
CHAPTER 10

**ENVIRONMENTAL JUSTICE AND
OTHER REQUIRED NEPA ANALYSES**

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CHAPTER 10

ENVIRONMENTAL JUSTICE AND OTHER REQUIRED NEPA ANALYSES

10.1 INTRODUCTION

In addition to the analyses discussed in Chapters 4 through 9, NEPA requires additional evaluation of the project's impacts with regard to the following:

- Disproportionate impacts on minority or low-income populations (also known as an environmental justice analysis);
- Significant unavoidable adverse impacts;
- The relationship between local short-term uses of the environment and long-term productivity; and
- Any irreversible or irretrievable commitment of resources.

10.2 ENVIRONMENTAL JUSTICE ANALYSIS

10.2.1 Overview of Environmental Justice Issues

On February 11, 1994, President Clinton issued EO 12898, entitled Federal Actions to Address Environmental Justice in Minority and Low-Income Populations. This order requires that “each federal agency make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities, on minority populations and low-income populations” (EO 12898, 59 FR 7629 [Section 1-101]). Environmental justice requires the fair treatment of all people regardless of race, color, national origin, or income level and that no group should bear a disproportionate share of the environmental cost or other burdens of federal, state, or local projects or programs. The Army has done the following to comply with the order:

- Met with the public, including the Native Hawaiian and other minority communities, in an extensive series of meetings and workshops, to learn public concerns and to identify significant issues for the Proposed Action;
- Gathered economic, racial, and demographic information generated to identify areas of low-income and high minority populations (those who are in the minority of the population of the US as a whole, consisting of Blacks or African Americans, Native Americans, Eskimos, Aleuts, Asians, Pacific Islanders, other, and two or more races) in and around the project area; and
- Assessed the alternatives for disproportionate impacts resulting from on-site activities associated with the Proposed Action.

Public Outreach

The closeness of the Hawaiian community presented an opportunity for USARHAW to reach out to numerous organizations to gather input on the NEPA process. The Army met with dozens of civic and community organizations from January 2002 through April 2003, including the Rotary and Chamber of Commerce, Military Affairs Committee, veterans groups, retired military, state and city government officials, congressional delegates, and neighborhood boards. Special interest groups, including Malu Aina Group and Waikiʻi Ranch Homeowners, the Office of Hawaiian Affairs, Royal Order of Kamehameha, and the Hawaiian Civic Clubs, were also asked for input into the NEPA process. Native Hawaiian translation services were made available at the public scoping meetings held in April 2002.

Additionally, as the NEPA process continues, the Army will update the general public, minority and Native Hawaiian communities, and interested parties on the project status by way of targeted mailings, news releases, television, radio, and print advertising, and Web site updates.

Ongoing consultation includes workshops with the Native Hawaiian community regarding impacts on cultural resources within the project area, in compliance with Section 106 of the NHPA. Organizations involved in this consultation process include the ACHP, OHA, Hawaiʻi SHPO, Hui Mālama I Nā Kūpuna O Hawaiʻi Nei, the Royal Order of Kamehameha, Mālama Mākua, Native Hawaiian community organizations and civic clubs, and elders in the Native Hawaiian community.

10.2.2 Summary of Environmental Justice Analysis

Racial and ethnic data for the state, Hawaiʻi County, and Honolulu County for 1990 and 2000 are illustrated in Table 10-1. The dominant ethnic group in 2000 in the state and both Hawaiʻi and Honolulu counties was the Asian and Pacific Islander group, with 51.0, 38.0, and 54.9 percent of the population, respectively. The population in almost all racial/ethnic categories declined between 1990 and 2000, with the exception of the “other and two or more races” category. This population group expanded exponentially, indicating that many who would have been categorized in another group in 1990 were able to identify themselves as “two or more races” in 2000 (a new designation in the 2000 Census). Between 1990 and 2000 the Hispanic population increased in the state and both project area counties, but Hawaiʻi County experienced a much higher increase (26.7 percent) than the state average (7.8

percent) or Honolulu County (3.2 percent). The Black or African American population in Hawai'i County experienced a substantial increase (13.5 percent) between 1990 and 2000 (US Census Bureau 1990a, 2000a).

