biological Resources—Bradshaw Army Airfield)**

3 **HRC Training Operations and Major Exercises**

4 *Vegetation*

5 Current use of the Bradshaw Army Airfield includes Command and Control, Aircraft Support  
6 Operations, and SPECWAROPS (generally helicopter raids and survey and reconnaissance  
7 insertions). These training operations are limited in scope and are not anticipated to impact the  
8 areas beyond the airfield itself. All personnel entering Bradshaw Army Airfield will be briefed on  
9 the guidelines set forth in the PTA Ecosystem Management Plan. Adherence to these  
10 guidelines will limit the potential for introduction of invasive plant species and reduce any risk of  
11 fire or damage due to training operations.

12 *Wildlife*

13 Since the area has been cleared for the runway, only small mammals and birds are likely to be  
14 in the region of influence. Current training operations are limited in scope and are not  
15 anticipated to impact the areas beyond the airfield itself.

16 Aircraft Support Operations include space for various types of aircraft and equipment for  
17 refueling and maintenance. Aircraft Operations are a part of daily and Major Exercises. These  
18 types of exercises are part of the ongoing activities at Bradshaw and would result in potentially  
19 temporarily startling wildlife.

20 SPECWAROPS activities include special reconnaissance, reconnaissance and surveillance,  
21 combat search and rescue, and direct action. Reconnaissance inserts and beach surveys are  
22 often conducted before large-scale amphibious landings and can involve several units gaining  
23 covert access. The exercises involve fewer than 20 troops and have minimal interaction with  
24 the environment, since one of the purposes of the exercise is to operate undetected. During  
25 amphibious inserts the troops review training overlays that identify the insertion points and any  
26 nearby restricted areas. Sensitive biological resource areas are avoided by the SPECWAROPS  
27 troops. (U.S. Department of the Navy, 2002a)

28 Although the potential exists for transient threatened or endangered birds to be in the area, such  
29 occurrences are considered rare, especially at the airfield. Military readiness activities are  
30 exempt from the take prohibitions of the MBTA provided they do not result in a significant  
31 adverse effect on the population of a migratory bird species. The low probability of one of the  
32 training operations being capable of affecting a population of the migratory species that occur in  
33 the Makua area should exempt the HRC from the take prohibitions. Compliance with the PTA  
34 INRMP and Ecosystem Management Plan during training operations and exercises reduces the  
35 potential for adverse effects to wildlife.

36 *Environmentally Sensitive Habitat*

37 Critical habitat for the endangered palila established both north and southeast of Bradshaw  
38 Army Airfield will not be affected by training operations.

1 **4.6.2.2.2 Alternative 1 (Biological Resources—Bradshaw Army Airfield)**

2 **Increased Tempo and Frequency of Training Operations**

3 Alternative 1 (See Table 2.2.3.1-1) would not include an increase in training operations, but the  
4 tempo of training operations may increase. The likelihood of a similar increase in adverse  
5 impacts to biological resources is small since the area has been cleared for the runway and only  
6 small mammals and birds are likely to be in the affected areas.

7 *Vegetation*

8 Training operations would continue to take place in current existing locations; no expansion of  
9 the area would be involved. Compliance with the PTA INRMP and Ecosystem Management  
10 Plan during these increased training operations should minimize the effects on vegetation, as  
11 well as limit the potential for introduction of weed plant species. The risk of impacting  
12 threatened or endangered plants could be minimized by continuing to locate training operations  
13 away from areas with native, threatened, or endangered plant species whenever possible.

14 *Wildlife*

15 There is additional suitable habitat nearby for birds such as the endangered 'io and nene to use  
16 if they temporarily leave the area affected by an increase in training operations. It is not likely  
17 that a bird or any other species of wildlife on Bradshaw Army Airfield would be injured or killed  
18 since compliance with the PTA INRMP and Ecosystem Management Plan help to reduce the  
19 potential for effects on wildlife. An increase in training operations is unlikely to adversely affect  
20 the long-term well-being, reproduction rates, or survival of these native or listed birds or other  
21 forms of wildlife in the area.

