

Draft Environmental Assessment

MCAS Miramar Vernal Pool Mitigation Area Planning



**Marine Corps Air Station Miramar
San Diego, California**

April 2015

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Draft Environmental Assessment

Abstract

1 **Lead Agency for the EA:** United States Marine Corps Air Station Miramar
2 **Title of Proposed Action:** Vernal Pool Mitigation Area Planning at Marine Corps Air Station
3 Miramar
4 **Affected Region:** San Diego, San Diego County, CA
5 **Designation:** Draft Environmental Assessment

6 The United States (U.S.) Marine Corps Air Station (MCAS) Miramar has prepared this Draft
7 Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA)
8 of 1969; 42 *United States Code* §§ 4321–4370h, as implemented by the Council on Environmental Quality
9 regulations, 40 *Code of Federal Regulations* Parts 1500–1508; and Marine Corps Order P5090.2A,
10 Change 3, Chapter 12, 26 August 2013, *Environmental Compliance and Protection Manual*, which
11 establishes procedures for implementing NEPA. The purpose of the proposed action is to establish and
12 manage proposed mitigation areas at MCAS Miramar to compensate for impacts to federally listed vernal
13 pool species and/or jurisdictional Waters of the U.S. Proposed mitigation areas would be used in the
14 future as part of a long-term mitigation/conservation strategy developed in coordination with the
15 U.S. Fish and Wildlife Service (USFWS) and U.S. Army Corps of Engineers (USACE) with the objective
16 of streamlining compensatory mitigation and reducing project by project cost. This is needed to maintain
17 flexibility to implement new actions at the Station, such as adding new land uses, facilities, or training
18 areas, and to mitigate for adverse impacts to federally listed vernal pool species and jurisdictional Waters
19 of the U.S. This EA analyzes three (3) alternatives and the No Action Alternative.

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Acronyms and Abbreviations

1	AICUZ	Air Installations Compatible Use Zones
2	APE	Area of Potential Effects
3	APZ	accident potential zone
4	BMP	best management practice
5	BP	before present
6	BRAC	Base Realignment and Closure
7	CAA	Clean Air Act
8	California ARB	California Air Resources Board
9	CDFW	California Department of Fish and Wildlife
10	CEQ	Council on Environmental Quality
11	CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
12	CFR	<i>Code of Federal Regulations</i>
13	CH ₄	methane
14	CNEL	Community Noise Equivalent Level
15	CO	carbon monoxide
16	CO ₂	carbon dioxide
17	CO ₂ e	CO ₂ equivalent
18	CP&L	Community Plans and Liaison Office
19	CWA	Clean Water Act
20	dba	decibels A-weighted
21	DERP	Defense Environmental Restoration Program
22	DoD	Department of Defense
23	DODINST	DoD Instruction
24	DoN	Department of the Navy
25	EA	Environmental Assessment
26	EIS	Environmental Impact Statement
27	EMD	Environmental Management Department
28	EO	Executive Order
29	EOD	Explosive Ordnance Disposal
30	EPA	United States Environmental Protection Agency
31	ESA	Endangered Species Act
32	ESO	Explosive Safety Officer
33	ESS	Explosives Safety Submission
34	FEMA	Federal Emergency Management Agency
35	FONSI	Finding of No Significant Impact
36	FUDS	formerly used defense sites
37	GHG	greenhouse gas
38	GIS	geographic information system
39	GWP	global warming potential
40	HAP	hazardous air pollutant
41	HQMC	Headquarters Marine Corps
42	I-	Interstate
43	I&L	Installations and Logistics
44	ICRMP	Integrated Cultural Resources Management Plan
45	I MEF	First Marine Expeditionary Force
46	INRMP	Integrated Natural Resources Management Plan
47	IRP	Installation Restoration Program
48	LEED	Leadership in Energy and Environmental Design
49	LOS	level of service
50	MAW	Marine Aircraft Wing