Within Hawai'i County the Hilo and Pāpa'ikou-Wailea CCDs had the highest minority populations (minority includes all categories except White and Hispanic, which is considered an ethnic group rather than a racial category); however, all CCDs were composed of greater than 50 percent minority populations. The North Kohala, Kea'au-Mountain View, and Pāhoa-Kalapana CCDs had the highest percentage of Hispanic populations in Hawai'i County, with 13.5, 13.2, and 12.3 percent. Within Honolulu County the Wai'anae, 'Ewa, and Honolulu CCDs had the highest minority populations, with 88.8, 82.7, and 80.3 percent of the population. All CCDs in Honolulu County were composed of 67 percent or greater minority populations. The Wai'anae and Wahiawā CCDs had the highest percentage Hispanic populations in Honolulu County, with 13.9 and 12.8 percent (US Census Bureau 1990a, 2000a).

Table 10-1
Population Percentage by Race/Ethnicity

Race/Ethnicity	Hawai'i			Hawai'i County			Honolulu County		
	1990	2000	Percent Change 1990 to 2000	1990	2000	Percent Change 1990 to 2000	1990	2000	Percent Change 1990 to 2000
White	33.4	24.3	-20.4	39.7	31.5	-1.7	31.6	21.3	-29.5
Black or African American	2.5	1.8	-19.1	0.5	0.5	13.5	3.1	2.4	-20.3
Native American, Eskimo, Aleut	0.5	0.3	-30.7	0.7	0.4	-23.3	0.4	0.2	-38.3
Asian and Pacific Islander	61.8	51.0	-9.9	57.1	38.0	-17.9	63.0	54.9	-8.6
Other, and Two or More Races	1.9	22.7	1,201.9	2.0	29.6	1,733.4	1.9	21.2	1,061.9
Hispanic ¹	7.3	7.2	7.8	9.3	9.5	26.7	6.8	6.7	3.2

Source: US Census Bureau 1990a, 2000a

¹ Persons of Hispanic origin may be of any race.

The US Census Bureau uses a set of money income thresholds that vary by family size and composition to determine which families are poor. If a family's total income is less than its threshold, then that family, and every individual in it, is considered poor. The poverty thresholds do not vary geographically, but they are updated annually for inflation using the Consumer Price Index. For example, in 2000 the average estimated poverty threshold for an individual was an annual income of \$8,787, and for a four-person household it was \$17,601 (Dalaker and Proctor 2000). Census estimates for 1998 indicate that approximately 10.5 percent of the population of the state, 15.1 percent of Hawai'i County, and 9.7 percent of Honolulu County was below the poverty line in 1998 (US Census Bureau 2001). This represents a 27.8 and a 36.9 percent increase, respectively, in the number of individuals below the poverty line in Hawai'i and Honolulu counties from 1990 levels (US Census Bureau 1990b, 2001). Within Hawai'i County, Hilo had the highest total number of families

below the poverty line in 1999 (1,128 families), and the areas with the highest percentage of families below the poverty line were Nānāwale Estates (28.9 percent), Laupāhoehoe (28.4 percent), Orchidlands Estates (24.1 percent), Hawaiian Beaches (23.8 percent), Mountain View (23.6 percent), and Hawaiian Acres (22.5 percent). In Honolulu County in 1999, Honolulu had the largest total number of families below the poverty line, and the Mākaha Valley (32.4 percent), Mākaha (22.3 percent), Nānākuli (19.2 percent), Mā‘ili (19.3 percent), and Wai‘anae (17.2 percent) had the highest percentage of families below the poverty line (HDBEDT, no date [b] and [d]).

