
Executive Summary

ES.1 Type of Report

This Final Environmental Impact Statement (FEIS) evaluates the potential environmental consequences of the Department of the Navy's (the Navy's) proposed action to provide facilities and functions to support the homebasing and operation of the new F/A-18 E/F (Super Hornet) aircraft. These aircraft are planned for assignment to the Atlantic Fleet to replace the F-14 (Tomcat) and earlier model F/A-18 C/D (Hornet) aircraft. This document presents the environmental consequences associated with the aircraft operations, personnel transition, and new construction or renovation of structures to accommodate the introduction of the Super Hornet aircraft.

This FEIS was prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality regulations implementing NEPA (40 *Code of Federal Regulations* [C.F.R.] 1500-1508); and Navy procedures for implementing NEPA (32 C.F.R. 775). The Navy is lead agency for the proposed action, with the Federal Aviation Administration (FAA) and the Department of the Air Force (Air Force) serving as cooperating agencies.

ES.2 Description of the Proposed Action

The proposed action is to provide facilities and functions to support the homebasing and operation of 10 Super Hornet fleet squadrons (120 aircraft) and one Fleet Replacement Squad-

ron (FRS) (24 aircraft) on the East Coast of the United States. These aircraft would replace the Tomcat and earlier-model Hornet aircraft. The introduction of the Super Hornet into the Atlantic Fleet would meet the need of Naval Aviation for upgraded aircraft with increased range and endurance, the ability to carry heavier payloads, features that enhance survivability, and the flexibility to incorporate future systems and technologies to meet emerging threats. In implementing the proposed action, the Navy must ensure that adequate hangar, training, maintenance, and personnel support facilities are available to meet production and delivery schedules.

In addition, with the aging inventory of remaining Hornet squadrons, the Navy will implement a reduction in the number of aircraft in each of the Atlantic Fleet Hornet squadrons over the period between 2000 and 2010. By 2010, the number of aircraft in each Hornet squadron will be reduced from 12 to 10, and the Hornet FRS will be reduced from 38 to 21. With the transition of some of the Hornet squadrons to Super Hornet squadrons, a total of eight Hornet fleet squadrons will operate in the Atlantic Fleet by 2010. The net result of the Super Hornet squadron transition and the reduction in Hornet aircraft will be a decrease in the number of fighter aircraft assigned to the Atlantic Fleet. A total of 215 Tomcat and Hornet aircraft will be replaced by 144 Super Hornet aircraft.

ES.3 Preferred Alternatives

Preferred Homebasing Alternatives

The Navy developed eight homebasing alternatives for detailed analysis in the Environmental Impact Statement (EIS). From among these eight alternatives, two are identified as preferred alternatives in this FEIS: Alternative 4A (ALT 4A) with a new Outlying Landing Field (OLF), and Alternative 6 (ALT 6) with a new OLF.

ALT 4A would homebase six Super Hornet fleet squadrons and the FRS at NAS Oceana and four fleet squadrons at MCAS Cherry Point, and develop a new OLF between the two sites. ALT 6 would homebase eight Super Hornet fleet squadrons and the FRS at NAS Oceana and two fleet squadrons at MCAS Cherry Point, and develop a new OLF between the two sites.

Both alternatives homebase a majority of fleet squadrons at NAS Oceana, thereby optimizing Super Hornet readiness and efficiency of operations through economies of scale in support, training, and personnel requirements. The dual-siting alternatives distribute the beneficial as well as the negative impacts of the proposed action between two locations. The Navy carefully weighed all of these considerations in determining preferred alternatives for homebasing the Super Hornet squadrons.

Preferred OLF Site

Construction and operation of an additional OLF is being considered if all or a majority of the Super Hornet squadrons are homebased at NAS Oceana to provide operational flexibility and to mitigate noise (ALT 1, 4B, and 6). An OLF is required under ALT 2, 4A, 5A, or 5B where four or more of the Super Hornet squadrons are homebased at MCAS Cherry Point. An OLF is required if the Super Hornets are single-sited at MCAS Beaufort (ALT 3), and either an OLF or parallel runway is required if the Super Hornets are dual-sited with another air station (ALT 4B or 5B).

The Navy's preferred OLF location, under homebasing alternatives involving NAS Oceana and/or MCAS Cherry Point, is Site C, in Washington County, North Carolina. This site is located between NAS Oceana and MCAS Cherry Point and could be used by aircraft from both homebasing locations.

The proposed OLF will allow the Navy to mobilize carrier-based forces more quickly, safely, and efficiently in response to emerging world situations. The projected annual operations modeled by NASMOD and used in this EIS represent the annual average operations based on past carrier deployment schedules. However, the rapidly changing strategic environment emerging from the global war on terrorism and the campaigns in Afghanistan and Iraq requires Naval forces that can deliver persistent, credible combat power through both rotational deployments and surge readiness. Significant operational difficulties are encountered at NALF Fentress when more than one carrier air wing and an FRS require Field Carrier Landing Practice (FCLP) training. In recent years, such convergences of schedules have created situations where NALF Fentress could not accommodate all FCLP requirements. Extensive and costly measures were required to ensure all aircrew were properly trained. Conducting FCLP training

at other locations significantly disrupts normal operations at those facilities, presents an additional hardship on personnel (and their families) about to deploy for an extended period of time, and places severe strain on logistical support lines. Additionally, encroachment and other restrictions on operations at these existing facilities degrade FCLP training.

In May 2003, the Navy developed a new inter-deployment readiness profile, the "Fleet Response Concept"(FRC), that will improve the Navy's speed of response to world events. The FRC is currently being developed into a Fleet Response Plan (FRP). When implemented, the FRP will modify current ship and squadron operating cycles by adjusting maintenance intervals along with training and manpower processes to increase unit availability for surge operations--that is, building the long-term institutional capability to support a rapid, massive build-up in deployed Naval forces.

The FRP will reapportion existing assets and funding to prepare Naval forces in a more efficient manner while allowing greater flexibility for surge operations. As currently envisioned, FRP will be implemented with no increase in force structure and with little or no additional operational funding. Therefore, it is anticipated that there will be minimal change to the total number of flight operations at the homebase and supporting OLFs.

If the Navy is ordered to surge multiple aircraft carriers and their associated carrier air wings, there will be a concentrated period of higher operational tempo, including FCLP and other flight operations, as squadrons prepare to deploy, followed immediately by a corresponding decrease in such operations once those forces deploy. During these surge periods, existing facilities do not have the capacity to meet the Atlantic Fleet's FCLP requirements efficiently.

The intensity, duration, and timing of surge operations are impossible to predict, thereby making them unsuitable for inclusion in an EIS. However, in the wake of operations Enduring Freedom and Iraqi Freedom, the Navy is institutionalizing surge readiness as a part of the emerging national defense strategy. Therefore, the impacts of these surges must be considered when deciding whether an OLF should be constructed for F/A-18 Super Hornet homebasing alternatives that involve NALF Fentress.

In addition to "surge" scheduling conflicts, weather, field repairs, and locally imposed mitigation further limit and degrade optimal FCLP training at NALF Fentress. Because of local encroachment, the pattern altitude at NALF Fentress is 800 feet as opposed to 600 feet as

flown at the aircraft carrier. For the same reason, the abeam position for FCLP conducted on Runway 23 at NALF Fentress is approximately 2.1 nautical miles (NM) as opposed to 1.3 to 1.5 NM as flown at the carrier. Residential lighting from the increasing population around NALF Fentress further degrades night FCLP training. Residential growth trends around NALF Fentress will make these problems worse. Between 1990 and 2000, the population density within a 5-mile radius of NALF Fentress increased 44% (20,402 to 29,442; see Figure G-2 in Appendix G). The proposed OLF will allow for FCLP training in an environment free from such limitations, allowing the Navy to “train as we fight.” With respect to the preferred alternatives, this OLF will also provide important noise mitigation at MCAS Cherry Point and NAS Oceana by absorbing surge FCLP requirements and allowing FCLP operations to end earlier in the evening at all locations and in all circumstances.

Easily accessible from both NAS Oceana and MCAS Cherry Point, an OLF constructed at Site C will give the Navy critical operational flexibility and enhanced responsiveness to meet emergent threats to the national security. While this EIS addresses Super Hornet operational requirements and their impacts, the Navy recognizes that future aircraft (manned and unmanned) will require similar remote training sites. Encroachment evident on the three home-basing sites considered in this document, as well as around NALF Fentress, requires the Navy to look to less densely populated areas for its training needs. Because of its low population density, compatible land uses, and central location between MCAS Cherry Point and NAS Oceana, an OLF located at Site C provides the greatest potential as a valuable training asset for current and future years.

ES.4 Homebasing Alternatives Development

The operational criteria for homebasing Super Hornet squadrons assigned to the Atlantic Fleet were developed by the Commander, Naval Air Force, U.S. Atlantic Fleet, in January 2000 (U.S. Department of the Navy 2000a) and are shown in Table ES-1. In developing alternative sites for implementing this action, the Navy considered: (1) the type and tempo of annual aircraft operations that would occur at the home air station and military training areas; (2) the need to relocate or transition aircrews and maintenance personnel and families; and (3) the

need to undertake new construction or renovation of structures to support the Super Hornet aircraft.

Certain operational criteria were used to identify those air stations on the East Coast that would be suitable for Super Hornet operations. The remaining operational criteria were designed to develop and evaluate homebasing alternatives from among the identified suitable air stations. Consequently, the operational criteria can be grouped into three general categories:

- # Requirements for the homebase location and layout;
- # Operational readiness requirements of the Super Hornet squadrons; and
- # Operational support facilities required of the homebase.

These criteria were endorsed by the Commander in Chief, U.S. Atlantic Fleet (U.S. Department of the Navy 2000b) and approved by the Chief of Naval Operations (U.S. Department of the Navy 2000c).

Using the operational criteria shown in Table ES-1, the Navy conducted an initial and a secondary site screening process to identify a homebase that could support the Super Hornet squadrons. The Navy initially identified 77 air facilities along the East Coast that had the potential to accommodate the Super Hornet aircraft. The potential to accommodate the Super Hornet principally meant the presence of an existing airfield at the site. Application of the operational criteria requiring unrestricted tempo of operations and compatibility with the Super Hornet operations to these 77 potential receiving sites resulted in the elimination of former military air facilities, some of which accommodate both civilian and Air National Guard operations. Of the other U.S. Department of Defense (DoD) installations that remained for further evaluation, Navy and Marine Corps facilities were determined to be the most compatible with and/or adaptable to the introduction of the Super Hornet squadrons on the East Coast. Facilities operated by the Army were eliminated from further consideration because they generally have minimal supporting airfield infrastructure and facilities. Conversion of Army facilities, similar to construction of a new air station, would be cost prohibitive given the number of existing, viable homebasing sites. Several Air Force installations were initially considered potential homebase alternatives because tactical aircraft operations conducted by the Air Force are similar, in some

respects, to those conducted by the Navy. However, after further evaluation, the Air Force determined that existing Air Force installations on the East Coast were not available to accommodate the Super Hornet operational criteria (U.S. Department of the Air Force 2001a).

