

## 8.4 AIRSPACE USE

### 8.4.1 Affected Environment

The affected airspace environment is described below in terms of its principal attributes, namely controlled and uncontrolled airspace, special use airspace, military training routes, en route airways, airports and airfields, and air traffic control. Jet routes, all above 18,000 feet (5,486 meters), are well above the activities proposed and are not considered part of the ROI.

#### ***Controlled and Uncontrolled Airspace***

The airspace in the PTA ROI includes uncontrolled Class G airspace, which extends from the surface to a ceiling of 1,200 feet (366 meters), and controlled Class E airspace, which is airspace above 1,200 feet (366 meters), unless the special use airspace, discussed below, is activated. BAAF is surrounded by Class D airspace extending from the surface to a ceiling of 8,700 feet (2,652 meters).

Appendix F provides a full definition of the different classes of airspace and an explanatory diagram.

#### ***Special Use Airspace***

The R-3101 restricted area lies above the PTA, extending from the surface to 30,000 feet (9,144 meters). The effective altitudes, time of use, and controlling agency for the restricted area are given in Table 8-10. During the published hours of use, the agency using the airspace is responsible for controlling all military activity within the restricted area and for determining that its perimeters are not violated. When the airspace is scheduled to be inactive, the agency releases it back to the controlling agency or center, and, in effect, the airspace is no longer restricted.

**Table 8-10**  
**Special Use Airspace in the Pōhakuloa Training Area Airspace ROI**

<b>Number/Name</b>	<b>Effective Altitude (in feet)</b>	<b>Time of Use</b>	<b>Controlling Agency</b>
R-3103	To 30,000 (To 9,144 meters)	Intermittent <sup>1</sup>	Honolulu CERAP

Source: NACO 2002

Notes:

<sup>1</sup>By NOTAM issued 12 hours in advance

#### ***Military Training Routes***

There are no formal, published military training routes in the PTA airspace ROI; however, the R-3103 restricted area is heavily used for helicopter training exercises, with an average of 900 aircraft movements per month, 99 percent of which involve helicopters. The movement statistics cover all DOD branches, including the Hawai'i Air National Guard (Ahching 2002a, 2002b).

**En Route Airways**

No low altitude en route airways enter or transect the ROI, but general aviation aircraft use the airspace in the ROI. This includes all civil aviation operations other than scheduled air services and unscheduled air transport operations for hire.

**Airports and Airfields**

BAAF and a private airfield, Pu'u Wa'a Wa'a, are the only airfields in the PTA airspace ROI. BAAF had an average of 33 takeoffs and landings per day in 2001, all of which were military aircraft (AirNav.Com 2002).

**Air Traffic Control**

Air traffic in the ROI is managed by the Honolulu ARTCC and the BAAF control tower.

**8.4.2 Environmental Consequences**

This section addresses the environmental consequences of the Proposed Action and No Action on airspace.

**Summary of Impacts**

Table 8-11 summarizes potential airspace impacts. There would be a less than significant impact to airspace by shifting the initial approach fix location. There would be no impacts on the other impact issues.

**Table 8-11**  
**Summary of Potential Airspace Impacts at PTA**

<b>Impact Issues</b>	<b>Proposed Action</b>	<b>Reduced Land Acquisition</b>	<b>No Action</b>
Reduction in navigable airspace	○	○	○
New or modified special use airspace: UAV flights	○	○	○
Change to a military training route	○	○	○
Change in enroute airways, or IFR procedure	⊙	⊙	○
Restriction of access to airports/airfields	○	○	○
Obstruction to air navigation	○	○	○
Aviation safety	○	○	○

In cases when there would be both beneficial and adverse impacts, both are shown on this table. Mitigation measures would only apply to adverse impacts.

**LEGEND:**

⊗ = Significant	+ = Beneficial impact
⊙ = Significant but mitigable to less than significant	N/A = Not applicable
⊙ = Less than significant	
○ = No impact	

### ***Proposed Action (Preferred Alternative)***

#### ***Less Than Significant Impacts***

*Change in En Route Airways, or IFR Procedure.* Although there are no low altitude en route airways in the PTA airspace ROI, use of the new, reoriented runway at BAAF by C-17 and C-130 aircraft has the potential for adverse airspace impacts. Reorienting the runway by five degrees would affect the current instrument approach procedures by changing the compass direction in which the aircraft points when approaching the airfield, shifting the initial approach fix (IAF) location, and changing the missed approach point and track. The IAF is the point where aircraft pilots depart the en route phase of their flights and maneuver to enter the intermediate segment of the instrument approach before committing to the final approach. In the intermediate segment, aircraft configuration, speed, and positioning adjustments are made for transition to the final approach. Missed approach procedures (MAP) are established for all instrument approaches and are designed to assist pilots by providing precise navigational guidance to avoid and clear any ground obstructions and to reestablish exact alignment and descent of aircraft on approach to a runway. This change in heading, IAF location, and MAP could interfere with the instrument approach pattern of other airports or airfields in the vicinity.

This impact would be less than significant because the Army would not substantially alter the runway layout at BAAF without prior notice and consultation with the FAA, as provided by 49 USC Section 44718 (FAA 2001). This consultation and review process would ensure that any impacts on airspace would not be significant.