Summary of Impacts

Short-term and long-term minor adverse indirect effects on environmental justice populations could occur. No minority or low-income residences would be displaced by training modifications, new construction, or land acquisition for expanded training areas or road construction, but noise from construction project sites or vehicle maneuver areas could have minor adverse noise impacts on nearby schools or private residences (see Section 4.6, Summary of Noise Impacts). Noise from construction would last only for the duration of the construction project. Construction would be limited to daytime hours. Noise impacts from vehicle maneuver training would be long-term, but this type of training is currently occurring at the installations.

Potential impacts on Native Hawaiian cultural resources include potential impacts on Areas of Traditional Importance (ATIs) at SBMR, DMR, and PTA. Potential impacts related to construction of training facilities could include destroying or damaging ATIs, including shrines, archaeological sites, burials, or elements of Native Hawaiian cultural landscapes. Purchasing the SRAA at SBMR and the WPAA at PTA for military training could limit Native Hawaiian access to and use of sites on these parcels for traditional or religious purposes. Mitigation would reduce the impact to less than significant.

Constructing FTI antennas at SBMR, including on Mount Ka‘ala and at PTA, may result in visual impacts on cultural landscapes. Because some sites would require construction, they could have an adverse effect on the nature of the cultural landscape.

Activities relating to the construction of Dillingham Trail from DMR to SBMR could also result in significant impacts on such cultural properties, but identified mitigations, including identification and avoidance, would likely reduce the impact to less than significant.

There would be no significant environmental justice impacts on ATIs resulting from increased noise at SBMR because the noise contour maps show no noise impacts near identified ATIs, and public access to these locations would be limited to times when no ordnance would be firing. There would be no environmental justice noise impacts on ATIs at Mauna Kea (adjacent to PTA) because the noise analysis shown in Section 8.6 indicates that noise contours relating to ordnance use and construction under SBCT would not extend much beyond the PTA boundaries. There would be no significant environmental justice impacts on low-income or Native Hawaiian populations from increased fugitive dust emissions at SBMR because such emissions would not be significant, because of prevailing wind patterns, and because such communities are not near the SBMR training areas.

10.2.3 Impacts at Schofield Barracks Military Reservation and Wheeler Army Airfield

Proposed Action

Significant Impacts

Impact 1: Environmental Justice Impacts on Areas of Traditional Importance. SRP (2003) conducted a TCP survey, as defined in Section 3.11.2, at SBMR, including the associated ranges. Archaeological surveys of construction areas and the range areas may not have identified TCPs or ATIs to Native Hawaiians, even though some archaeological sites may constitute an ATI. Activities relating to the construction of the BAX, UACTF, and QTR1, and the use of QTR2, could destroy or damage or restrict access to previously unknown ATIs to Native Hawaiians. Native Hawaiians consider range and training activities inappropriate and disrespectful uses of the land that disturb and change the character and feeling of spiritual places.

Acquisition of the SRAA and its subsequent use for military training could interfere with Native Hawaiian access to and use of sites on the parcel for traditional or religious purposes. Oral testimony indicates there are ATIs on the property, and some of these resources qualify as TCPs. Converting the area to military training purposes could result in limited Native Hawaiian access to some sites and might result in inadvertent physical damage or destruction of the sites. In order to protect such resources, a survey of the proposed construction and range areas for TCPs or ATIs has been conducted via pedestrian survey, archival research, oral interviews, and site visits with knowledgeable Native Hawaiians. USARHAW is taking a proactive role in trying to identify ATIs through its community outreach programs and activities, and it plans to continue with these activities.

Two FTI antenna support structures will be placed on Mount Ka'ala and one near Kolekole Pass. While the proposed FTI antenna support structures have been located to avoid archaeological resources, these areas have been identified as important elements of the cultural landscape of Wai'anae Uka. While the Kolekole antenna would be erected on top of an existing antenna support structure, the Mount Ka'ala sites would require new construction and may be considered to have an adverse visual effect.