Table ES-1 Criteria for Selecting a Receiving Air Station for Homebasing Super Hornet Squadrons

Category	Criteria	Definition of Each Criterion
Requirements for the Homebase Location and Layout	# Distance to carrier operating area	# Less than 500 nautical miles (NM)
	# Field elevation	# No more than 1,000 feet above mean sea level (MSL)
	# Training airspace and ranges	# Maximum distance to training ranges of 120 NM # Minimum training range size of 50 by 80 NM of special-use airspace (SUA) # Air-to-air range requirements - training between 5,000 and 50,000 ft MSL # Air-to-ground range requirements - minimum altitude of greater than 18,000 ft MSL # Allow simulated and/or actual weapons releases
	# Multiple runways	# Primary runway - minimum length of 9,000 ft # Secondary runway - minimum length of 6,500 ft # Prefer runway parallel to the primary runway

Table ES-1 Criteria for Selecting a Receiving Air Station for Homebasing Super Hornet Squadrons

Category	Criteria	Definition of Each Criterion
Operational Readiness Requirements of the Super Hornet Squadrons	<ul style="list-style-type: none"> # Unrestricted tempo of operations # 24-hour operations # Unrestricted Field Carrier Landing Practice (FCLP) on Station or at an Outlying Landing Field (OLF) # Compatibility with airfield operations 	<ul style="list-style-type: none"> # Absence of routine shut down of normal operations # Minimize disruptions by civilian air traffic # Absence of concurrent training command operations and predominant helicopter/land-based/propeller-driven/transport aircraft use # Accommodate 24-hour operations without restricting normal traffic flow # Capability to conduct 24-hour operations without restricting normal traffic # Capability to conduct FCLP operations with a left-hand pattern at the facility or OLF # Similar aircraft performance and flight patterns # Absence of trainer aircraft operations # Absence of large-scale commercial or civilian aircraft operations
Operational Support Facilities	<ul style="list-style-type: none"> # Aircraft operational support facilities # Training facilities # Aircraft maintenance facilities # Supply facilities # Personnel support facilities # Bachelor and family housing # Utilities 	<ul style="list-style-type: none"> # Runways (primary, secondary, parallel/OLF) # Precision approach capability # Combat aircraft loading area # Separate hangar modules # Hot pit and truck refueling capability # Strike Fighter Weapons Training School # Aircraft simulators # Naval Air Maintenance Training Detachment # Organizational; intermediate-level (three or more squadrons); depot-level # Warehouse, storage # Medical/dental, recreational, etc. # On- and off-station # Water, wastewater, etc.

Fifty-seven facilities were eliminated from further consideration after the primary screening. The remaining 20 Navy and Marine Corps installations were then subjected to a secondary screening process involving the application of location and layout criteria. The remaining potential homebase sites were then evaluated against the operational readiness criteria. Potential homebasing sites that failed to meet the unrestricted tempo of operations and operational compatibility criteria were eliminated from further consideration in this EIS because the homebase needs to provide the conditions necessary to safely conduct training for the aircraft type and mission. As a result, only NAS Oceana was found to meet all of the location, layout, and operational readiness criteria. Two of the air stations, MCAS Cherry Point and MCAS Beaufort, met three of the four criteria. These stations could not accommodate the unrestricted Field Carrier Landing Practice (FCLP) operations at the homebase; however, an OLF could be furnished or achieved at a reasonable cost to make these stations adequate as potential homebasing alternatives. Thus, the following three air stations were selected for further analysis as homebasing site alternatives in this EIS:

- # NAS Oceana, Virginia Beach, Virginia;
- # MCAS Cherry Point, Havelock, North Carolina; and
- # MCAS Beaufort, Beaufort, South Carolina.

Initially, the Navy believed that NAS Meridian had potential as a Super Hornet homebasing site even though the secondary screening process revealed concerns about operational tempo impacts from the existing training mission and access to training ranges and airspace. NAS Meridian is the Navy's premier initial jet training installation. Its location and capabilities provide the ideal training ground for Navy and Marine Corps strike aviators before they move on to fleet aircraft. Therefore, the loss of NAS Meridian as a training station would have a negative impact on Naval Aviation. That fact, combined with the operational constraints associated with the station's existing training mission and the limitations of the surrounding airspace and training ranges for Super Hornet operations, resulted in the determination that NAS Meridian not be further considered as a homebase for the Super Hornet squadrons.

The Navy considered eight siting alternatives and a “no-action” alternative. Initially, the preference was to single site all Super Hornet squadrons for operational, training, manning, maintenance, and logistical reasons. Single-siting takes maximum advantage of valuable and scarce resources (e.g., aircraft, parts, equipment, and manpower) and synergy (i.e., the interrelationship of various functions associated with training, maintenance, and logistics) between fleet squadrons and the FRS. Dual-siting would require some duplication of resources; however, advantages addressing noise and air emission impacts would be realized. Dual-siting alternatives were developed based on the Navy’s preference to homebase squadrons assigned to the same carrier airwing together and also to co-locate the FRS at the same homebase as the predominant number of fleet squadrons. Multiple-siting alternatives (e.g., homebasing aircraft at more than two locations) are considered unacceptable due to high costs in infrastructure, support equipment, and personnel as well as negative impacts to operational synergy. Three single-siting alternatives and five dual-siting alternatives were developed, as follows:

- # **Alternative (ALT) 1:** All 10 fleet squadrons and the FRS would be stationed at NAS Oceana.
- # **ALT 2:** All 10 fleet squadrons and the FRS would be stationed at MCAS Cherry Point.
- # **ALT 3:** All 10 fleet squadrons and the FRS would be stationed at MCAS Beaufort. In order to accommodate all Super Hornet squadrons at MCAS Beaufort, existing Marine Corps assets would be transferred to MCAS Cherry Point. The majority of appropriated fund employees at MCAS Beaufort would remain after the Marine Corps relocated.
- # **ALT 4A:** Six fleet squadrons and the FRS would be stationed at NAS Oceana, and the remaining four fleet squadrons would be stationed at MCAS Cherry Point.
- # **ALT 4B:** Six fleet squadrons and the FRS would be stationed at NAS Oceana, and the remaining four fleet squadrons would be stationed at MCAS Beaufort.
- # **ALT 5A:** Six fleet squadrons and the FRS would be stationed at MCAS Cherry Point, and the remaining four fleet squadrons would be stationed at NAS Oceana.
- # **ALT 5B:** Six fleet squadrons and the FRS would be stationed at MCAS Cherry Point, and the remaining four fleet squadrons would be stationed at MCAS Beaufort.

- # **ALT 6:** Eight fleet squadrons and the FRS would be stationed at NAS Oceana, and the remaining two fleet squadrons would be stationed at MCAS Cherry Point.

Under each of the siting alternatives, the Tomcat squadrons and some of the Hornet squadrons would transition from NAS Oceana. In addition, the two Navy Hornet squadrons, currently based at MCAS Beaufort, would be relocated with the remaining Hornet squadrons at NAS Oceana if any of the Super Hornet squadrons are stationed at MCAS Beaufort (ALT 3, 4B, or 5B).

ES.5 Assessment of Required Homebasing Facility Components

Specific operational support facility criteria unique to homebasing the Super Hornet squadrons were also developed (U.S. Department of the Navy 2000a). As shown in Table ES-1, the facility components necessary to accommodate the Super Hornet aircraft for each siting alternative would include facilities for aircraft operations, training, maintenance, supply, and personnel support; bachelor and family housing; and utilities.

The support facilities available at each alternative receiving site were assessed in terms of existing use, condition, and capacity to determine whether new construction or renovation was needed. The adequacy, deficiency, or excesses of each facility were assessed using the guidelines contained in *Facility Planning Criteria for Navy and Marine Corps Shore Installations, Naval Facilities Engineering Command (NAVFAC) P-80*. The new construction and retrofitting that would be required at each alternative receiving air station is summarized as follows:

- # **NAS Oceana:** To homebase all the fleet squadrons and the FRS at NAS Oceana (ALT 1), the Navy would need to install a Flight Line Electrical Distribution System (FLEDS) on a portion of the existing aircraft parking apron, retrofit three of the existing hangars, and reconfigure the interior of Building 240 to accommodate NAMTRA Super Hornet trainers. Hangars 200, 404, and 500 would be available for the Super Hornet squadrons. These facility modifications would be required under all of the siting alternatives at NAS Oceana, although the extent of the FLEDS is dependent on the number of aircraft homebased at NAS Oceana. In addition, only two hangars (e.g., Hangars 200 and 404) would be retrofitted under ALT 5A. Construction and operation of an additional OLF is being considered to provide

operational flexibility and to mitigate the noise impacts under ALT 1, 4B, and 6. An additional OLF provides operational flexibility through increased availability of FCLP training periods, particularly important during surge operations, when two or more carrier air wing or FRSs must simultaneously prepare for carrier operations, or when one site becomes unusable due to maintenance or weather.

- # **MCAS Cherry Point:** Whether all or a majority of the Super Hornet squadrons are homebased at MCAS Cherry Point (i.e., ALT 2, 5A, or 5B), both an OLF and a parallel runway are required. The parallel runway would be used for the increase in departures and arrivals, while all FCLP operations would be conducted at a new OLF. Under ALT 4A, only an OLF would be required, as the existing runways would accommodate the projected increase in departures and arrivals for the four Super Hornet squadrons. The construction of the parallel runway would require the demolition and/or replacement of some existing structures and facilities. Moreover, continued support of the Marine Corps' AV-8, EA-6B, and KC-130 operational squadrons in their existing facilities would necessitate a large construction effort to support either the Super Hornet squadrons under ALT 2, 4A, 5A, or 5B or the Marine Corps Hornets under ALT 3, including training facilities, AIMD, and hangars. Most of the new construction under ALT 2, 3, 4A, 5A, or 5B is proposed in the North Quadrant Area of MCAS Cherry Point. New construction under ALT 6 would not be as extensive as that required for the other siting alternatives. Also, additional military family housing would be required under ALT 2, 5A, or 5B.

- # **MCAS Beaufort:** A parallel runway and OLF are required if the Super Hornet squadrons are single-sited (ALT 3) at MCAS Beaufort, and either an OLF or a parallel runway is required if the Super Hornet squadrons are dual-sited with another air station (ALT 4B or 5B). As at MCAS Cherry Point, the construction of the parallel runway would require the demolition and/or replacement of some existing structures and facilities. Additional facility components required at MCAS Beaufort under ALT 3, 4B, and 5B include training facilities, an AIMD, hangars, family housing, and a DoD school. The family housing and DoD school are proposed in the Laurel Bay Family Housing Area, with other construction projects planned primarily within the core area of the air station and along the flight line.

ES.6 OLF Site Alternatives Development

The need to construct and operate an OLF to support Super Hornet FCLP operations was a key conclusion of the assessment of facility components at MCAS Cherry Point and MCAS Beaufort. An OLF would be required to support the FCLP operations of the Super Hornet squadrons if four or more squadrons are stationed at MCAS Cherry Point; both a parallel runway and an OLF would be required to support all the Super Hornet squadrons at

MCAS Beaufort, and either an OLF or a parallel runway would be required if four squadrons are stationed there.

If all or a majority of the Super Hornet squadrons are stationed at NAS Oceana, construction and operation of an additional OLF is being considered to provide for operational flexibility and to mitigate the noise impacts under ALT 1, 4B, and 6. An additional OLF provides operational flexibility through increased availability of FCLP training periods, particularly important during surge operations, when two or more carrier air wings or FRS must simultaneously prepare for carrier operations, or when one site becomes unusable due to maintenance or weather. As demonstrated by operations Enduring Freedom in Afghanistan and, more recently, Iraqi Freedom in Iraq, Navy carrier forces must be capable of deploying up to seven carrier battle groups simultaneously. Significant operational difficulties are encountered at NALF Fentress when more than one carrier air wing and an FRS require FCLP training. In recent years, such convergences of schedules have resulted in undertaking costly measures to ensure aircrew were properly trained because NALF Fentress, with its restrictions, could not accommodate all FCLP requirements.

Recent United States responses to emerging world situations demonstrate a concentrated, short-term increase in military air traffic, not only Navy aircraft. As an example, in addition to mobilization of six aircraft carriers in response to Operation Iraqi Freedom, five Amphibious Readiness Groups (ARGs) also deployed. Preparations for deployment of these ARGs resulted in increased aircraft sorties and congestion around Marine Corps air stations. Air Mobility Command logistic air missions also increased significantly at Navy and Marine Corps air facilities during surge preparation. In the wake of operations Enduring Freedom and Iraqi Freedom, the Navy is institutionalizing surge readiness as a part of the emerging national defense strategy.