1	MBTA	Migratory Bird Treaty Act
2	MCAS Miramar	Marine Corps Air Station Miramar
3	MCB	Marine Corps Base
4	MCI West	Marine Corps Installations West
5	MCICOM	Marine Corps Installations Command
6	MCO	Marine Corps Order
7	MARCORSYSCOM	Marine Corps Systems Command
8	MMRP	Military Munitions Response Program
9	MRP	Munitions Response Program
10	MRSPP	Munitions Response Site Prioritization Protocol
11	N ₂ O	nitrous oxide
12	NAAQS	National Ambient Air Quality Standards
13	NAS	Naval Air Station
14	NAVFAC	Naval Facilities Engineering Command
15	NAVFAC SW	Naval Facilities Engineering Command Southwest
16	NEPA	National Environmental Policy Act
17	NHPA	National Historic Preservation Act
18	NO _x	oxides of nitrogen
19	NOSSA	Naval Ordnance Safety and Security Activity
20	NPDES	National Pollutant Discharge Elimination System
21	NRHP	National Register of Historic Places
22	NVC	National Vegetation Classification
23	O ₃	ozone
24	OPNAVINST	Chief of Naval Operations Instruction
25	PA	Preliminary Assessment
26	PM _{2.5}	particulate matter less than or equal to 2.5 microns in diameter
27	PM ₁₀	particulate matter less than or equal to 10 microns in diameter
28	POL	Petroleum, Oil, and Lubricant
29	PSD	Prevention of Significant Deterioration
30	PWD	Public Works Division
31	RCRA	Resource Conservation and Recovery Act
32	RE	Real Estate
33	ROD	Record of Decision
34	ROI	region of influence
35	RONA	Record of Non-Applicability
36	RWQCB	Regional Water Quality Control Board
37	SDAB	San Diego Air Basin
38	SDCAPCD	San Diego County Air Pollution Control District
39	SDG&E	San Diego Gas and Electric
40	SHPO	State Historic Preservation Officer
41	SIP	State Implementation Plan
42	SO ₂	sulfur dioxide
43	SPCC	Spill Prevention, Control, and Countermeasures
44	SR-	State Route
45	Station	Marine Corps Air Station Miramar
46	SWPPP	Storm Water Pollution Prevention Plan
47	SWRCB	State Water Resources Control Board
48	TAC	toxic air contaminant
49	TECOM	Commanding General Training and Education Command
50	U.S.	United States
51	USACE	United States Army Corps of Engineers
52	USC	<i>United States Code</i>
53	USFWS	United States Fish and Wildlife Service

1	USMC	United States Marine Corps
2	UXO	unexploded ordnance
3	VA	Department of Veterans Affairs
4	VOC	volatile organic compound

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Executive Summary

1 The United States Marine Corps (USMC) has prepared this Environmental Assessment (EA) in
2 accordance with the National Environmental Policy Act (NEPA) of 1969, 42 *United States*
3 *Code* §§ 4321-4370h, as implemented by the Council on Environmental Quality (CEQ) regulations,
4 40 *Code of Federal Regulations* Parts 1500-1508, and Marine Corps Order P5090.2A, Change 3,
5 Chapter 12, dated 26 August 2013, *Environmental Compliance and Protection Manual*, which establishes
6 procedures for implementing NEPA.

7 This EA describes the potential environmental consequences resulting from a proposal by Marine Corps
8 Air Station (MCAS) Miramar, San Diego, California to establish and manage mitigation areas at MCAS
9 Miramar to compensate for impacts to federally listed vernal pool species and/or jurisdictional Waters of
10 the United States (U.S.). Proposed mitigation areas would be used in the future as part of a
11 mitigation/conservation strategy, which may include a self-use, joint Endangered Species Act and
12 Clean Water Act conservation/mitigation bank (herein referred to as “conservation/mitigation bank”),
13 in-lieu fee mitigation program, or for permittee-responsible advanced mitigation. The USMC has
14 developed three action alternatives: Alternative 1 (Full Mitigation Plan), Alternative 2 (Partial
15 Configuration A – Areas Alpha, Bravo North, Delta, and Echo), and Alternative 3 (Partial Configuration
16 B – Areas Charlie, Delta, Echo, and Foxtrot). The alternatives differ in the mix of proposed mitigation
17 areas that would be implemented.