22 *Environmentally Sensitive Habitat*

23 The critical habitat established for the endangered palila is located outside the areas likely to be  
24 affected by the increased training operations.

25 **4.6.2.2.3 Alternative 2 (Biological Resources—Bradshaw Army Airfield)**

26 **Increased Tempo and Frequency of Training Operations**

27 Under Alternative 2, the tempo of training operations would be increased and the frequency of  
28 training operations could also increase. The intensity and duration of wildlife startle responses  
29 decrease with the number and frequency of exposures. The tendency of a bird to flush from a  
30 nest declines with habituation to the noise, although the startle response is not completely  
31 eliminated (U.S. Fish and Wildlife Service, 2003c).

32 **Additional Major Exercises—Multiple Strike Group Training**

33 Up to three Strike Groups would visit the area for up to 10 days per exercise. The exercises  
34 proposed would be similar to those occurring during RIMPAC and USWEX, with impacts to  
35 biological resources similar to those described above.

1 **4.6.2.2.3 Cultural Resources—Bradshaw Army Airfield**

2 **4.6.2.2.3.1 No-action Alternative (Cultural Resources—Bradshaw Army Airfield)**

3 **HRC Training Operations and Major Exercises**

4 There are no training operations or Major Exercises actions with the potential to affect cultural  
5 resources at Bradshaw Army Airfield.

6 **4.6.2.2.3.2 Alternative 1 (Cultural Resources—Bradshaw Army Airfield)**

7 **Increased Tempo and Frequency of Training Operations**

8 For actions associated with Alternative 1, there are no training operations with the potential to  
9 affect cultural resources at Bradshaw Army Airfield.

10 **HRC Enhancements**

11 *Large Area Tracking Range Upgrade*

12 Potential impacts to buildings and structures at Bradshaw Army Airfield are the same as  
13 described for PTA (see Section 4.6.2.1.3.2).

14 **4.6.2.2.3.3 Alternative 2 (Cultural Resources—Bradshaw Army Airfield)**

15 **Increased Tempo and Frequency of Training Operations**

16 There are no training operations with the potential to affect cultural resources at Bradshaw Army  
17 Airfield.

18 **Additional Major Exercises—Multiple Strike Group Training**

19 For actions associated with Alternative 2, there are no Major Exercises involving multiple Strike  
20 Group training with the potential to affect cultural resources at Bradshaw Army Airfield.

1 **4.6.2.3 KAWAIHAE PIER**

2 Table 4.6.2.3-1 lists ongoing training operations for the No-action Alternative and proposed  
3 training operations for Alternatives 1 and 2 at Kawaihae Pier. Alternative 2 is the preferred  
4 alternative.

**Table 4.6.2.3-1. Training Operations Occurring at Kawaihae Pier**

Training Operations	
• Expeditionary Assault	• Special Warfare Operations (SPECWAROPS)

5

6 A review of the 13 resources against training operations from site operations under the No-  
7 action Alternative, Alternative 1, or Alternative 2 was performed for Kawaihae Pier. The  
8 following resources are not addressed because the proposed alternatives have no potential to  
9 adversely affect such resources: air quality, airspace, cultural resources, geology and soils,  
10 hazardous material and waste, health and safety, land use, noise, socioeconomics,  
11 transportation, utilities, and water resources.

12 No air emissions would be generated from Kawaihae Pier training operations unless use of  
13 diesel generators would be required for backup power. Use of Kawaihae Pier does not require  
14 control of the airspace above this land area. Kawaihae Pier has no prehistoric and historic  
15 artifacts, archaeological sites, historic buildings or structures, or traditional resources that could  
16 be affected by HRC training operations. Because no ground disturbance or building  
17 modifications would occur as a result of proposed training operations, there would be no impact  
18 to geology and soils.