A second OLF also increases the number of available FCLP periods earlier in the evening, thus reducing the number of late-night operations at both OLFs as well as the homebases. In addition, although NALF Fentress is and will continue to be used for FCLP by aircraft from NAS Oceana and NS Norfolk Chambers Field, training there is less than optimal because of restrictions such as pattern altitude and lighting and the increase in residential growth around the airfield. A new OLF located at any of the proposed OLF sites would provide a training envi-

ronment with low population density and serve as a valuable training asset for current and future years.

Consequently, the Navy conducted a siting study to identify an OLF site on the East Coast within a reasonable distance determined to optimize FCLP operations for homebased Super Hornet aircraft. The siting study was completed in five phases that included development of site-screening criteria, preliminary site screening, alternatives development, site reconnaissance/ airspace evaluation, and final site evaluation.

In the initial phase, the Navy developed a range of operational and environmental site-screening criteria that were applied during subsequent phases of the siting study. In the preliminary site-screening phase, the Navy used the following site-screening criteria:

- | Seek sites in areas of low population density;
- | Avoid controlled airspace (i.e., Class C or D airspace);
- | Avoid military-controlled or other special use airspace;
- | Avoid obstacles (e.g., tall towers);
- | Avoid extensive wetland complexes or areas of open water; and
- | Avoid public interest areas (e.g., national forests, parks, recreation areas, wildlife refuges, or wilderness areas).

The preliminary site-screening criteria were used to identify general candidate areas in which a site could be identified. In order to identify a range of reasonable siting alternatives, the Navy applied the following secondary screening criteria, which were eventually used to evaluate and compare the potential OLF sites in the final phase of the OLF siting study.

- | Minimize residential land use;
- | Maximize agricultural and forested land use;
- | Minimize airspace constraints;
- | Minimize wetland areas within the approximately 2,000-acre core area; and

- | Minimize impacts to archaeological resources within the approximately 2,000-acre core area.

All the intermediate phases of the OLF siting study were used to collect data and identify the most suitable location for an OLF site to support the final site evaluation.

More than 20 candidate areas were identified for further analysis following the preliminary site screening. The alternatives development phase of the siting study focused on identifying potential sites suitable for the OLF within the broader candidate areas. Following consultations with local and regional planning agencies and a review of topographic, land use/land cover, and LANDSAT satellite imagery maps, 15 candidate sites were identified for further analysis. The total number of sites identified as potential alternatives for construction and operation of an OLF were reduced to seven following the site reconnaissance and airspace evaluation phase of the study:

- # Perquimans County, North Carolina (Site A);
- # Bertie County, North Carolina (Site B);
- # Washington County, North Carolina (Site C);
- # Hyde County, North Carolina (Site D);
- # Craven County, North Carolina (Site E);
- # Carteret County, North Carolina (Site F); and
- # Burke County, Georgia (Site G).

Upon further analysis, OLF Site F was determined to have operational constraints that could not be overcome. This location would pose an unacceptable safety risk for both FCLP and training range operations. For this reason, Site F was removed from further consideration, and Site G in Burke County was relabeled Site F.

The OLF would include an 8,000-foot runway aligned with the prevailing wind direction and ancillary facilities within an approximately 2,000-acre core area.

The OLF site also includes approximately 30,000 acres around the core area, which the Navy would consider for fee-simple land acquisition in order to promote compatible development and land use near the OLF. Fee-simple acquisition would allow the Navy to own land that would be influenced by aircraft operations and ensure that development that is incompatible with aircraft operations, such as residential use, does not occur in the vicinity of the proposed OLF site. Please see Section ES.8.5 or Section 12 of the EIS for a discussion of the Navy's land acquisition strategy.

Residences within the 60 DNL noise contour would be acquired and occupants relocated. For properties identified for acquisition, the Navy would offer property owners a purchase price based on the appraised fair market value of the property at the time the purchase offer is made.

Fort Pickett was eliminated from consideration as a possible OLF site in the initial screening because it was greater than 50 miles from any of the proposed homebasing locations. Additionally, the existing airfield location at Fort Pickett failed to meet the population density criteria of fewer than 50 people per square mile. The remaining areas of the installation/complex were determined to be unsuitable for a new OLF as they failed to meet the existing airspace restrictions criteria due to the presence of the restricted airspace over Fort Pickett. That restricted airspace is needed to support the Army National Guard's use of the installation as a live-fire training range.

In response to comments received on the DEIS, the Navy conducted additional analysis which indicates that even if live-fire operations could be coordinated with FCLP operations or moved to another location (i.e., removal of the restricted airspace concerns), Endangered Species Act, wetlands, range cleanup issues, and the distance to homebases make Fort Pickett undesirable as an OLF.

The Navy considered OLF locations in excess of 50 miles from homebase only when economies of scale could be achieved by an OLF that would support two homebase locations. Although conducting FCLP more than 90 miles from homebase is possible, the distance of over 95 miles from NAS Oceana to Fort Pickett and 140 miles from MCAS Cherry Point to Fort Pickett makes its location far less than optimum for conducting FCLP training. Therefore, Fort Pickett is not considered as an alternative OLF site.

ES.7 Public Involvement and Areas of Controversy

The Navy conducted two scoping periods for the proposed action. Scoping was conducted following the Navy's Notice of Intent (NOI) to prepare an EIS for homebasing Super Hornet aircraft in June 2000 (65 FR 39373). The Navy conducted additional scoping between January and February 2002, after potential alternative sites for an OLF had been identified. The Navy held eight public scoping meetings, which were attended by more than 2,300 persons. Nearly 5,000 agencies, organizations, and concerned citizens provided scoping comments on the Navy's proposed action.

The Draft Environmental Impact Statement (DEIS) was released to the public in August 2002, and the Notice of Availability was published in the *Federal Register* on August 2, 2002 (67 FR 50428). The Navy held fourteen open information session/public hearings on the DEIS. Approximately 2,500 agencies, organizations, and concerned citizens provided comments on the Navy's proposed action and the DEIS.

Areas of concern and controversy include the following:

Proposed Action

Commentors suggested that the Navy consider the environmental impact of not implementing the proposed action, such as the potential for base closure if a homebasing alternative is not selected for siting the Super Hornet squadrons.

Alternatives

Commentors expressed support or opposition for alternative homebasing sites and expressed concern for the security threat associated with single-siting alternatives. Some suggested additional alternatives with different combinations of squadrons. Commentors questioned the OLF siting study and the siting criteria used to identify alternative OLF sites. Many commentors in the vicinity of the proposed OLF sites suggested that the Navy consider constructing a parallel runway at MCAS Cherry Point instead of constructing an OLF or using Marine Corps Auxiliary Landing Field (MCALF) Bogue, an off-shore training platform or aircraft

carrier, or underutilized Naval facilities to support the training requirements of the Super Hornet squadrons.

Operations

Commentors expressed the need for the Navy to evaluate the impact of the proposed action on agricultural aerial applicators and other airspace users in the vicinity of the proposed OLF sites; the impact on resources located below the flight path from the homebase air station to the proposed OLF sites; and clarification of the tempo of operations at the proposed OLF sites. In addition, the U.S. Department of Interior (USDO I) and the State of North Carolina requested additional analyses of the potential impact of projected OLF operations on aerial surveys conducted over federal and state protected lands.

Aircraft Safety

Commentors expressed concern for the safety of the Super Hornet aircraft and other aircraft operating in the vicinity of the alternative homebasing and OLF sites and requested an analysis of the likelihood of an aircraft mishap. Commentors also expressed the need for further analysis of the Bird/Animal Strike Hazard (BASH) in the vicinity of the alternative OLF sites.

Noise Impacts

Commentors are concerned about the impact of noise on the quality of life, human health, sleep, children and their ability to learn, and domestic and wild animals. Commentors requested the Navy provide information on the sound experience to an individual as a result of Super Hornet flight operations.

Land Use

Commentors requested the Navy to conduct additional analyses on the potential loss of value to homes and businesses as a result of aircraft operations. Landowners in the vicinity of the OLF sites are concerned about the Navy's land acquisition strategy.

Air Quality

Commentors expressed concern about the projected increase in aircraft emissions at each of the homebasing and OLF site alternatives. Commentors in the vicinity of NAS Oceana and Naval Auxiliary Landing Field (NALF) Fentress are concerned that the Navy's proposed action will affect the ozone attainment status of the Hampton Roads Air Quality Control Region (AQCR). Although the Hampton Roads AQCR is in attainment for carbon monoxide (CO), the Virginia Department of Environmental Quality (VDEQ) requested that the Navy conduct additional analyses of projected CO emissions under the siting alternatives at NAS Oceana.

Wildlife

Commentors requested further analysis of the impact of operations at the alternative OLF sites on wildlife (primarily migratory birds and waterfowl) in the vicinity of wildlife refuges and other conservation lands in northeastern North Carolina. The USDOJ and the State of North Carolina requested an assessment of impacts to wildlife populations on state and federal protected lands resulting from implementation of a BASH plan designed to discourage migratory birds and waterfowl in the vicinity of the OLF sites.

Socioeconomics

Commentors requested the Navy to conduct additional analyses on lost economic development opportunities as a result of the Super Hornet operations. In addition, commentors expressed concern that locations for the proposed OLF sites are economically depressed already and that the proposed OLF would further reduce local tax revenues for these localities.

Environmental Justice

Several commentors requested that the Navy conduct further studies to determine whether there is a disproportionate project impact on minority and/or low income populations and children.

ES.8 Changes from the DEIS to the FEIS

The following provides a summary of substantive modifications and revised and/or supplemental analyses conducted in the FEIS.

ES.8.1 Strike Fighter Aircraft Assigned to Atlantic Fleet

Based on Congressional authorization, all E and F Super Hornet squadrons assigned to the Atlantic Fleet will each consist of 12 aircraft. While the size of the E squadrons remains the same as stated in the DEIS, the size of each F squadron has been reduced from 14 to 12 aircraft. The Super Hornet FRS squadron will consist of 24 aircraft, eight fewer aircraft than stated in the DEIS.

In addition, the size of the existing Hornet squadrons will be reduced by 2010. Each F/A-18 C squadron will consist of 10 aircraft, two aircraft fewer than stated in the DEIS. The Hornet FRS squadron will consist of 21 aircraft in 2010, seventeen fewer than stated in the DEIS.

Accordingly, the aircraft loading has been reduced under each of the homebasing alternatives. A total of 215 Tomcat and Hornet aircraft will be replaced with 144 Super Hornet aircraft.

Based on these revisions and revisions to the SuperHornet FRS syllabus discussed below, the projected airfield and airspace operations were recalculated for the FEIS using the Naval Aviation Simulation Model (NASMOD). As discussed in the FEIS, the Navy projects fewer aircraft operations at the homebases, OLF sites, and training areas under all of the siting alternatives than those projected in the DEIS. The Navy reevaluated the noise contours, APZs, and aircraft emissions based on the revised number of aircraft and aircraft flight operations in the Hornet and Super Hornet squadrons in 2010.

ES.8.2 Aircraft Operations

Based on experience from preceding Super Hornet transitions, the training syllabus for the FRS was revised in June 2002, eliminating some of the syllabus events for the Super Hornet FRS squadrons and reducing flight operations. In addition, the Navy revised its estimates for the number of replacement pilots who will be trained annually. Based on these revisions and the

number of aircraft, as discussed above, the projected airfield and airspace operations were recalculated for the FEIS using NASMOD. As discussed in the FEIS, the Navy projects fewer aircraft operations at the homebases, OLF sites, and training areas under all of the siting alternatives than those projected in the DEIS. The Navy reevaluated the projected noise contours, APZs, and aircraft emissions based on the revised number of operations as well as the reduction in the number of aircraft in the Hornet and Super Hornet squadrons.