18 The CEQ regulations, NEPA, and the USMC procedures for implementing NEPA specify that an EA
19 should address only those resource areas potentially subject to impacts. In addition, the level of analysis
20 should be equivalent with the anticipated level of environmental impact. Based on this guidance, the
21 following resource areas were evaluated for potential environmental consequences: Air Quality;
22 Biological Resources; Cultural Resources; Geologic Resources; Land Use; Public Health and Safety; and
23 Water Resources. Results of the air quality analysis indicate the emissions would be less than the
24 General Conformity Rule thresholds which would satisfy the condition of a Clean Air Act Record of
25 Non-Applicability to be prepared. Several other resource areas have been reviewed for environmental
26 impacts but have not been carried forward for detailed analysis in this EA because potential impacts were
27 determined to be negligible, including visual resources, environmental justice and protection of children,
28 public services, socioeconomics, transportation/circulation/traffic, noise, and utilities.

29 The potential environmental consequences associated with implementation of Alternative 1,
30 Alternative 2, Alternative 3, and the No Action Alternative are summarized briefly in Table ES-1. As
31 shown in Table ES-1, implementation of Alternative 1, Alternative 2, Alternative 3, and the No Action
32 Alternative would not result in significant adverse impacts to any resource area with the inclusion of
33 Environmental Protection Measures. Beneficial impacts would occur for Biological Resources and Land
34 Use under all alternatives except the No Action Alternative. Based on the analysis presented in this EA,
35 the USMC has identified Alternative 1 as the Preferred Alternative.

Table ES-1. Summary of Impacts

Resource Area	Alternative 1: Full Mitigation Area (Preferred Alternative)	Alternative 2: Partial Configuration A (Areas Alpha, Bravo North, Delta, and Echo)	Alternative 3: Partial Configuration B (Areas Charlie, Delta, Echo, and Foxtrot)	No Action Alternative
Air Quality	NSI	NSI	NSI	NI
Biological Resources	NSI/BI	NSI/BI	NSI/BI	NI
Cultural Resources	NSI	NSI	NSI	NI
Geologic Resources	NSI	NSI	NSI	NI
Land Use	NSI/BI	NSI/BI	NSI/BI	NI
Public Health and Safety	NSI	NSI	NSI	NI
Water Resources	NI (Groundwater); NSI (Surface Water; Floodplains/Flooding; Water Quality)	NI (Groundwater); NSI (Surface Water; Floodplains/Flooding; Water Quality)	NI (Groundwater); NSI (Surface Water; Floodplains/Flooding; Water Quality)	NI
Notes: BI = Beneficial Impact; I = Impact; NI = No Impact; NSI = No Significant Impact				

1 Purpose and Need for Proposed Action

1.1 Introduction

This Environmental Assessment (EA) has been prepared by Marine Corps Air Station Miramar (MCAS Miramar or Station) in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 *United States Code* [USC] §§ 4321–4370h, as amended), as implemented by the Council on Environmental Quality (CEQ) *Regulations for Implementing the Procedural Provisions of NEPA* (40 *Code of Federal Regulations* [CFR] Parts 1500–1508). Each federal agency is required to develop its own regulations that are consistent with NEPA. As such, the Department of Defense (DoD) developed DoD Instruction (DODINST) 4715.9. The DoD instructs each branch to develop procedures that are specific to their mission requirements. The Department of the Navy (DoN), which has two unique branches, published DoN regulations at 32 CFR 775 that required the Chief of Naval Operations and the Commandant of the Marine Corps to create branch-specific procedures. The United States Marine Corps (USMC) *Environmental Compliance and Protection Manual* (Marine Corps Order [MCO] P5090.2A, Change 3, Chapter 12, dated 26 August 2013) was created to meet this requirement. All USMC installations, including MCAS Miramar, comply with the MCO P5090.2A and thus, each document referenced above.