Construction of the UACTF is identified for an area near Kolekole Pass, on or adjacent to the Elou Cliff Trail, a traditional trail identified as a potential ATI. Previous reconnaissance surveys have failed to identify any remnants of the trail. The mitigation measures below will reduce the severity of the impact but not to less than significant levels.

Regulatory and Administrative Mitigation 1. Facility construction or training area uses will be designed to avoid identified traditional places and limit visual impacts on TCPs by site location, design, and orientation, where feasible.

If avoiding identified TCPs or ATIs is not feasible because of interference with the military mission or risk to public safety, the Army will consult with the SHPO and Native Hawaiians in accordance with the PA to identify impacts and to develop appropriate mitigation

measures. Mitigation for impacts on the cultural landscape could include consulting with Native Hawaiians and having a cultural monitor oversee construction.

The Army will continue to provide Native Hawaiians with access to traditional religious and cultural properties, in accordance with AIRFA and Executive Order 13007, on a case-by-case basis. This access program will be expanded to include new land acquisitions.

The Army previously identified Native Hawaiian burial sites in the SBCT ROI. The Army completed notification and consultation for these burial sites, in accordance with NAGPRA, and left these human remains in place. To address any impacts on any burial sites, or an inadvertent discovery of Native Hawaiian human remains or funerary objects, the Army will abide by all notification and consultation requirements outlined in Section 3 of NAGPRA.

Less than Significant Impacts

Environmental Justice impacts from noise. Short-term and long-term indirect minor adverse effects on environmental justice populations could occur from noise. No minority or low-income residences would be displaced by land acquisition, training modifications, or new construction as a result of the Proposed Action. However, noise from construction project sites or vehicle maneuver areas could have adverse noise impacts on nearby private residences or schools (see Section 4.6.3, Summary of Noise Impacts). Noise from construction would be short-term, lasting only for the duration of the construction project. Noise impacts from vehicle maneuver training would be long-term. However, this type of training is currently occurring at SBMR. The magnitude of the noise would not be expected to warrant mitigation measures (see Section 4.6.3, Summary of Noise Impacts, and Section 5.13, Environmental Justice and Protection of Children).

Environmental Justice impacts from air quality. Short-term indirect minor adverse effects on environmental justice populations could occur from impacts on air quality. As discussed in more detail in Section 5.5, the substantial increase in fugitive PM₁₀ emissions from military vehicle use at SBMR, the likelihood of exceeding the federal 24-hour standard, and the potential impacts on quality of life on surrounding communities combined may result in a significant air quality impact at SBMR under the Proposed Action. As discussed in Section 4.5, the Army will implement mitigation measures to reduce the impact to a less than significant level. Based on dispersion modeling, the air quality impacts way affect the residential communities of Mililani Town and Wahiawa because of their proximity to the SBMR training areas and because of prevailing wind patterns. These communities do house some Army families stationed at SBMR and WAAF, many of whom are Hispanic or Asian. However, neither Wahiawa nor Mililani has a greater proportion of low-income or minority members than most communities in Hawai'i. Kunia Village and Poamoho Village do have large percentages of Native Hawaiian and low-income residents, but these communities will not be significantly affected by fugitive PM₁₀ emissions due to their distance from SBMR training areas. Therefore, air emissions would not disproportionately affect native Hawaiian, low-income, or other local ethnic minority groups.

Environmental justice impacts – protection of children. Although the risk is low, it is possible for the health of children to be affected by the Proposed Action through exposure to smoke. Risks

to children inherent in training and day-to-day operations would be minimized or avoided by adhering to Army-wide, unit and installation, and other applicable safety regulations and procedures. Exercises at SBMR use pyrotechnics and blank ammunition. The last training incident involving the public occurred three years ago at the northwest end of SBMR (see Section 5.12, Hazardous Materials). Smoke from a smoke grenade blew into a residential community and some children had to be examined at a hospital (Borja 2002b).