ES.8.3 New Construction for the Homebasing Alternatives

NAS Oceana

The administrative facility is no longer required under any of the siting alternatives at NAS Oceana. The Navy reduced the flight line electrical distribution system (FLEDS) requirement based on a reduction in the projected aircraft loading. The interior of Building 240 will be reconfigured to accommodate Naval Air Maintenance Training (NAMTRA) Super Hornet trainers.

MCAS Cherry Point

The DEIS evaluates the construction and operation associated with a parallel runway for alternatives that would homebase four or more Super Hornet squadrons at MCAS Cherry Point (ALT 2, 4A, 5A, or 5B). Under ALT 2, 5A, or 5B, increased operations would require both a parallel runway (for departures/arrivals) and a new OLF (for FCLP). The analyses based on these assumptions remain valid. Initially, the Navy assumed that either a new OLF or a parallel runway could accommodate the FCLP operations under ALT 4A, and the DEIS evaluated the environmental consequences associated with construction and operation of a parallel runway under ALT 4A. Continuing analysis of FCLP requirements at MCAS Cherry Point resulted in a determination that construction of a parallel runway will not satisfy FCLP requirements for ALT 4A.

Because of potential impacts on existing station infrastructure and other operational limitations, the only viable location for the parallel runway is in the northeast quadrant, east of existing Runway 5L (Figure 2-7). Prevailing winds at MCAS Cherry Point are from the southwest

during the months of March to August and from the northeast during the months of September to February. Such conditions dictate FCLP operations on Runway 5 for approximately six months of the year.

Because FCLP operations require a 600-foot left-hand pattern, FCLP operations on a new or existing Runway 5 present several unacceptable operational constraints and safety risks. Five towers from 151 to 212 feet tall are located directly under the base leg (left turn to final approach). The 145-foot air traffic control tower is only 500 feet to the left of the existing Runway 5L threshold. FCLP pattern APZs and clear zones would encompass the station hospital, child development center, chapel, PX, headquarters, and Naval Aviation Depot (NADEP) rework facility. Additionally, because of the unique runway configuration at MCAS Cherry Point, other aircraft operations would be adversely impacted because access to and from the non-FCLP runway and the ramp areas would require aircraft to cross the FCLP runway. Simultaneous operations by non-FCLP aircraft would be severely limited due to the proximity of the FCLP runway. Finally, any left-handed FCLP pattern established for Runway 5 would produce expanded noise contours and new APZs over the local community.

Because Runway 5 (in either its current configuration or with the proposed parallel runway) cannot accommodate FCLP operations when the prevailing wind is from the northeast, construction of a parallel runway to support FCLP training requirements is no longer considered a viable alternative to an OLF under ALT 4A and is therefore removed from further consideration. This change from the DEIS necessitates that an OLF be built to accommodate FCLP training requirements for ALT 4A.

An aircraft acoustical enclosure (e.g., hush house) is required under all of the siting alternatives at MCAS Cherry Point except ALT 6. Therefore, construction of a hush house has been added to ALT 3 at MCAS Cherry Point; the cost of supporting facilities increases accordingly. The FLEDS requirement has been reduced under all of the siting alternatives based on a reduction in the projected aircraft loading.

MCAS Beaufort

The FLEDS requirement has been reduced under all of the siting alternatives based on a reduction in the projected aircraft loading.

ES.8.4 New Alternative at MCAS Cherry Point

Under ALT 6, the majority of the fleet squadrons (eight squadrons) and the FRS would be stationed at NAS Oceana, and the remaining two fleet squadrons would be stationed at MCAS Cherry Point. In the DEIS, the Navy evaluated the projected aircraft operations and noise contours for the two Super Hornet squadrons at MCAS Cherry Point, assuming that the FCLP operations could be accommodated on the existing runways at MCAS Cherry Point. However, if an OLF is constructed to support the majority of the Super Hornet squadrons at NAS Oceana, any of the OLF site alternatives would be located close enough to MCAS Cherry Point that the two squadrons homebased at MCAS Cherry Point could also use the new OLF. Therefore, in the FEIS, the Navy has evaluated two alternatives for the two squadrons at MCAS Cherry Point: ALT 6 without an OLF (i.e., using the existing runways) and ALT 6 with an OLF.

ES.8.5 Acquisition Strategy for the Proposed OLF

The Navy has refined the acquisition strategy for the proposed OLF. In the DEIS, the acquisition strategy included purchase of land for the approximately 2,000-acre core area, and purchase of surrounding properties and/or acquisition of restrictive easements from surrounding property owners within approximately 50,000 acres, in order to restrict land uses that would be incompatible with aircraft operations. The acquisition strategy being considered in the FEIS is fee-simple land acquisition of approximately 30,000 acres, including the 2,000-acre core area and all lands within the projected greater than 60 decibel day-night average sound level (DNL) noise zones.

Fee-simple acquisition within the 30,000-acre area would provide the Navy more control to ensure that development that is incompatible with aircraft operations, such as residential use, does not occur in the vicinity of the proposed OLF.

The Navy has also refined the projected costs for land acquisition to construct the OLF, which includes relocation of residences within the greater than 60 DNL noise zones.

ES.8.6 Corrections to Existing Flight Track Utilization, Accident Potential Zones (APZs), and Noise Contours at NAS Oceana

The Navy refined the existing flight tracks and utilization data to better reflect actual operation as NAS Oceana, which resulted in revised APZs and noise contours for the air station. Flight tracks 5RD4 and 5RDS were deleted. The distribution of operations on flight tracks 5RD1 and 5RD2 were corrected. Approximately 95% of the operations are conducted on flight track 5RD1, and 5% are conducted on 5RD2. The distribution of operations on flight tracks 5LT1 and 5RT1 was also corrected. Approximately 83% of the operations are conducted on flight track 5LT1, and 17% are conducted on 5RT1. These changes are reflected in Section 3 of the FEIS. These corrections were also included in the impact analysis of homebased alternatives in Section 4 of the FEIS.

ES.8.7 Air Quality Analysis

In the DEIS, the projected change in annual aircraft emissions of VOCs between 2000 and 2010 under ALT 1 exceeded the *de minimis* threshold under the Clean Air Act General Conformity Rule, whether or not an OLF was constructed to support the FCLP operations of the Super Hornet squadrons. During the intervening years of the aircraft transition (2006, 2007, and 2008) for ALT 6, the projected change in annual aircraft emissions of VOCs also exceeded the *de minimis* applicability threshold under the Clean Air Act General Conformity Rule. Because the Navy exceeded the *de minimis* threshold under these alternatives, the Navy prepared a Clean Air Act Conformity Determination (Appendix E in the DEIS) to demonstrate the need for the proposed action to conform with the Virginia State Implementation Plan for maintenance of the ozone standard in the Hampton Roads AQCR.

However, based on revised calculations, the net change in aircraft emissions is below *de minimis* under all of the siting alternatives. Therefore, a Clean Air Act Conformity Determination is no longer required. As discussed in Sections 1.3.1 and 1.3.2, the reduction in aircraft loading and projected aircraft operations at NAS Oceana resulted in a reduction in aircraft emissions. In addition, the Navy refined the transition plan for introduction of the Super Hornet squadrons to replace the Tomcat and Hornet squadrons. In the DEIS, the transition was presented on an annual basis. Therefore, when calculating aircraft emissions, the Navy had to assume that all Tomcat, Hornet, and Super Hornet squadrons operated throughout the year and

that the transition occurred at the end of the year. Following the release of the DEIS, the Navy refined the transition plan on a monthly basis. This allowed the Navy to calculate proportions of the projected annual Hornet, Tomcat, and Super Hornet aircraft emissions for the number of months when aircraft operations for the respective types of aircraft were actually occurring. The Navy has retained Appendix E in the FEIS. Appendix E contains the revisions to the data that had supported the original draft conformity determination, which now support the *de minimis* calculation. Therefore, Appendix E has been renamed *Air Quality Analysis for NAS Oceana*.

Due to concerns expressed by the Virginia Department of Environmental Quality for the estimated levels of CO in the Hampton Roads AQCR under the proposed action, the Navy modeled the potential effects of CO emissions on ambient CO concentrations around NAS Oceana and has included the results of the analysis in the FEIS.

ES.8.8 OLF Flight Tracks and Noise Analysis

The Navy has established primary flight tracks for each of the proposed OLF sites and has remodeled the projected noise contours based on these flight tracks and each homebasing alternative. In addition, the EIS has been amended to include site-specific noise analyses for locations near the proposed OLF site alternatives. These locations were identified by the Navy in cooperation with local government officials from each county where an OLF site alternative has been proposed. The site-specific noise analysis includes the DNL for each of these locations and the five aircraft events and corresponding Sound Exposure Levels (SELs) that contribute the most to the DNL at that location. The DNL at each of these locations is included in Section 12 of the FEIS. The five aircraft events that would contribute the most to the DNL at that location are shown in Appendix F of the *Noise Study for the Introduction of F/A-18 E/F Aircraft to the East Coast of the United States* (Wyle Laboratories, Inc., 2003).

ES.8.9 Supporting Data on SEL

Appendix C in the DEIS, Supporting Data on SEL, is not included in the FEIS. However, it is available for review in Appendix F of the *Noise Study for the Introduction of F/A-18 E/F Aircraft to the East Coast of the United States* (Wyle Laboratories, Inc., 2003). Due to the increased size of Appendix C with the inclusion of the site-specific noise analyses for

each of the OLF sites, the Navy determined that this information should be incorporated by reference. The noise study has been distributed to local libraries near the air stations, military training areas, and OLF site alternatives, and can be viewed and printed from the publicly accessible Web site, <http://www.efaircraft.ene.com>. Therefore, the data are reasonably available for inspection by interested persons.

ES.8.10 Change to One Preferred OLF Site

The OLF site in Craven County is no longer considered one of the Navy's preferred OLF sites, although it is still considered one of the OLF site alternatives in the FEIS. Following the release of the DEIS, the Navy conducted a site tour of the Craven County site with representatives from the U.S. Army Corps of Engineers (USACE) to clarify potential wetlands impacts at the site. Identification of wetlands was difficult because of the drought conditions occurring in Craven County at the time. At the time of the visit, Craven County had experienced below average rainfall (more than 15 inches below normal) over the past four years. The Navy and USACE were in agreement that hydrologic conditions at the site were not "normal" conditions.

None of the potential areas for the OLF runway that were examined during the site visit exhibited saturation within 12 inches of the soil surface. It could not be determined whether the lack of saturation was due to modification of the hydrology of the site by silvicultural activities or because of the drought. However, because of the presence of secondary hydrologic indicators at the site, the USACE would currently classify much of the approximately 2,000-acre Craven County OLF core area as wetland. The Navy would have to furnish definitive information that hydrology has been altered by silvicultural activities to overcome this preliminary classification.

Hydrology is very difficult to prove or disprove, especially during a period of drought. For the Navy to establish that wetland hydrology does not exist at the Craven County OLF site, the USACE would require well monitoring data under "normal" conditions over a two- to three-year period. Further, USEPA guidelines provide that no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge that would have less impact on the aquatic ecosystem. A practicable alternative under Section 404(b)(1) of the Clean Water Act is one that is available and is capable of being implemented after taking into

consideration cost, existing technology, and logistics in light of overall project purposes. The Washington County site would be a practicable alternative for an OLF that would have less impact on the aquatic ecosystem.

Should either of the preferred homebasing alternatives (ALT 4A or ALT 6) be selected, the schedule for the deployment of Super Hornet aircraft to the Atlantic Fleet would conflict with the time needed to undertake two to three years of well monitoring to determine the wetland hydrology at the Craven County OLF site. In addition, while the distance from the Craven County site to NAS Oceana is not beyond the range of the Super Hornet, it is not the operationally optimal distance for NAS Oceana-based Super Hornet FCLP. Further, according to census data, the number of residences located within the 60 DNL noise contours for the Craven County site is the highest of any of the potential OLF sites in North Carolina and nearly five times that of the other preferred OLF site, Washington County. Taking into consideration all of these factors, some known before and some developed after publication of the DEIS, the Navy no longer considers the Craven County OLF as a preferred OLF site, although it remains a viable OLF site alternative.