In addition, NEPA encourages public involvement in the environmental review process, and the development of this EA includes the public review of this EA. Please refer to Section 1.7 for additional information regarding the public participation process for the proposed action.

Under NEPA, agencies with jurisdiction by law or special expertise with respect to an environmental impact associated with a proposed action or alternative may be identified as a cooperating agency. Several federal agencies, including the United States Environmental Protection Agency (EPA), United States Army Corps of Engineers (USACE), and the United States Fish and Wildlife Service (USFWS), have a regulatory role in approving the wetland habitat development plans and banking instruments for the proposed action, consistent with applicable policies and regulations of the Endangered Species Act (ESA) and the Federal Water Pollution Control Act (or Clean Water Act [CWA]). Therefore, MCAS Miramar invited these agencies to participate as federal cooperating agencies with MCAS Miramar in the NEPA process (Appendix A, Agency Correspondence).

This EA presents an analysis of the potential environmental impacts resulting from a proposal to establish and manage mitigation areas at MCAS Miramar in San Diego, California, to compensate for impacts to federally listed vernal pool species and/or jurisdictional Waters of the United States (U.S.) (Figure 1-1). Proposed mitigation areas would be used in the future as part of a mitigation/conservation strategy, which may include a self-use, joint ESA and CWA conservation/mitigation bank (herein referred to as “conservation/mitigation bank”), in-lieu fee mitigation program, or for permittee-responsible advanced mitigation.

1.2 Background

1.2.1 MCAS Miramar Mission

The USMC is required to properly train Marines to meet the training and operational readiness requirements set forth in USC Title 10, Subtitle C, Part 1, Chapter 507, §5063. MCAS Miramar directly supports this mission and serves as an area for training, operation of critical West Coast assets, and as home for the Third Marine Aircraft Wing (3rd MAW). The 3rd MAW serves as the aviation combat element for the First Marine Expeditionary Force (I MEF) and provides combat-ready, expeditionary aviation forces capable of short-notice, worldwide deployment to Marine Air Ground Task Force and Unified Commanders.

1 The 3rd MAW conducts aviation operations, including offensive air support, anti-air warfare, assault
2 support, aerial reconnaissance, electronic warfare, and control of aircraft and missiles. To support the
3 3rd MAW, MCAS Miramar operates the airfield and provides equipment support for staging, loading and
4 unloading, and service assets. MCAS Miramar’s ranges and training areas are used by 3rd MAW ground
5 support units, other tenant commands, and visiting units. The training areas include live-fire small arms
6 training, land-based navigation, convoy operations, communications, air traffic control, an aircraft fire
7 rescue training site, and a nuclear, biological, and chemical training facility.

8 **1.2.2 MCAS Miramar Environmental Management**

9 MCAS Miramar is subject to restrictions under the CWA and the ESA, among others. The CWA requires
10 that no jurisdictional Waters of the U.S., including wetlands, shall be impacted unless permitted by the
11 USACE, and impacts can be mitigated. The ESA prohibits the “taking”¹ of federally listed (threatened
12 and endangered) species unless authorized in consultation with the USFWS. Habitat mitigation may be
13 proposed as a way to minimize adverse impacts to a listed species. Should any impact to CWA-regulated
14 Waters of the U.S. or federally listed species occur, mitigation may be required as a condition during
15 consultation. However, opportunities to compensate for these impacts off-Station are rarely available. In
16 addition, the few off-Station parcels with vernal pool wetland habitat that are available are cost
17 prohibitive to purchase.