Reorienting and extending the runway also would shift and reorient the runway's clear zone and accidental potential zones that extend beyond the end of each runway. This could affect land use and biological and cultural resources because clear zones must be cleared, graded, and free of objects, as specified in FAR Part 139, Section 309, and people-intensive uses are discouraged in accidental potential zones. The potential for indirect impacts on land use, biological and cultural resources, and the noise environment from the Proposed Action at BAAF, as well as the increase in the number of C-17 and C-130 aircraft flights, are addressed in sections 9.2, 9.10, and 9.11 of this document.

The proposed upgrade, extension, and reorientation of the BAAF runway to support C-17 aircraft would not have an impact from its construction because air traffic would not be curtailed or diverted during the construction period.

#### ***No Impacts***

*Reduction in Navigable Airspace.* There would be no requirement for new or modified special use airspace to accommodate the Proposed Action nor any requirement for the imposition of any flight restrictions, thus no reduction in the ROI's navigable airspace.

*New or Modified Special Use Airspace: UAV flights.* The proposed UAV flights would normally be conducted within the R-3103 restricted area in the center of the island of Hawai'i; thus, the UAV flights would use existing special use airspace. Although the nature and intensity of use varies over time and by individual special use airspace area, the proposed UAV flights

represent the kinds of activities that the special use airspace was created for. Restricted areas contain airspace within which the flight of aircraft, while not wholly prohibited, is subject to restrictions. Activities within these areas must be confined because of their nature or limitations imposed on aircraft operations that are not part of these activities or both. During the published hours of use (intermittent by NOTAM 12 hours in advance for R-3103), the using agency would be responsible for controlling all military activity within the restricted area and for determining that its perimeters are not violated. When the airspace is scheduled to be inactive, the using agency releases it to the controlling agency (Honolulu Combined Center Radar Approach Control), and, in effect, the airspace is no longer restricted. As such, the UAV flights would not represent an adverse impact on special use airspace and would not conflict with any airspace use plans, policies, or controls.

Change to a Military Training Route. There are no published military training routes in the ROI. Consequently, no changes to military training routes would result.

Restriction of Access to Airports/Airfields. Access to, or the use of, airports/airfields available for public use, would not be affected by the Proposed Action, and commercial or private airport/airfield arrival and departure traffic flows would not be affected.

Obstruction to Air Navigation. Construction of the fixed tactical internet antennas throughout PTA and associated training areas would be well below the 500-foot (152-meter) above ground level threshold for an obstruction to air navigation specified by the FAA (FAA 2001). The antennas also would be at sufficient distance from the BAAF upgraded, extended, and reoriented runway (see Figure D-24 in Appendix D) to be below the military airport imaginary surface thresholds (e.g., 150 feet [45.7 meters] above the airfield elevation within 7,500 feet [2,286 meters] of the runway) (FAA 2001); therefore, this would not constitute an obstruction to air navigation.

Aviation Safety. Increased air traffic at BAAF as a result of C-130 and C-17 aircraft operations in support of SBCT training would have no impacts on aviation safety and no adverse impacts on public health and safety are anticipated. The strict procedures and rules in place governing flight operations in both controlled/uncontrolled navigable airspace and special use airspace, coupled with the Army's excellent aviation safety record in Hawaii make future adverse impacts on public health and safety extremely unlikely.

BAAF lies in Class D airspace, so all aircraft operations would be subject to air traffic control clearances and instructions, thus avoiding any adverse direct impacts on air traffic. (The indirect effects of increased air traffic on the potential for noise impacts are addressed in Section 9.6.)

For those UAV flights that could not be contained wholly within the R-3103 restricted area, operations would be conducted in accordance with well-defined FAA procedures for remotely operated aircraft. At least 60 days before UAV operations, the FAA regional office in Honolulu would have to approve the UAV flights, which would be contingent on the Army demonstrating that the flights would be as safe as those for manned aircraft. Methods include radar observation, forward or side-looking cameras, electronic detection systems,

observation from one or more ground sites, monitoring by patrol or chase aircraft, or a combination of these. In addition, coordination, communications, route and altitude procedures, and lost link/mission abort procedures would all have to be identified (FAA 2001). Consequently, authorized UAV flights would have no impact on navigable controlled and uncontrolled airspace, special use airspace, military training routes, en route airways, and airports and airfields, nor would they constitute an obstruction to air navigation in the airspace ROI; therefore, there would be no airspace impacts. The potential for indirect impacts on the noise environment are addressed in Section 9.6. UAV flights are also discussed above under Aviation Safety.

***Reduced Land Acquisition Alternative***

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

***No Action Alternative***

*No Impacts*

The existing baseline for airspace would continue under No Action. Under the status quo of No Action, continued flight support for training would continue to have no impacts on airspace. BAAF lies in Class D airspace, so all aircraft operations are subject to air traffic control clearances and instructions. Air traffic control separation service is provided to instrument flight rules aircraft only, but all aircraft pilots are given traffic advisories and, on request, conflict resolution instructions. Continued flight support for training out of BAAF would continue to have no impacts on navigable controlled/uncontrolled airspace, special use airspace, military training routes, en route airways and jet routes, airports and airfields, and aviation safety, nor would it create obstructions to air navigation in the airspace ROI. Future UAV flights, if introduced, would also have no impacts on airspace for the reasons stated under the Proposed Action discussion. Thus, there would be no impacts on airspace because none of the factors considered in determining impacts apply.