Construction and training activities would, for the most part, take place in areas that are off-limits to the general public. Restricted areas would continue to be posted with signs, enclosed by a fence, or stationed with guards. Strict adherence to applicable safety regulations and procedures would continue to protect the health and safety of children. The environmental justice impact to the health and safety of children will be less than significant.

Environmental justice impacts from traffic. Increased military traffic on public roads around SBMR would also accompany the Proposed Action. When military actions are conducted in areas accessible to the public, such as public roadways, the risk associated with the operations could extend to civilians. Risks to the public and military personnel inherent in training and day-to-day operations would be minimized or avoided through adherence to existing Army-wide, unit and installation, and other applicable safety regulations and procedures. The environmental justice impacts from traffic will be less than significant.

No Impacts

Environmental justice impacts from noise to Areas of Traditional Importance. There would be no significant environmental justice impacts on Native Hawaiian ATIs resulting from increased noise under the Proposed Action. Noise impacts described in Section 5.6 would not have an impact on potential ATIs at Mount Ka'ala and Kolekole Pass because the noise contour maps show no noise impacts in these areas, and public access to these locations would be limited to times when no ordnance would be firing.

Reduced Land Acquisition

Significant impacts would be the same as those under the Proposed Action.

No Action

No Impacts

No effects on environmental justice are expected. No Action would not alter the existing health and safety, housing, or economic conditions of minority or low-income populations in Wahiawā CCD or Honolulu County.

10.2.4 Impacts at Dillingham Military Reservation

Proposed Action

Significant Impacts Mitigable

Impact 2: Environmental justice impacts on Areas of Traditional Importance. The archaeological survey of the proposed alignment has not necessarily identified TCPs or ATIs, although some of

the archaeological sites identified might be considered ATIs, including gravesites and temples or heiau. Site 191 in the southeast of DMR, Kawaioloa Heiau, is sacred. Construction activities and use of Dillingham Trail could damage or destroy such resources as a result of direct or indirect activities, as described in Impact 1. The mitigation measures below will reduce the severity of the impact but not to less than significant levels.

Regulatory and Administrative Mitigation 2. Facility construction or training area uses will be designed to avoid identified traditional places and limit visual impacts on TCPs by site location, design, and orientation, where feasible.

If avoiding identified TCPs or ATIs is not feasible because of interference with the military mission or risk to public safety, the Army will consult with the SHPO and Native Hawaiians in accordance with the PA to identify impacts and to develop appropriate mitigation measures. Mitigation for impacts on the cultural landscape could include consulting with Native Hawaiians and having a cultural monitor oversee construction.

The Army will continue to provide Native Hawaiians with access to traditional religious and cultural properties, in accordance with AIRFA and Executive Order 13007, on a case-by-case basis. This access program will be expanded to include new land acquisitions.

The Army previously identified Native Hawaiian burial sites in the SBCT ROI. The Army completed notification and consultation for these burial sites, in accordance with NAGPRA, and left these human remains in place. To address any impacts on any burial sites or an inadvertent discovery of Native Hawaiian human remains or funerary objects, the Army will abide by all notification and consultation requirements outlined in Section 3 of NAGPRA.

Less than Significant Impacts

Environmental justice economic impacts. Short- and long-term indirect minor adverse effects on environmental justice populations could occur. Approximately 78.7 percent of Honolulu County and 69.6 percent of Waialua CCD was made up of minority ethnic populations (US Census Bureau 2000a), and 9.7 percent of Honolulu County had income levels below the poverty line (US Census Bureau 2001). DMR is located in an isolated portion of O'ahu, and no military or civilian personnel are permanently stationed at DMR. However, increased military traffic on public roads between DMR and SBMR would accompany the Proposed Action. Military vehicles could travel through predominantly minority residential neighborhoods. When military actions are conducted in areas accessible to the public, such as public roadways, the risk associated with the operations could extend to civilians. Noise from vehicle maneuvers could also disturb nearby residents. Risks to the public and military personnel inherent in training and day-to-day operations would be minimized or avoided through adherence to existing Army-wide, unit and installation, and other applicable safety regulations and procedures.