18 Currently, MCAS Miramar consults on impacts to natural resources on a project-by-project basis.
19 Without a broader mitigation/conservation strategy, projects at MCAS Miramar would have to
20 individually fund compensatory mitigation for any impacts to federally listed vernal pool species and/or
21 Waters of the U.S. For smaller projects managed by MCAS Miramar, the costs associated with
22 implementing mitigation requirements have the potential to exceed the cost thresholds that require
23 programming as a Military Construction Project. Military Construction Projects must be approved and
24 funded through the Congressional legislation process, which can take years, making it more difficult for
25 projects to be implemented within a reasonable time frame.

26 **1.2.3 Compensatory Mitigation and Conservation/Mitigation Banking Background**

27 To meet the evolving nature of the USMC mission, MCAS Miramar must maintain flexibility to
28 implement new actions at the Station such as adding new land uses, facilities, or training areas. Given
29 existing operational and environmental constraints to land use at MCAS Miramar, these actions may
30 affect natural resources, including federally listed vernal pool species and jurisdictional Waters of the
31 U.S. As noted above, impacts to these resources require compensatory mitigation where protection and
32 conservation in place is not possible or feasible. In support of this requirement, the proposed action would
33 establish mitigation areas at the Station in advance of specific project mitigation requirements. These
34 locations may simply be identified as mitigation areas where project-specific mitigation could occur in the
35 future. Alternatively, the Station is considering use of the proposed mitigation areas to develop and
36 conserve a self-use joint CWA and ESA conservation/mitigation bank. Mitigation areas, regardless of
37 type, would require long-term conservation and protection as necessary elements of conservation or
38 mitigation banks. Long-term conservation requires compliance with DODINST 4715.03 and possibly
39 coordination with the General Services Administration.²

¹ The term ‘take’ as defined under ESA (16 USC Section 1532) means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

² Conservation and mitigation banks are typically permanently protected lands that contain natural resource values. Section 13(a)(2) of DODINST 4715.03 details that “DoD components [i.e., USMC] shall not restrict the use of DoD fee-owned or withdrawn lands such that the lands may be unavailable for otherwise appropriate mission uses.” This and other DoD-specific regulations are discussed in greater detail in Section 2.1.1.1.

1 Conservation and mitigation banks share many of the same characteristics, primarily because they entail
2 the restoration and enhancement of a natural resource. The term “conservation bank” refers to lands that
3 are conserved and managed for species that are endangered, threatened, candidates for listing, or are
4 otherwise designated species-at-risk under the ESA (USFWS 2012a). Conservation banks contribute to
5 species recovery and allow for more reliable mitigation of species impacts because they provide habitat to
6 preserve federally listed species. A “mitigation bank” is a wetland, stream, or other aquatic resource area
7 (in this case vernal pools) that has been restored, established, enhanced, or (in certain circumstances)
8 preserved for the purpose of providing compensation for unavoidable impacts to aquatic resources
9 permitted under the CWA and/or applicable state wetland regulations (EPA 2013). Vernal pools can be
10 conserved under both the ESA and the CWA for the benefit of federally listed species and for the
11 purposes of providing compensation for unavoidable impacts to aquatic resources; therefore, these
12 resources on MCAS Miramar can be managed as one joint bank. Mitigation and conservation banks
13 may be created when a government agency, corporation, nonprofit organization, or other entity
14 undertakes these activities under a formal agreement with a regulatory agency. Any formalized
15 conservation/mitigation bank needs to have a banking instrument, which documents agency concurrence
16 on the objectives and administration of the bank. Requirements for conservation banks and mitigation
17 banks are sufficiently similar that both can be addressed concurrently.

18 Advanced mitigation planning, whether as established mitigation areas or as a formally structured
19 conservation/mitigation bank, serves to streamline the regulatory process, reduce further conflict between
20 natural resource management and the military mission at the Station, reduce per-acre mitigation costs, and
21 alleviate mitigation cost pressures on individual project proponents.