ES.8.11 Surge Requirements

The rapidly changing strategic environment emerging from the global war on terrorism and the campaigns in Afghanistan and Iraq requires Naval forces that can deliver persistent, credible combat power through both rotational deployments and surge readiness.

In May 2003, the Navy developed a new inter-deployment readiness profile, the "Fleet Response Concept"(FRC), that will improve the Navy's speed of response to world events. The FRC is currently being developed into a Fleet Response Plan (FRP). When implemented, the FRP will modify current ship and squadron operating cycles by adjusting maintenance intervals along with training and manpower processes to increase unit availability for surge operations—that is, building the long-term institutional capability to support a rapid, massive build-up in deployed Naval forces.

The FRP will reapportion existing assets and funding to prepare Naval forces in a more efficient manner while allowing greater flexibility for surge operations. As currently envisioned, FRP will be implemented with no increase in force structure and with little or no additional op-

erational funding. Therefore, it is anticipated that there will be minimal change to the total number of flight operations at the homebase and supporting OLFs.

If the Navy is ordered to surge multiple aircraft carriers and their associated carrier air wings, there will be a concentrated period of higher operational tempo, including FCLP and other flight operations, as squadrons prepare to deploy, followed immediately by a corresponding decrease in such operations once those forces deploy. During these surge periods, existing facilities do not have the capacity to meet the Atlantic Fleet's FCLP requirements efficiently.

The intensity, duration, and timing of surge operations are impossible to predict, thereby making them unsuitable for inclusion in an EIS. However, in the wake of operations Enduring Freedom and Iraqi Freedom, the Navy is institutionalizing surge readiness as a part of the emerging national defense strategy.

ES.8.12 Factual Corrections and Supplemental Analyses

Primarily based on the comments received on the DEIS, a number of factual corrections, data modifications, and supplemental analyses have been included in the FEIS, including:

- | Clarified Life Cycle Cost Analysis (Section 2);
- | Expanded discussion of OLF Siting Study (Section 2);
- | Revised estimated cost of an OLF based on reduced impact area; (Section 2);
- | Updated analyses on the potential of the proposed action to disproportionately impact minority and low-income populations (Sections 4.5, 6.5, 8.5, and 12.5);
- | Modified socioeconomic analyses based on revised personnel and payroll data (Sections 4.5, 6.5, 8.5, and 12.5);
- | Revised analysis of impacts on local tax revenues from construction and operation of an OLF (Section 12.5);
- | Expanded discussion on studies of the potential for aircraft noise to impact children's learning abilities (Appendix B);
- | Modified application of the U.S. Air Force Bird Avoidance Model (BAM) that was used to evaluate the average bird-aircraft strike risk at the proposed OLF sites, expanded discussion of BASH and management plans to reduce the BASH potential in the vicinity of each of the proposed OLF sites, and incorporation of a site-

specific BASH analysis of the preferred alternative Site C based on a radar survey (see Section 12.9);

- | Expanded cumulative impact analysis to include the Navy's Training Resources Strategy, potential Navy/Marine Corps integration, and proposed introduction of the EA-18G, a proposed replacement for the Navy's electronic jamming aircraft, the EA-6B Prowler; and
- | Modified analysis of projected noise exposure at proposed OLF sites to address specific impacts by county.

ES.9 Summary of Potentially Significant Environmental Impacts of the Homebasing Alternatives

ALT 1

All 10 fleet squadrons and the FRS would be stationed at NAS Oceana. This alternative has been evaluated both with and without a proposed new OLF to support the FCLP operations of the Super Hornet squadrons.

The primary impacts associated with single-siting all of the Super Hornet aircraft at NAS Oceana under ALT 1 would be related to an increase in off-station noise exposure.

Under ALT 1, approximately 108,367 people would be within the greater than 65 DNL noise zones for the Oceana/Fentress complex compared to 87,529 people under the modeled 2000 noise zones—a 24% increase over existing conditions. The DNL and noise equivalent sound level (L_{eq}) for schools within the greater than 65 DNL noise zone would increase between 1 and 5 decibels (dB) over existing conditions, depending on location. If an OLF is constructed to support the FCLP operations of the Super Hornet squadrons, the number of people located within the greater than 65 DNL noise zone would be 102,294—a 17% increase over existing conditions. The DNL and L_{eq} at schools around the Oceana/Fentress complex would generally be the same as the DNL or L_{eq} at these schools without an OLF, with some experiencing a decrease between 1 and 6 dB, depending on the school's location.

Other resource areas were evaluated; however, no significant impacts were identified. The military training areas, including BT-9, BT-11, and the Dare County Range, would not be significantly impacted under ALT 1.

ALT 2

All 10 fleet squadrons and the FRS would be stationed at MCAS Cherry Point. This alternative has been evaluated with a proposed new OLF to support the FCLP operations of the Super Hornet squadrons and a proposed new parallel runway to support increased arrivals and departures. The primary impacts associated with single-siting all of the Super Hornet aircraft at MCAS Cherry Point would be related to an increase in off-station noise exposure, expansion of the off-station APZs, increased air emissions, and construction of support facilities. The projected increase in military and civilian personnel stationed or employed at MCAS Cherry Point would also result in positive economic impacts.

Under ALT 2, the primary impacts associated with the reduction of Tomcat and Hornet squadrons from NAS Oceana would be related to a decrease in the off-station noise exposure and loss of military and civilian personnel stationed or employed at NAS Oceana.

Under ALT 2, approximately 11,434 people would be within the greater than 65 DNL noise zones around MCAS Cherry Point compared to 8,713 people under the modeled 2000 noise zones—a 31% increase over existing conditions. The DNL and L_{eq} for schools within the greater than 65 DNL noise zones would increase between 2 and 7 dB over existing conditions, depending on location. With the transitioning of the Tomcat and Hornet squadrons from NAS Oceana, approximately 64,042 people would be within the greater than 65 DNL noise zones around the Oceana/Fentress complex compared to 87,529 people under the modeled 2000 noise zones—a 27% decrease below existing conditions. The DNL and L_{eq} for schools within the greater than 65 DNL noise zone would generally decrease between 1 and 4 dB, depending on location, below existing conditions.

Projected airfield operations at MCAS Cherry Point would result in an increase in the off-station area within APZs. ALT 2 would result in 5,630 acres of land within the APZs compared to the current 3,179 acres—a 77% increase over existing conditions. With the transitioning of the Tomcat and Hornet squadrons from NAS Oceana, approximately 2,271 acres would be within the APZs around NAS Oceana compared to the current 5,546 acres—a 59% decrease below existing conditions. Projected airfield operations at NALF Fentress would not affect the off-station area within APZs under ALT 2.

Projected operations of the Super Hornet aircraft at MCAS Cherry Point would result in an increase in all criteria air pollutants—VOCs, CO, NO_x, SO₂, and PM₁₀. Mobile emissions are not covered under the state's air emission permitting program. However, net aircraft-related emission changes for VOCs and CO would be considered potentially significant under PSD stationary air pollution source regulations if these emissions were produced by stationary sources. Transitioning of the Tomcat and Hornet squadrons from NAS Oceana would result in a decrease in emissions of all criteria air pollutants.

Construction of support facilities at MCAS Cherry Point would result in the loss of on-station wetlands. An estimated 42 to 45 acres of wetland would be impacted, mainly as a result of construction of the new parallel runway. Additional impacts associated with the parallel runway would include the filling of approximately 7.2 acres within the 100-year floodplain and removal of forested vegetation along Hancock Creek and eight of its tributaries.

Under ALT 2, an estimated 5,531 military and civilian personnel would relocate to MCAS Cherry Point, which would increase the payroll expenditures at the station by approximately \$191.2 million dollars. Increased spending due to new construction, increased payroll, and other station expenditures would have a positive economic impact on the communities around MCAS Cherry Point. An estimated 7,202 military and civilian personnel currently stationed or employed at NAS Oceana would likely relocate from communities around NAS Oceana with the transitioning of the Tomcat and Hornet squadrons, resulting in a loss of \$240.4 million in payroll expenditures.

Other resource areas were evaluated; however, no significant impacts were identified. The military training areas, including BT-9, BT-11, and the Dare County Range, would not be significantly impacted under ALT 2.

ALT 3

All 10 fleet squadrons and the FRS would be stationed at MCAS Beaufort. This alternative has been evaluated with a proposed new OLF to support the FCLP operations of the Super Hornet squadrons, and a proposed new parallel runway to support increased arrivals and departures and some FCLP operations at MCAS Beaufort.

In order to accommodate all of the Super Hornet squadrons at MCAS Beaufort, all existing Marine Corps military personnel and assets would be relocated to MCAS Cherry Point. This alternative has been evaluated with a proposed new parallel runway at MCAS Cherry Point to support the flight operations of the Marine Corps Hornet squadrons relocating from MCAS Beaufort. The primary impacts associated with single-siting all of the Super Hornet aircraft at MCAS Beaufort and transferring existing Marine Corps Hornet squadrons to MCAS Cherry Point would be related to an increase in off-station noise exposure, expansion of the off-station APZs, increased air emissions, and construction of support facilities at both MCAS Beaufort and MCAS Cherry Point. The projected increase in military and civilian personnel stationed or employed at MCAS Beaufort and MCAS Cherry Point would also result in positive economic impacts.

Under ALT 3, the primary impacts associated with the reduction of Tomcat and Hornet squadrons from NAS Oceana would be related to a decrease in the off-station noise exposure and loss of military and civilian personnel stationed or employed at NAS Oceana. These impacts are similar to those discussed under ALT 2, and are not presented here.

Under ALT 3, approximately 6,073 people would be within the greater than 65 DNL noise zones around MCAS Beaufort compared to 4,934 people under the modeled 2000 noise zones—a 23% increase over existing conditions. No schools would be located within the greater than 65 DNL noise zones. With the relocation of the Marine Corps Hornet squadrons to MCAS Cherry Point under ALT 3, approximately 9,479 people would be within the greater than 65 DNL noise zones around MCAS Cherry Point compared to 8,713 people under modeled 2000 noise zones—a 9% increase over existing conditions. The DNL and L_{eq} for schools within the greater than 65 DNL noise zones would increase between 1 and 3 dB over existing conditions, depending on location.

Projected airfield operations at MCAS Beaufort would result in an increase in the off-station area within APZs. ALT 3 would result in 4,632 acres of land within the APZs compared to the current 2,840 acres—an increase of 63% over existing conditions. Projected airfield operations at MCAS Cherry Point would result in an increase in the off-station area within APZs. ALT 3 would result in 3,553 acres of land within the APZs compared to the current 3,179 acres—a 12% increase over existing conditions.

Projected operations of the Super Hornet aircraft at MCAS Beaufort would result in an increase in all criteria air pollutants—VOCs, CO, NO_x, SO₂, and PM₁₀. Mobile emissions are not covered under the state's air emission permitting program. However, net aircraft-related emission changes for CO would be considered potentially significant under PSD stationary air pollution source regulations if these emissions were produced by stationary sources.

Relocation of the Marine Corps Hornet squadrons at MCAS Cherry Point would result in an increase in all criteria air pollutants at MCAS Cherry Point. Mobile source emissions are not covered under the state's air emission permitting program. However, net aircraft-related emission changes of CO would be considered potentially significant under PSD stationary air pollution source regulations if these emissions were produced by stationary sources.