Reduced Land Acquisition

The impacts associated with RLA would be identical to those described for the Proposed Action.

No Action

No effects on environmental justice are expected.

10.2.5 Impacts at Kahuku Training Area/Kawailoa Training Area**Proposed Action**Less than Significant Impacts

Environmental justice impacts on Areas of Traditional Importance. The ATIs that have been identified at KTA are outside the boundaries of the project areas for the construction and use of the CACTF and tactical vehicle wash. However, further oral historical and archival research might identify ATIs that could be affected by these projects. Any identified ATIs will be avoided where feasible. Construction or training area uses will be designed to avoid identified traditional places and to minimize visual impacts on traditional cultural landscapes by site location, design, and orientation, where feasible.

If identified ATIs cannot be avoided because of interference with the military mission or risk to public safety, USARHAW will consult to identify impacts and to develop appropriate mitigation measures. Such mitigation will be developed in consultation with the SHPO and Native Hawaiians, in accordance with the provisions of the PA.

The Army has identified Native Hawaiian burial sites in the Proposed Action's ROI. The Army completed notification and consultation for these burial sites in accordance with NAGPRA and left these human remains in place. If impacts are identified that may affect any burial sites, or if there is an inadvertent discovery of Native Hawaiian human remains or funerary objects, the Army will abide by all notification and consultation requirements, as outlined in NAGPRA.

Environmental justice economic impacts. Short-term and long-term indirect minor adverse effects on environmental justice populations could occur. Approximately 78.7 percent of Honolulu County and 69.0 percent of the Ko'olauloa CCD was made up of minority ethnic populations (US Census Bureau 2000a), and 9.7 percent of Honolulu County had income levels below the poverty line (US Census Bureau 2001). There are no military or civilian personnel permanently stationed at KTA. However, increased military traffic on public roads between KTA and SBMR would accompany the Proposed Action. Military vehicles could travel through predominantly minority residential neighborhoods. When military actions are conducted in areas accessible to the public, such as public roadways, the risk associated with the operations could extend to civilians. Noise from vehicle maneuvers could also disturb nearby residents. Risks to the public and military personnel inherent in training and day-to-day operations would be minimized or avoided through adherence to existing Army-wide, unit and installation, and other applicable safety regulations and procedures.

Reduced Land Acquisition Alternative

The impacts associated with Reduced Land Acquisition are identical to those described for the Proposed Action.

No Action AlternativeNo Impacts

No Action would not alter the existing health and safety, housing, or economic conditions of minority or low-income populations in Koʻolauloa CCD or Honolulu County, so no effects on environmental justice are expected.

10.2.6 Impacts at Pohakuloa Training Area**Proposed Action (Preferred Alternative)**Significant Impacts Mitigable

Impact 1: Environmental justice impacts on Areas of Traditional Importance. SRP is conducting a TCP survey at PTA to identify ATIs (SRP 2002). As noted previously, evidence indicates the possible presence of ATIs, including burials in the ROI of PTA, although the survey did not identify any ATIs within the project areas.

There would be no noise impacts on ATIs at Mauna Kea because the noise analysis shown in Section 8.6 indicates that noise contours relating to ordnance use and construction under SBCT would not extend much beyond the PTA boundaries.

One FTI antenna will be placed on Mauna Loa, nine others will be located around PTA and the WPAA, and one more will be erected at Kawaihae. While the precise locations of the FTI sites will avoid archaeological resources, Mauna Loa has been identified as a particularly sacred element of the Native Hawaiian cultural landscape. While the antennas would be erected on top of existing support structures, the construction may be considered to have an adverse effect on the nature of the cultural landscape. ATIs and burials, if located within the area of construction activities or new training areas, would be at risk of damage or destruction as a result of the Proposed Action. Impacts could be caused by human presence in the area, physical disturbance from human or vehicle passage, or actual damage from excavation or erosion. The mitigation measures described below will reduce the severity of these impacts on ATIs.