22 **1.3 Location**

23 MCAS Miramar is located approximately 13 miles north of downtown San Diego and 4 miles east of the
24 Pacific Ocean (Figure 1-1). The Station is 23,065 acres in size and the southern and western boundaries
25 are generally defined by State Route 52 (SR-52) and Interstate 805 (I-805). The communities of Mira
26 Mesa and Scripps Ranch have been built up to the northern limits of the Station. The communities of
27 Tierrasanta and Clairemont are located to the south of the Station. The community of University City is
28 located to the west. The eastern boundary abuts the City of Santee and an unincorporated area of
29 San Diego County.

30 The proposed action would occur on MCAS Miramar. Specific locations are the subject of the alternatives
31 presented in Chapter 2.

32 **1.4 Purpose and Need**

33 To meet the evolving nature of the USMC mission, MCAS Miramar must maintain flexibility to
34 implement new actions at the Station such as adding new land uses, facilities, or training areas. As a result
35 of land use constraints and loss of vernal pools throughout the region, new development on MCAS
36 Miramar are likely to impact federally listed vernal pool species and jurisdictional Waters of the U.S.
37 Adverse impacts must be mitigated and, as a result, the USMC needs to establish mitigation areas for
38 impacts to federally listed vernal pool species and jurisdictional Waters of the U.S. that would not impact
39 MCAS Miramar operations, existing leases, or easements. Creating vernal pools in advance of individual
40 projects improves planning and provides a more efficient means of mitigating.

1.5 Regulatory Setting and Intergovernmental Coordination

This EA is written to analyze potential environmental impacts that may occur should the proposed action be implemented. It discusses reasonable alternatives for meeting the purpose and need for the proposed action; existing environmental conditions in the vicinity of the proposed action; direct, indirect, and cumulative impacts that might result from the proposed action; and measures to avoid or minimize potential adverse impacts. The analysis provides the MCAS Miramar Commanding Officer with information to support a well-informed decision as to which alternative best fulfills the purpose and need for the proposed action while avoiding or minimizing adverse environmental impacts. The MCAS Miramar Commanding Officer may also choose to implement the No Action Alternative, which would result in the proposed action not being completed. For more information on alternatives examined within this EA, please see Section 2.2.

This EA has been prepared in accordance with applicable public law, federal regulations, and instructions, including, but not limited to, those identified in Table 1-1.

Table 1-1. Applicable Public Law, Federal Regulations, and Instructions

Name	Regulation
Public Law	
National Environmental Policy Act of 1969	42 USC §§ 4321–4370h
National Historic Preservation Act	54 USC §§ 300101
Clean Water Act	33 USC §§ 1251–1387
Clean Air Act, as amended, including 1990 General Conformity Rule	42 USC §§ 7401–7671q
Comprehensive Environmental Response, Compensation, and Liability Act	42 USC §§ 9601–9675
Resource Conservation and Recovery Act	42 USC §§ 6901–6992k
Endangered Species Act	16 USC §§ 1531–1544
Migratory Bird Treaty Act	16 USC §§ 703–712
Federal Regulations	
Council on Environmental Quality Regulations for Implementing the Procedural Provisions of National Environmental Policy Act	40 CFR Parts 1500–1508
Department of the Navy Procedures for Implementing National Environmental Policy Act	32 CFR Part 775
Federal Guidance for the Establishment, Use and Operation of Mitigation Banks	60 CFR Part 58605
Executive Orders	
Federal Compliance with Pollution Control Standards	EO 12088
Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations, 11 February 1994	EO 12898
Protection of Children from Environmental Health Risks and Safety Risks, 23 April 1997	EO 13045
Responsibility of Federal Agencies to Protect Migratory Birds, 11 January 2001	EO 13186
Protection of Wetlands, 24 May 1977	EO 11990
Invasive Species	EO 13112
Federal Compliance with Pollution Control Standards	EO 12088
Strengthening Federal Environmental, Energy, and Transportation Management	EO 13423
Cooperation Among Agencies in Protecting the Environment with Respect to Greenhouse Gas Emissions from Motor Vehicles, Nonroad Vehicles, and Nonroad Engines	EO 13432
Federal Leadership in Environmental, Energy, and Economic Performance	EO 13514
Department of the Navy Instructions	
United States Marine Corps Environmental Compliance and Protection Manual	Commandant of the Marine Corps Order P5090.2A
Notes: CFR = Code of Federal Regulations; EO = Executive Order; USC = United States Code	