Construction of support facilities at MCAS Beaufort and MCAS Cherry Point would result in the loss of on-station wetlands. Approximately 81.8 acres of wetland would be impacted at MCAS Beaufort, mainly as a result of construction of the new parallel runway. The parallel runway would also result in the filling of approximately 15.3 acres within the 100-year floodplain. An estimated 42 to 45 acres of wetland would be impacted at MCAS Cherry Point, mainly as a result of construction of the new parallel runway. Additional impacts associated with the parallel runway at MCAS Cherry Point would include the filling of approximately 7.2 acres within the 100-year floodplain and removal of forested vegetation along Hancock Creek and eight of its tributaries.

Under ALT 3, 1,054 additional military and civilian personnel would be stationed or employed at MCAS Beaufort after the transition of the Super Hornet squadrons to MCAS Beaufort and the relocation of the Marine Corps Hornets to MCAS Cherry Point. An additional 3,978 military and civilian personnel would be stationed or employed at MCAS Cherry Point compared to the current personnel loading. Payroll expenditures at MCAS Beaufort would increase by approximately \$39.0 million dollars; payroll expenditures at MCAS Cherry Point would increase by approximately \$132.2 million dollars. Increased spending due to new construction, increased payroll, and other station expenditures would have a positive economic impact on the communities around MCAS Beaufort and MCAS Cherry Point.

Other resource areas were evaluated; however, no significant impacts were identified. The military training areas, including the Townsend Bombing Range, would not be significantly impacted under ALT 3.

ALT 4A/4B

Six fleet squadrons and the FRS would be stationed at NAS Oceana, and the remaining four fleet squadrons would be stationed at either MCAS Cherry Point (ALT 4A) or MCAS Beaufort (ALT 4B). ALT 4B differs from ALT 4A at NAS Oceana because under ALT 4B, the two Navy Hornet squadrons currently stationed at MCAS Beaufort would be transferred to NAS Oceana. However, under ALT 4A, these two Navy Hornet squadrons would remain at MCAS Beaufort. These alternatives have been evaluated both with and without a proposed new OLF to support the FCLP operations of the Super Hornet squadrons stationed at NAS Oceana. Under ALT 4A, the four Super Hornet fleet squadrons stationed at MCAS Cherry Point would also use the proposed new OLF due to the proximity of these two air stations. However, under ALT 4B, the four Super Hornet fleet squadrons would require either a parallel runway or a proposed new OLF in the vicinity of MCAS Beaufort to support the operations of the four squadrons.

The primary impacts associated with siting the majority of the Super Hornet fleet squadrons (six squadrons) and the FRS at NAS Oceana and the remaining four fleet squadrons at MCAS Cherry Point (ALT 4A) or MCAS Beaufort (ALT 4B) would be related to an increase in off-station noise exposure for the Oceana/Fentress complex under either ALT 4A or 4B; an increase in off-station noise exposure and increased air emissions, at MCAS Cherry Point under ALT 4A; and an increase in off-station noise exposure with construction of a parallel runway or OLF, and expansion of the off-station APZs and construction of support facilities with construction of a parallel runway at MCAS Beaufort under ALT 4B.

Under ALT 4A, approximately 99,114 people would be within the greater than 65 DNL noise zones around the Oceana/Fentress complex compared to 87,529 people under the modeled 2000 noise zones—a 13% increase over existing conditions. Under ALT 4B, approximately 102,270 people would be within the greater than 65 DNL noise zones around the Oceana/Fentress complex compared to 87,529 people under the modeled 2000 noise zones—

a 17% increase over existing conditions. The DNL and L_{eq} for schools within the greater than 65 DNL noise zones around NAS Oceana would increase between 0 and 4 dB over existing conditions, depending on location, under either ALT 4A or 4B.

If an OLF is constructed to support the FCLP operations of the Super Hornet squadrons stationed at NAS Oceana under ALT 4A, the number of people located within the greater than 65 DNL noise zones for the Oceana/Fentress complex would be 94,842 compared to 87,529 people under the modeled 2000 noise zones—an 8% increase over existing conditions. If an OLF is constructed to support the FCLP operations of the Super Hornet squadrons stationed at NAS Oceana under ALT 4B, the number of people located within the greater than 65 DNL noise zones for the Oceana/Fentress complex would be 97,923 compared to 87,529 people under the modeled 2000 noise zones—a 12% increase over existing conditions. If an OLF is constructed under ALT 4A or 4B, the DNL and L_{eq} for schools within the greater than 65 DNL noise zones around NAS Oceana would generally decrease between 1 and 5 dB, depending on location, or stay the same compared to ALT 4A or 4B without an OLF.

Under ALT 4A, approximately 9,504 people would be within the greater than 65 DNL noise zones around MCAS Cherry Point compared to 8,713 people under the modeled 2000 noise zones—a 9% increase over existing conditions. The DNL and L_{eq} for the schools within the greater than 65 DNL noise zones would increase between 0 and 3 dB over existing conditions, depending on location.

Under ALT 4B, approximately 4,785 people would be within the greater than 65 DNL noise zones around MCAS Beaufort if a parallel runway is constructed to support the FCLP operations of the four fleet squadrons, compared to 4,934 people under the modeled 2000 zones—a 3% decrease below existing conditions. If an OLF is constructed instead of a parallel runway to support the FCLP operations of the four fleet squadrons, approximately 4,791 people would be within the greater than 65 DNL noise zones compared to 4,934 under the modeled 2000 zones—a 3% decrease below existing conditions. Although fewer people are within the greater than 65 DNL noise zones with construction of an OLF or construction of a parallel runway under ALT 5B, more people are within the greater than 75 DNL noise zone. No schools would be located within the greater than 65 DNL noise zones around MCAS Beaufort if either a parallel runway or an OLF is constructed to support the four fleet squadrons.

Projected airfield operations at NAS Oceana would result in a decrease in the off-station area within APZs under either ALT 4A or 4B, whether or not an OLF is constructed to support the FCLP operations of the Super Hornet squadrons. Projected airfield operations at NALF Fentress would not affect the off-station area within APZs under either ALT 4A or 4B, whether or not an OLF is constructed to support the FCLP operations of the Super Hornet squadrons. ALT 4A would result in 3,966 acres of land within the APZs for NAS Oceana compared to the current 5,546—a decrease of 28% below existing conditions. ALT 4B would result in 4,835 acres of land within the APZs for NAS Oceana compared to the current 5,546—a decrease of 13% below existing conditions.

The land area within the APZs for MCAS Cherry Point is not projected to change under ALT 4A compared to the existing APZs.

Projected airfield operations at MCAS Beaufort under ALT 4B would result in an increase in the off-station area within APZs if a parallel runway is constructed, and a decrease in the off-station area within APZs if an OLF is constructed. If a parallel runway is constructed to support the four fleet squadrons, ALT 4B would result in 3,537 acres of land within the APZs at MCAS Beaufort compared to the current 2,840 acres—a 25% increase over existing conditions. If an OLF is constructed to support the four fleet squadrons, ALT 4B would result in 1,788 acres of land within the APZs at MCAS Beaufort compared to the current 2,840 acres—a 37% decrease below existing conditions.

Projected operations of the Super Hornet aircraft at MCAS Cherry Point under ALT 4A would result in an increase in all criteria air pollutants—VOCs, CO, NO_x, SO₂, and PM₁₀. Mobile emissions are not covered under the state's air emission permitting program. However, net aircraft-related emission changes for CO would be considered potentially significant under PSD stationary air pollution source regulations if these emissions were produced by stationary sources.

Projected operations of the Super Hornet aircraft at MCAS Beaufort under ALT 4B would result in an increase in all criteria air pollutants—VOCs, CO, NO_x, SO₂, and PM₁₀ whether an OLF or a parallel runway is constructed to support the FCLP operations of the four fleet squadrons. Mobile emissions are not covered under the state's air emission permitting program. However, net aircraft-related emission changes for all criteria pollutants would be

below the threshold considered potentially significant under PSD stationary air pollution source regulations if these emissions were produced by stationary sources.

Construction of a parallel runway at MCAS Beaufort under ALT 4B would result in a loss of approximately 81.8 acres of wetland. The parallel runway would also result in the filling of approximately 15.3 acres within the 100-year floodplain. If an OLF is constructed to support the four fleet squadrons under ALT 4B, impacts to wetlands at MCAS Beaufort would not be significant. Less than 5 acres of wetlands would be impacted at MCAS Cherry Point under ALT 4A, and no impacts to wetlands would occur at NAS Oceana under either ALT 4A or 4B.

Other resource areas were evaluated; however, no significant impacts were identified. The military training areas, including BT-9, BT-11, and the Dare County Range under ALT 4A, and the Townsend Bombing Range under ALT 4B, would not be significantly impacted.

ALT 5A or 5B

Six fleet squadrons and the FRS would be stationed at MCAS Cherry Point, and the remaining four fleet squadrons would be stationed at either NAS Oceana (ALT 5A) or MCAS Beaufort (ALT 5B). This alternative has been evaluated with a proposed new OLF to support the FCLP operations of the Super Hornet squadrons stationed at MCAS Cherry Point and a proposed new parallel runway to support increased arrivals and departures there. Under ALT 5A, the four Super Hornet fleet squadrons stationed at NAS Oceana could also use the proposed new OLF due to the proximity of these two air stations; however, the EIS has evaluated ALT 5A at NAS Oceana assuming that the four fleet squadrons stationed there would use NALF Fentress. Under ALT 5B, the four Super Hornet fleet squadrons stationed at MCAS Beaufort would require either a parallel runway or a proposed new OLF in the vicinity of MCAS Beaufort to support the operations of the four squadrons.

The primary impacts associated with siting the majority of the Super Hornet fleet squadrons (six squadrons) and the FRS at MCAS Cherry Point and the remaining four fleet squadrons at NAS Oceana (ALT 5A) or MCAS Beaufort (ALT 5B) would be related to an increase in off-station noise exposure, increased air emissions, expansion of the off-station APZs, and construction of support facilities at MCAS Cherry Point under either 5A or 5B; and an increase

in off-station noise exposure with construction of a parallel runway or OLF, and, expansion of the off-station APZs and construction of support facilities with construction of a parallel runway at MCAS Beaufort under ALT 5B. In addition, under ALT 5A and 5B, the projected increase in military and civilian personnel stationed or employed at MCAS Cherry Point would result in positive economic impacts. No significant environmental impacts are expected at NAS Oceana under ALT 5A.

Under ALT 5A or 5B, approximately 10,951 people would be within the greater than 65 DNL noise zones around MCAS Cherry Point compared to 8,713 people under the modeled 2000 noise zones—a 26% increase over existing conditions. The DNL and L_{eq} for schools within the greater than 65 DNL noise zone would increase between 1 and 6 dB over existing conditions, depending on location, under either ALT 5A or 5B. With the transitioning of the Tomcat and Hornet squadrons at NAS Oceana and the siting of four fleet squadrons under ALT 5A, existing noise levels would decrease. Under ALT 5A, approximately 75,880 people would be within the greater than 65 DNL noise zones around the Oceana/Fentress complex compared to 87,529 people under the modeled 2000 noise zones—a 13% decrease below existing conditions. The DNL and L_{eq} for schools within the greater than 65 DNL noise zone would generally decrease between 1 and 3 dB, depending on location, or stay the same, compared to existing conditions.

Under ALT 5B, approximately 4,785 people would be within the greater than 65 DNL noise zones around MCAS Beaufort if a parallel runway is constructed to support the FCLP operations of the four fleet squadrons, compared to 4,934 people under the modeled 2000 noise zones—a 3% decrease below existing conditions. If an OLF is constructed instead of a parallel runway to support the FCLP operations of the four fleet squadrons, approximately 4,791 people would be within the greater than 65 DNL noise zones compared to 4,934 under the modeled 2000 noise zones—a 3% decrease below existing conditions. Although fewer people are within the greater than 65 DNL noise zones with construction of an OLF or construction of a parallel runway under ALT 5B, more people are within the greater than 75 DNL noise zone. No schools would be located within the greater than 65 DNL noise zones around MCAS Beaufort if either a parallel runway or an OLF is constructed to support the four fleet squadrons.