Regulatory and Administrative Mitigation 1. Facility construction or training area uses will be designed to avoid identified traditional places and limit visual impacts on TCPs by site location, design, and orientation, where feasible.

If avoiding identified TCPs or ATIs is not feasible because of interference with the military mission or risk to public safety, the Army will consult with the SHPO and Native Hawaiians in accordance with the PA to identify impacts and to develop appropriate mitigation measures. Mitigation for impacts on the cultural landscape could include consulting with Native Hawaiians and having a cultural monitor oversee construction.

The Army will continue to provide Native Hawaiians with access to traditional religious and cultural properties, in accordance with AIRFA and Executive Order 13007, on a case-by-case basis. This access program will be expanded to include new land acquisitions.

The Army previously identified Native Hawaiian burial sites in the SBCT ROI. The Army completed notification and consultation for these burial sites, in accordance with NAGPRA, and left these human remains in place. To address any impacts on any burial sites, or an inadvertent discovery of Native Hawaiian human remains or funerary objects, the Army will abide by all notification and consultation requirements outlined in Section 3 of NAGPRA.

Less than Significant

Environmental justice impacts from air quality. PTA and WPAA are likely to experience significant impacts from fugitive dust on air quality. As discussed in Section 8.5, the Army will implement mitigation measures to reduce the impacts from fugitive dust to less than significant levels. The activities at PTA and WPAA are remote. Waiki'i Ranch and the Kilohana Girl Scout Camp may experience some impacts from air quality. There are no low-income or minority communities that would be disproportionately affected, so the impacts on environmental justice communities from air quality on the island of Hawai'i would be less than significant.

No Impacts

Economic impacts on environmental justice. No disproportionate effects on environmental justice populations would occur. PTA is relatively isolated, and there are no military or civilian personnel permanently stationed at DMR. There are no residential neighborhoods or schools nearby that would be affected by noise or traffic from training or construction activities.

There would be no environmental justice noise impacts on ATIs at Mauna Kea (adjacent to PTA) because the noise analysis shown in Section 8.6 indicates that noise contours relating to ordnance use and construction under SBCT would not extend much beyond the PTA boundaries.

Reduced Land Acquisition Alternative

No Impacts

The RLA Alternative would have the same impacts on environmental justice as the Proposed Action.

No Action Alternative

No Impacts

No effects on environmental justice are expected.

10.3 SIGNIFICANT UNAVOIDABLE ADVERSE IMPACTS

An EIS must describe any significant unavoidable impacts for which either no mitigation or only partial mitigation is feasible. Significant and unavoidable impacts from the Proposed Action occur in the following areas:

- Unauthorized recreational access at KTA may be adversely affected by additional fencing and signs restricting access, which is necessary due to the proposed live-fire use of the area (Section 7.2, Land Use/Recreation);
- Air quality impacts from wind erosion of areas previously disturbed by off-road vehicle maneuver activity (where vegetation has been decreased resulting in increased wind erosion) at PTA (Section 8.5, Air Quality);
- Noise impacts from ordnance use at SBMR (Section 5.6, Noise);
- Soil loss from training activities at SBMR, DMR, KTA, and PTA (Section 5.9, Section 7.9, and Section 8.9, Geology, Soils, and Seismicity);
- Biological impacts from fire on sensitive species and habitat at SBMR, KTA and PTA (Section 5.10, Section 7.10, and Section 8.10 Biological Resources);
- Biological impacts from off-road training activities on sensitive species and habitat at PTA (Section 8.10 Biological Resources);
- Cultural resource impacts on historic buildings at KTA (the Nike Missile Site) and PTA (the Ke‘āmuku Village) (Section 7.11 and Section 8.11 Cultural Resources);
- Cultural resource impacts on archaeological resources from range and facility construction at PTA (Section 8.11 Cultural Resources);
- Cultural resource impacts on archaeological resources from training activities at DMR and PTA (Section 6.11 and Section 8.11 Cultural Resources);
- Cultural resource impacts on Areas of Traditional Importance at SBMR, DMR, and PTA (Section 5.11, Section 6.11 and Section 8.11 Cultural Resources);
- Cumulative impacts on land use (Section 9.5 Cumulative Impacts);
- Cumulative impacts on biological resources (Section 9.5 Cumulative Impacts);
- Cumulative impacts on cultural resources (Section 9.5 Cumulative Impacts);
- Cumulative impacts on human health and safety hazards (Section 9.5 Cumulative Impacts); and,
- Environmental Justice impacts on Areas of Traditional Importance at SBMR, DMR, and PTA (Section 10.2.3, Section 10.2.4 and Section 10.2.6 Environmental Justice).