1 NEPA requires consideration of potential impacts to the environment in the decision-making process for
2 federal actions. CEQ regulations implement the “action forcing” provisions of NEPA to ensure that
3 federal agencies comply with the letter and spirit of NEPA. MCO P5090.2A provides specific guidance
4 for MCAS Miramar in preparing environmental documents for proposed actions subject to NEPA.

5 The proposed action may require the following permits, plans, certifications, and/or determinations:

- 6 • ESA Biological Opinion from the USFWS;
- 7 • Conservation Bank or other agreement from the USFWS;
- 8 • CWA Section 404 permit from the USACE;
- 9 • CWA Section 230 (EPA) and 332.8 (USACE) requirements (Banking Prospectus, Bank Enabling
10 Instrument, Mitigation Plan [See Section 1.2 for more detail]); and/or
- 11 • 33 CFR Section 332.4(c) requirements (Mitigation Plan) approved by the USACE—required for
12 permittee-responsible advanced mitigation or in-lieu fee mitigation program, if implemented.

13 Under NEPA, any federal agency, other than the lead agency, that has jurisdiction by law or special
14 expertise with respect to an environmental impact associated with a proposed action or alternative may be
15 identified as a cooperating agency. Several federal agencies, including the EPA, USACE, and USFWS,
16 have a regulatory role in approving the wetland habitat development plans and banking instruments for
17 the proposed action.

18 As discussed in Section 1.1, MCAS Miramar has invited the USACE and USFWS to participate as
19 federal cooperating agencies with MCAS Miramar in the NEPA process (Appendix A, Agency
20 Correspondence). As cooperating agencies, the USACE and USFWS assume responsibility for
21 developing information and preparing environmental analysis, including portions of this EA for which the
22 agency has special expertise (40 CFR §1501.6). They may adopt this EA without recirculation if, after
23 independent review, the agency concludes that its comments and suggestions have been satisfied
24 (40 CFR §1506.3).

25 In addition, MCAS Miramar is coordinating with the EPA and invited the EPA to participate in the NEPA
26 process as a cooperating agency. The EPA declined the invitation to be a cooperating agency; however,
27 the agency is supportive of the concept and will coordinate with MCAS Miramar as needed.

28 MCAS Miramar is in consultation with local Native American Tribes and the State Historic Preservation
29 Office. Discussion with the General Services Administration concerning long-term management of
30 federal properties may be required. If any access to bank sites would need to be established outside of the
31 MCAS Miramar boundary, coordination with the appropriate parties may be undertaken. Cooperating
32 agencies, such as the USACE, may use lead agency consultations to support any additional permit
33 responsibilities.

34 **1.6 Scope of Analysis**

35 CEQ and DoN regulations and MCO P5090.2A, Chapter 12, specify that an EA should focus on those
36 resource areas potentially subject to impacts. The level of analysis should be equivalent to the anticipated
37 level of environmental impact. Resource areas analyzed in detail in this EA include the following:

- Air quality/greenhouse gases;
- Biological resources;
- Geologic resources;
- Land use; and

- Cultural resources;
- Public health and safety;
- Water resources

1 Several other resource areas were considered but not carried forward for detailed analysis in this EA
2 because potential impacts from the alternatives would be non-existent or would be considered negligible.
3 Resources not analyzed further include visual resources, environmental justice, public services,
4 socioeconomics, transportation/circulation/traffic, noise, and utilities, as described below.