Projected airfield operations at MCAS Cherry Point would result in an increase in the off-station area within APZs. ALT 5A or 5B would result in 5,100 acres of land within the APZs compared to the current 3,179 acres—a 60% increase over existing conditions.

Projected airfield operations associated with siting four fleet squadrons at NAS Oceana under ALT 5A would result in a decrease in the off-station area within APZs. ALT 5A would result in 3,430 acres of land within the APZs compared to 5,546 acres—a 38% decrease below existing conditions.

Projected airfield operations at MCAS Beaufort under ALT 5B would result in an increase in the off-station area within APZs if a parallel runway is constructed and a decrease in the off-station area within APZs if an OLF is constructed. If a parallel runway is constructed to support the four fleet squadrons, ALT 5B would result in 3,537 acres of land within the APZs at MCAS Beaufort compared to the current 2,840 acres—a 25% increase over existing conditions. If an OLF is constructed to support the four fleet squadrons, ALT 5B would result in 1,788 acres of land within the APZs at MCAS Beaufort compared to the current 2,840 acres—a 37% decrease below existing conditions.

Projected operations of the Super Hornet aircraft at MCAS Cherry Point under ALT 5A or 5B would result in an increase in all criteria air pollutants—VOCs, CO, NO_x, SO₂, and PM₁₀. Mobile emissions are not covered under the state's air-emission permitting program. However, net aircraft-related emission changes for VOCs and CO would be considered potentially significant under PSD stationary air pollution source regulations if these emissions were produced by stationary sources under either ALT 5A or 5B.

Projected operations of the Super Hornet aircraft at MCAS Beaufort under ALT 5B would result in an increase in all criteria air pollutants—VOCs, CO, NO_x, SO₂, and PM₁₀—whether an OLF or a parallel runway is constructed to support the FCLP operations of the four fleet squadrons. Mobile emissions are not covered under the state's air-emission permitting program. However, net aircraft-related emission changes for all criteria pollutants would be below the threshold considered potentially significant under PSD stationary air pollution source regulations if these emissions were produced by stationary sources.

Construction of support facilities at MCAS Cherry Point under ALT 5A or 5B would result in the loss of on-station wetlands. An estimated 42 to 45 acres of wetland would be im-

pacted mainly as the result of construction of the new parallel runway. Additional impacts associated with the parallel runway at MCAS Cherry Point would include the filling of approximately 7.2 acres within the 100-year floodplain and removal of forested vegetation along Hancock Creek and eight of its tributaries.

Construction of a parallel runway at MCAS Beaufort under ALT 5B would result in a loss of approximately 81.8 acres of wetland. The parallel runway would also result in the filling of approximately 15.3 acres within the 100-year floodplain.

Under ALT 5A or 5B, an estimated 4,188 military and civilian personnel would relocate to MCAS Cherry Point, which would increase the payroll expenditures at the station by approximately \$143.9 million dollars. Increased spending due to new construction, increased payroll, and other station expenditures would have a positive economic impact on the communities around MCAS Cherry Point.

Other resource areas were evaluated; however, no significant impacts were identified. The military training areas, including BT-9, BT-11, and the Dare County Range under ALT 5A, and the Townsend Bombing Range under ALT 5B, would not be significantly impacted.

ALT 6

Eight fleet squadrons and the FRS would be stationed at NAS Oceana, and the remaining two fleet squadrons would be stationed at MCAS Cherry Point. This alternative has been evaluated both with and without a proposed new OLF to support the FCLP operations of the Super Hornet squadrons stationed at NAS Oceana. The two Super Hornet fleet squadrons stationed at MCAS Cherry Point could also use the proposed new OLF due to the proximity of these two air stations; however, the EIS has evaluated both use of the new OLF by the two fleet squadrons and use of existing airfield facilities at MCAS Cherry Point for these two fleet squadrons. The primary impacts associated with siting the majority of the Super Hornet fleet squadrons (eight squadrons) and the FRS at NAS Oceana and the remaining two fleet squadrons at MCAS Cherry Point would be related to an increase in off-station noise exposure and increased air emissions at NAS Oceana.

Under ALT 6, approximately 104,288 people would be within the greater than 65 DNL noise zones around the Oceana/Fentress complex compared to 87,529 people under the

modeled 2000 noise zones—a 19% increase over existing conditions. The DNL and L_{eq} for schools within the greater than 65 DNL noise zone would increase between 0 and 4 dB, depending on location, over existing conditions. If an OLF is constructed to support the FCLP operations of the Super Hornet squadrons at NAS Oceana, the number of people located within the greater than 65 DNL noise zones around the Oceana/Fentress complex would be 97,560, compared to 87,529 under the modeled 2000 noise zones—an 11% increase over existing conditions. Construction of an OLF would generally decrease the DNL and L_{eq} at schools around NAS Oceana between 1 and 6 dB, depending on location, or maintain them at the same levels, compared to ALT 6 without an OLF.

Under ALT 6, approximately 8,941 people would be within the greater than 65 DNL noise zones around MCAS Cherry Point if existing airfield facilities are used by the two fleet squadrons, compared to 8,713 under the modeled 2000 noise zones—a 3% increase over existing conditions. The DNL and L_{eq} for schools within the greater than 65 DNL noise zone would increase between 0 and 2 dB over existing conditions. Approximately 8,915 people would be within the greater than 65 DNL noise zones around MCAS Cherry Point if the two fleet squadrons train at the new OLF, compared to 8,713 under the modeled 2000 noise zones—a 2% increase over existing conditions. The DNL and L_{eq} for schools within the greater than 65 DNL noise zone would generally increase between 0 and 2 dB over existing conditions.

Projected operations of the Super Hornet aircraft at MCAS Cherry Point under ALT 6 would result in an increase in all criteria air pollutants—VOCs, CO, NO_x , SO_2 , and PM_{10} . Mobile emissions are not covered under the state's air emission permitting program. However, net aircraft-related emission changes for all criteria pollutants would be below the threshold considered potentially significant under PSD stationary air pollution source regulations if these emissions were produced by stationary sources.

Other resource areas were evaluated; however, no significant impacts were identified. The military training areas, including BT-9, BT-11, and the Dare County Range, would not be significantly impacted under ALT 6.

ES.10 Summary of Potentially Significant Environmental Impacts of OLF Site Alternatives

The impacts that would occur as a result of construction of an OLF at each of the proposed sites include the following:

- # **Airspace.** The proposed OLF would be used primarily for FCLP operations of the Super Hornet squadrons. Class D airspace would be established in conjunction with an air traffic control tower at the OLF site. Military airspace managers have been actively involved throughout the conceptual development of the proposed OLF in reviewing and evaluating the potential for airspace conflicts with recognized FAA-controlled airspaces. Following the identification of specific alternative OLF sites, the Navy requested that FAA act as a cooperating agency in this NEPA process and began working with FAA to develop information needed for FAA review of airspace issues. The FAA is a cooperating agency on the EIS. In addition, the FAA will conduct a final aeronautical review of the selected OLF site.
- # **Noise/APZs.** Current noise levels at each of the proposed OLF sites are very low (between 40 and 50 DNL) and correspond to a typical rural environment. Construction of an OLF would result in a significant increase in noise exposure in these rural environments. The projected 60 DNL noise contours at the OLF sites encompass approximately 25,000 acres. Table ES-2 depicts the number of people at each of the proposed OLF sites who would experience noise exposure at levels of 60 DNL or greater.

The acreage that would be contained within the projected APZs for each of the proposed OLF sites is estimated at 5,100 acres. Table ES-3 depicts the number of people at each of the proposed OLF sites who would fall within the projected APZs for each site.

- # **Land Use.** An estimated 25%, or 500 acres, of the proposed approximately 2,000-acre core area would require conversion of existing land uses to military-related uses, including runways, taxiways, parking aprons, ancillary facilities, and clear zones. Additionally, land uses surrounding the proposed OLF site would be exposed to higher noise levels and the potential for aircraft mishaps associated with operations at the OLF.

Table ES-2 Estimated Population within Modeled Noise Zones for Proposed OLF Sites^a

OLF Site	County	Noise Zone ^b (DNL)				Total Population by County	Total Population by Site
		60-65 dB	65-70 dB	70-75 dB	>75 dB		
Site A	Perquimans	204	159	95	140	598	606
	Pasquotank	8	0	0	0	8	
Site B	Bertie	203	156	91	211	661	661
Site C	Washington	60	23	15	26	124	141
	Beaufort	15	0	2	0	17	
Site D ^c	Hyde	74	48	9	0	131	131
Site E	Craven	289	151	78	163	681	687 ^d
	Beaufort	4	2	0	0	6	
Site F	Burke	90	46	75	181	392	393
	Allendale	1	0	0	0	1	

Source: Wyle Laboratories, Inc., 2003.

- ^a The table provides the projected population within the noise zones for Sites A, B, C, D, and E under ALT 1, and for Site F under ALT 3, because these alternatives would result in the largest area within the noise zones at the respective sites.
- ^b Population estimates are based on an assumption of equal population distribution throughout the noise zones. In actuality, the population within these contours would be expected to be considerably lower.
- ^c Because Hyde County is a single census tract, with no differentiation in population trends within the county, these numbers are not representative of the actual populations within the noise contours. Based on field surveys, these estimates are likely significantly higher than actually occur.
- ^d This population total does not include the 712-bed Craven Correctional Institute, which is located southeast of the site between the 60 to 65 and 65 to 70 dB DNL noise contour on State Route 1637 in Vanceboro, North Carolina.

Table ES-3 Estimated Population^a within Modeled APZs for Alternative OLF Sites

OLF Site	County	APZ			Total Population by County	Total Population by Site
		Clear Zone	APZ 1	APZ 2		
Site A	Perquimans	2	10	81	93	93
Site B	Bertie	5	30	118	153	153
Site C	Washington	1	1	17	19	19
Site D	Hyde	0	0	0	0	0
Site E	Craven	0	16	124	140	140
Site F	Burke	3	22	77	102	102

^a Population estimates are based on an assumption of equal population distribution throughout APZs. In actuality, the population within these APZs would be expected to be considerably lower.

Terrestrial Resources. Vegetative and wildlife habitat disturbance would occur at each OLF site as a result of construction of the airfield and ancillary facilities and from development of clear zones. However, because each of the OLF sites occurs in areas of intensive agricultural and/or silvicultural land uses, no significant impacts to natural terrestrial communities would occur. Wildlife may be temporarily disturbed during construction and impacted by the increase in noise levels around the OLF during operation. Additionally, because the proposed OLF sites are located

in relatively non-urbanized areas within the Atlantic Flyway, the sites would have elevated BASH risk levels during the fall and winter months. However, with the exception of Site D, the BASH risk levels at each of the OLF sites would be similar to those currently being effectively managed at other East Coast military installations.

- # **Socioeconomics.** Construction of an OLF could potentially impact tax revenue for local jurisdictions. A tax revenue loss would be associated with the amount of land acquired in fee simple for the OLF. The Navy would consider agricultural out-leases. These parcels could continue in productive use because agricultural land uses are considered compatible with aircraft operations at the OLF.

Within the states of North Carolina and Georgia, all non-federal property is taxable unless made exempt by state law. Individual counties can grant tax exemptions, exclusions, or deferments on real and personal property. The lost tax revenues presented in the EIS reflect a possible worst-case scenario and do not take into account the tax deferment exemptions of individual counties. Depending on the county selected for the OLF, the contour being examined, and the size of the land area being evaluated, property tax losses could range from \$140,197 (less than 1%) to \$231,908 (approximately 5%).