10.4 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND LONG-TERM PRODUCTIVITY

NEPA requires that an EIS consider the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity.

Construction activities associated with the proposed projects are short-term and temporary. All significant construction impacts would be mitigated, where practicable, under the constraints of public safety and the military mission. Short-term damage to the environment relating to construction includes direct and indirect loss of habitat and damage to sensitive species, loss of nonrenewable cultural resources, emissions impacts on air quality, and surface water quality impacts. Long-term environmental damage includes loss of important

farmland, impacts on soil and water quality, impacts on habitat and wildlife from training activities, erosion, and wildfires, air quality impacts from wind erosion due to training activities, and potential damage to cultural resources in the future.

The conversion of important farmland to military use at PTA and SBMR could affect long-term agricultural productivity in Hawai'i, but under current law, conversion of important farmlands is exempt from mitigation requirements if the conversion is necessary for national defense.

Long-term productivity would be served by replacing inadequate and inefficient facilities at SBMR and KTA with modern fuel-efficient buildings designed to reduce long-term reliance on nonrenewable fuel sources. Such replacement would also remove workplace hazards, such as LBP and ACM. Infrastructure upgrades (such as communications and power systems) associated with the Proposed Action would prolong the life of these facilities, and it would cost less to maintain and repair them. New facilities, such as the vehicle washes, would be designed to reduce the spread of invasive species and to use recycled water, and other facilities, such as the FTI, may be designed to use solar power, thus minimizing the project's long-term energy requirements.

The long-term productivity of the Proposed Action is based on the Army's mission, specifically its duty under transformation. Any measurement of long-term productivity in this context must include the overriding importance of national defense and the Army's obligation to adapt to changing national security needs. While the Army will take whatever actions are reasonable and practicable to preserve and protect the natural environment under its stewardship, the necessity of national defense requires the Army to provide the nation with capabilities that meet current and evolving national defense requirements. The Proposed Action is designed to meet these goals and further the security and welfare of the US, its residents, and its natural environment.

10.5 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

NEPA requires that an EIS analyze the extent to which the proposed project's primary and secondary effects would commit nonrenewable resources to uses that would be irretrievable to future generations.

Implementing the Proposed Action or the RLA Alternative would require committing both renewable and nonrenewable energy and material resources for demolishing inadequate facilities at SBMR and PTA; for constructing FTI towers, proposed ranges, and support facilities at SBMR, DMR, KTA, WAAF, and PTA; and for constructing Dillingham Road and Helemanō and PTA Trails. Material resources would include wood, concrete, metals, and asphalt and other petroleum products, and nonrenewable energy would be used in the construction. This energy expenditure would occur over the short term and would be irreversible once construction is completed. Additionally, further review has indicated that maneuver training at the WPAA may result in an irretrievable commitment of soil resources by loss through erosion of soils that support sensitive plant species and habitat.

Other nonrenewable resources would be used during SBCT training, such as the fuel used by Strykers and other vehicles in maneuvers and troop convoys; the water, power, and other resources necessary to maintain and operate the new military vehicle trails and new training facilities at SBMR, KTA, and PTA; and the increase in local resources required to support the additional military personnel and their families.