19 Training operations associated with this site adhere to policies and regulations governing  
20 hazardous materials and waste, health and safety, and noise, as discussed in Appendix C.  
21 There are no concerns with noise as it relates to HRC training operations at Kawaihae Pier.  
22 There would be no impact to socioeconomics, transportation, utilities, and land use because the  
23 training population is transient, all services (food, transportation, lodging, fuel) are supplied by  
24 the military, and training sites remain the same for each alternative. Training operations would  
25 not generate any waste streams that could impact local water quality.

26 **4.6.2.3.1 Biological Resources—Kawaihae Pier**

27 **4.6.2.3.1.1 No-action Alternative (Biological Resources—Kawaihae Pier)**

28 **HRC Training Operations and Major Exercises**

29 *Vegetation*

30 Amphibious landings are restricted to specific areas of designated beaches. The small beach  
31 area located immediately adjacent to the pier contains no vegetation. No threatened or  
32 endangered vegetation has been identified in the Kawaihae Harbor area (U.S. Department of  
33 the Navy, 2002a). Vehicles are restricted to existing roads, trails, and other disturbed areas and  
34 do not use undisturbed, off-road areas where they might harm vegetation. Expeditionary  
35 Assault landing personnel are briefed on existing procedures for entering the harbor and  
36 unloading equipment and supplies at the boat ramp. These procedures include inspections by  
37 appropriate Federal and/or State agencies of vehicles and equipment from foreign countries to

1 prevent the introduction of invasive or alien species. A recycling wash rack is used to clean  
2 foreign country vehicles and equipment prior to back-loading to control the spread of alien  
3 species.

#### 4 *Wildlife*

5 No threatened or endangered species have been identified in the Kawaihae Harbor area (U.S.  
6 Department of the Navy, 2002a). The potential for adverse effects on biological resources  
7 related to offloading and loading vehicles and equipment is minimal. These training operations  
8 use existing ramps and a small open beach adjacent to the ramps. Reef or coral areas will be  
9 avoided. Expeditionary Assault landing personnel are briefed on existing procedures for  
10 entering the harbor and unloading equipment and supplies at the boat ramp. These procedures  
11 include inspections by appropriate Federal and/or State agencies of vehicles and equipment  
12 from foreign countries to prevent the introduction of alien species. A recycling wash rack is  
13 used to clean foreign country vehicles and equipment prior to back-loading to control the spread  
14 of alien species.

15 During SPECWAROPS Exercises, crews for amphibious inserts follow established procedures,  
16 such as having a designated lookout watching for other vessels, obstructions to navigation,  
17 marine mammals (whales or monk seals), or sea turtles. Personnel review training overlays  
18 that identify the insertion points and any nearby restricted areas; sensitive biological resource  
19 areas are avoided.

#### 20 *Environmentally Sensitive Habitat*

21 No critical habitat has been designated at Kawaihae Pier.

#### 22 **4.6.2.3.1.2 Alternative 1 (Biological Resources—Kawaihae Pier)**

##### 23 **Increased Tempo and Frequency of Training Operations and Major Exercises**

24 No increases in training operations and Major Exercises at Kawaihae Pier are expected.  
25 Impacts would be the same as those discussed above for the No-action Alternative.

#### 26 **4.6.2.3.1.3 Alternative 2 (Biological Resources—Kawaihae Pier)**

##### 27 **Increased Tempo and Frequency of Training Operations**

28 Under Alternative 2, the tempo of training operations would be increased and the frequency of  
29 training operations could also increase. The intensity and duration of wildlife startle responses  
30 decrease with the number and frequency of exposures. The tendency of a bird to flush from a  
31 nest declines with habituation to the noise, although the startle response is not completely  
32 eliminated (U.S. Fish and Wildlife Service, 2003c).

##### 33 **Additional Major Exercises—Multiple Strike Group Training**

34 Up to three Strike Groups would visit the area for up to 10 days per exercise. The exercises  
35 would be similar to those occurring during RIMPAC and USWEX, with impacts to biological  
36 resource similar to those described above for the No-action Alternative.

37