The Navy would work with the local jurisdiction to minimize the impacts of the potential loss of property tax revenues to the greatest extent possible. The Navy would explore strategies for contracting with the local jurisdiction for the provision of necessary services such as utility support and/or maintenance. The Navy would also consider development of mutually beneficial partnerships with the affected counties to enhance the provision of mutually required utility services. Assistance would be sought from the Department of Defense's Office of Economic Adjustment (OEA). OEA manages the Joint Land Use Study (JLUS) Program that is designed to encourage cooperative land use planning between military installations and the surrounding communities so that future community growth and development are compatible with the training and operational missions of the military installations or test and training ranges. The JLUS program also seeks ways to reduce the operational impacts of military activities on the adjacent communities. Agriculture out-leases and timber sales are two additional programs that could assist the local jurisdiction. Where the primary land use of the approximately 30,000 acre OLF is agricultural, the Navy would most likely look to outlease significant portions of that land so that farming can continue. The taxes generated from profits on those farming activities would continue to provide tax revenue to the local jurisdiction.

Finally, the Department of Education administers an indirect aid program, the Impact Aid for Federal Property program, that provides funds for local educational agencies in communities that are impaired because large tracts of land (over 10% of the assessed value in the local education agency) are taken out of the local tax base by the federal government.

Construction of an OLF would also result in site-specific impacts. For certain counties, impacts to airspace, soils (prime farmlands), terrestrial resources (vegetation and wildlife), water resources (wetlands), and cultural resources may occur. These site-specific impacts include the following:

Site A (Perquimans County, NC)

OLF Site A may affect airspace in the vicinity of the Elizabeth City Coast Guard Air Station/Regional Airport in Elizabeth City, North Carolina, as Visual Flight Rule (VFR) flights occurring in the area may be impacted.

Agency coordination indicated that there were no federally listed threatened or endangered species documented as occurring within the area of Site A. Suitable habitat for federally listed species was not observed during field reconnaissance efforts. If Site A would be selected, it is expected that there would be no effect on threatened or endangered species.

Site B (Bertie County, NC)

OLF Site B would require the relocation of a small private airfield.

Approximately 65%, or 1,300 acres, of the proposed approximately 2,000-acre core area of OLF Site B is mapped as having prime farmland soils. Based on the evaluation of the site using the site assessment criteria from the U.S. Department of Agriculture, Farmland Conservation Impact Rating Form, removal of these soils for construction of an OLF would represent a significant loss of prime farmland to Bertie County. This impact, however, may not be permanent as the Navy could out-lease unused agricultural acreage surrounding the OLF property.

The red-cockaded woodpecker and bald eagle were identified as potentially occurring in the vicinity of the OLF Site B. It is expected that OLF Site B would have no effect on the red-cockaded woodpecker because of the lack of suitable habitat on and around Site B and the species' ability to adapt to local disturbances (i.e., noise). The absence of suitable habitat and the distance from Site B to suitable habitat suggest that the OLF at Site B would have no effect on the bald eagle. Indirect effects, however, may arise within the noise zones from increased noise levels. These impacts would be temporary, as the bald eagle would be expected to ac-

climate to the jet aircraft noise. Therefore, it is expected that the OLF at Site B would not likely adversely affect the bald eagle.

Site C (Washington County, NC)

OLF Site C may affect airspace in the vicinity of the Plymouth Municipal Airport in Plymouth, North Carolina, as VFR flights occurring in the area may be impacted. Additionally, OLF Site C would require the relocation of a private airfield.

Approximately 85%, or 1,700 acres of the proposed Site C 2,000-acre core area is mapped as prime farmland soils. Based on the evaluation of the site using the site assessment criteria from the U.S. Department of Agriculture, Farmland Conservation Impact Rating Form, removal of these soils for construction of an OLF would represent a significant loss of prime farmland in Washington County. This impact, however, may not be permanent as the Navy could out-lease unused agricultural acreage surrounding the OLF property.

Significant concentrations of migratory waterfowl occur within 5 miles of Site C in the vicinity of the Pungo Unit of Pocosin Lakes National Wildlife Refuge (NWR). The results of a bird radar survey completed at the site indicate that periods of time exist during which a significant number of potentially hazardous bird species move through the airspace that would be used by aircraft operating at Site C. However, the overall amount of time when bird concentrations would cause an elevated bird/aircraft strike risk is minimal in comparison to low-risk periods. In addition, the radar survey indicated that daily peaks in bird movements and hourly trends in bird concentrations were easily detectable. Based on these factors, the use of bird detection radar would greatly reduce the risk posed by birds at Site C.

A relatively small portion of the low-level flight tracks at Site C, where flight altitudes would range from 2,000 to 2,500 feet AGL, would be located above or adjacent to significant snow goose and tundra swan loafing and foraging areas located outside of the NWR boundary. Although flight altitudes along this portion of the flight tracks indicate that the BASH risk would not be considered severe, overflights down to 2,000 feet AGL may cause snow geese to flush more frequently from their loafing and feeding sites. The Navy would work with the United States Fish and Wildlife Service (USFWS) and state resource agencies to evaluate site-specific

mitigation measures to reduce potential impacts to snow goose populations prior to construction of an OLF at this site.

Agency coordination indicated that the bald eagle is known to occur in the general vicinity of Site C. Site C does not contain nesting, roosting, or perching habitat for the bald eagle; therefore, the presence of bald eagles at Site C would be limited to incidental occurrences by individuals traveling over the site during migration or those that travel greater than average distances from nest sites to forage. Based on the absence of suitable nesting, roosting, or perching habitat, and studies suggesting that noise has a minimal effect on bald eagles, selecting Site C is not likely to adversely affect the bald eagle. The USFWS has concurred with this determination. Site C is located in an area important to the growth and recovery of the wild red wolf population. Wild red wolves could potentially occur in Pocosin Lakes NWR, approximately 5 miles east of the site. Based on a lack of reproductive and shelter habitat, wild red wolves would be considered only transient at Site C, if present. As previously discussed, no low-level flight tracks would be located above Pocosin Lakes NWR, and noise levels in the refuge would increase by an insignificant amount due to aircraft operations at Site C. Therefore, placement of an OLF at Site C is not likely to adversely affect the red wolves occurring in Pocosin Lakes NWR. The USFWS has concurred with this determination.

Site D (Hyde County, NC)

The proximity of Site D to the Dare County Range presents significant safety and operational issues to establishing an OLF in the proposed location. Additionally, OLF Site D would potentially affect operations in the vicinity of the Hyde County Airport.

Habitat conditions in the vicinity of Site D indicate that the site would have a high BASH potential. Adherence to BASH avoidance measures that may be required to ensure safe training conditions could potentially limit the operational flexibility of an OLF at Site D.

Portions of the low-level flight tracks at Site D would be located above the Alligator River NWR and Mattamuskeet NWR. The low-level flights and associated noise exposure would likely result in some level of displacement of resident wildlife populations within Alligator River NWR. Within Mattamuskeet NWR, migratory waterfowl may be impacted by the overflights through increased occurrences of flushing from loafing and feeding areas.

The red-cockaded woodpecker, bald eagle, and American alligator were identified as potentially occurring in the vicinity of OLF Site D. It is expected that the siting of the OLF at Site D would not likely adversely affect the red-cockaded woodpecker because of the lack of habitat and the species' ability to adapt to local disturbances (i.e., noise). The potential occurrence of the bald eagle in the vicinity of Site D is most likely related to the proximity of the site to the NWRs north and south of the site. While the bald eagle could be transient to the approximately 2,000-acre proposed core area, no suitable habitat is present at the proposed core area; however, USFWS has stated that an OLF at Site D may adversely impact the bald eagle. If the Navy decided to construct an OLF at Site D, consultation with USFWS will occur, and the preparation of a biological assessment could be required to fulfill Section 7(a)(2) of the Endangered Species Act. It is expected that there would be no effect to the American alligator. Consultation with the USFWS would be required prior to construction of an OLF at this site.

Site D is also located in an area that has been designated as important for the growth and recovery of the wild red wolf population. Site D is located within one of five counties containing wild populations of the red wolf. Based on information provided by USFWS, several radio-collared wolves may be located within or near the proposed OLF site. USFWS has indicated that the siting of an OLF at Site D is likely to adversely affect the current red wolf population through the potential destruction of habitat. In recognition of the fact that the red wolf may occur within Site D and on NWR lands, there is some potential that the red wolf may be adversely affected by development of Site D. The Navy would consult with USFWS to develop any necessary mitigation plans if Site D were selected.

An estimated 238 acres of wetlands lie within the approximately 2,000-acre proposed core area at Site D, some of which may be filled for construction of airfield facilities. However, the Navy will coordinate with the U.S. Army Corps of Engineers (USACE) to obtain the necessary permits and approvals for any unavoidable impacts to wetlands resulting from the construction of the OLF. Design efforts would incorporate impact avoidance and minimization measures to the maximum extent practicable.

Site E (Craven County, NC)

Operation of an OLF at Site E would potentially impact airspace use in the vicinity of the Craven County Regional Airport in New Bern, North Carolina.

Agency coordination indicated that the federally listed bald eagle, red-cockaded woodpecker, and West Indian manatee potentially occur in the vicinity of Site E. Due to the lack of habitat and the distance to suitable habitat, it is expected that the OLF at Site E would have no effect on the bald eagle. Selecting Site E would not likely adversely affect the red-cockaded woodpecker because of the absence of habitat at Site E and the species' ability to adapt to local disturbances (i.e., noise). Based on the lack of impacts to the Pamlico River and Blounts Creek, either from construction activity or from an increase in noise levels, the OLF at Site C would have no effect on the West Indian Manatee. The USFWS has concurred with these determinations.

Wetlands impacts would occur at Site E based on the extent of hydric soils and mapped National Wetland Inventory (NWI) wetlands present on site. The entire approximately 2,000-acre core area is maintained as pine plantation. Due to clear-cutting activities, vegetation is sparse or altogether absent on much of the Site E property. Additionally, drainage operations on Site E have altered natural flow patterns to facilitate timbering activities. The Navy would coordinate with the USACE to obtain the necessary permits and approvals for any unavoidable impacts to wetlands resulting from the construction of the OLF; design efforts would incorporate impact avoidance and minimization measures to the maximum extent practicable.

Site F (Burke County, GA)

Operation of an OLF at Site F would potentially impact airspace use in the vicinity of the Burke County Airport in Waynesboro, Georgia.

Agency coordination indicated that six federally listed species occur within Burke County, including the red-cockaded woodpecker, bald eagle, wood stork, eastern indigo snake, flatwoods salamander, and shortnose sturgeon. It is expected that the OLF at Site F would not likely adversely affect the red-cockaded woodpecker because of the lack of suitable habitat and the species' ability to adapt to local disturbances (i.e., noise). Similarly, due to the lack of habitat and the distance to suitable habitat, coupled with the temporary nature of impacts

associated with noise, it is expected that the bald eagle and wood stork are not likely to be adversely affected by the OLF at Site F.

During the summer months, the eastern indigo snake forages in creek bottoms, upland forests, and agricultural fields. The flatwoods salamander is found in flatwoods dominated by longleaf or slash pine. Based on the availability of suitable habitat in the vicinity of Site F, the proposed construction of an OLF in this location may adversely affect the eastern indigo snake and flatwoods salamander. A site survey would be necessary to fulfill Section 7 (a) (2) of the Endangered Species Act, and consultation with the USFWS would be required prior to construction of an OLF at this site. An OLF at Site F would have no effect on the shortnose sturgeon, because of the distance of Site F from potentially suitable habitat.

There are an estimated 174 acres of wetlands within the approximately 2,000-acre proposed core area, some of which would have the potential for being filled for construction of airfield facilities. The Navy would coordinate with USACE to obtain the necessary permits and approvals for wetlands impacted through construction of the OLF and design the facility to minimize impacts to on-site wetlands to the maximum extent practicable.

Eight archaeological sites have been identified at Site F, and the entire surface of the site is considered to have a high potential for containing currently unknown archaeological sites. Additional consultation with the Georgia Department of Natural Resources (GADNR) would be required prior to construction of an OLF at this site.