5 **Visual Resources:** The proposed action would not adversely affect visual resources. The proposed action
6 involves creation and/or restoration of vernal pools that would be consistent with the existing visual
7 landscape at MCAS Miramar and the surrounding area. While removal of non-native trees and shrubs is
8 anticipated, no new buildings or other structures would be included as part of the project and the proposed
9 action would not result in a permanent alteration of the current visual setting. The resulting area would
10 represent a natural landscape consistent with other native environments in the region. Therefore, impacts
11 on visual resources would not occur.

12 **Environmental Justice and Protection of Children:** The proposed action would comply with Executive
13 Order (EO) 12898, *Federal Actions to Address Environmental Justice in Minority and Low-income*
14 *Populations*, and EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*.
15 No communities, including low-income communities and minority communities, exist at or adjacent to
16 the proposed mitigation areas. The proposed action would not result in any long-term change to the
17 characteristics of the landscape or result in any functions that may otherwise affect the local population.
18 The proposed action would not result in disproportionate impacts to minority or low-income populations
19 and would not result in environmental health or safety risks to children. Therefore, no environmental
20 justice or impacts to children would occur.

21 **Public Services:** There would be no additional military, government, civilian, and/or contractor support
22 personnel stationed at MCAS Miramar as a result of the proposed action. Consequently, the proposed
23 action would not require any increase in public services. Short-term basin development/restoration would
24 not result in any interruption or reduction of current public services. Additionally, no requirement for
25 additional schools, fire departments, or any other public services is anticipated. Therefore, no impacts on
26 public services would occur.

27 **Socioeconomics:** The proposed action would be located entirely within MCAS Miramar. There would be
28 no additional military, government, civilian, and/or contractor support personnel stationed at MCAS
29 Miramar during development and management of the proposed action. Development and management of
30 the proposed action would not have a noticeable effect on local population, employment, or income
31 levels. This project would not have an effect on the local economy, nor on the sociological structure of the
32 surrounding community. Therefore, no impacts on socioeconomics would occur.

33 **Transportation/Circulation/Traffic:** The proposed action is not expected to produce any increase in
34 traffic at MCAS Miramar during proposed operations. However, a temporary increase in traffic during
35 wetland habitat restoration is expected. This increase is expected to be minimal and would be within the
36 normal flux of vehicles on the Station. The project would not require any road closures or result in any
37 changes in traffic or circulation. Therefore, no impacts on transportation would occur.

38 **Noise:** The proposed action would not generate any noise above the Community Noise Standards of
39 70 decibels (A-weighted). The noise levels created by earth movement activities would be much less than
40 the noise generated by that of surrounding highways and overhead aircraft. Any minor increases to noise

1 would be temporary in nature and would not affect human or biological receptors. Therefore, no impacts
2 to the noise environment would occur.

3 **Utilities:** The proposed action is not expected to produce any impact to utilities. There are no changes to
4 utility demands, nor would new utilities be required.

5 **1.7 Public Involvement**

6 MCAS Miramar plans to publish a Notice of Availability of the Draft EA for three consecutive days in
7 the *San Diego Union Tribune*. The notice will describe the proposed action, request and provide
8 instructions to submit public comments on the project, and announce that copies of the Draft EA are
9 available for public review on the MCAS Miramar website (www.miramar-ems.marines.mil/ under
10 “Links”). In addition, the Notice of Availability specifically solicits information from the public regarding
11 the presence of historical or archaeological resources in the project areas in compliance with Section 106
12 of the National Historic Preservation Act (NHPA), as well comments on the potential impacts on the
13 floodplain/wetlands from the proposed action, as required by EOs 11988 (Floodplain Management) and
14 11990 (Protection of Wetlands). All applicable public comments will be considered accordingly in the
15 development of the Final EA.

2 Proposed Action and Alternatives

1 This chapter describes the proposed action and reasonable alternatives for accomplishing the proposed
2 action. Section 2.1 describes the proposed action, which is the establishment and management of
3 mitigation areas at MCAS Miramar to provide the means to mitigate for future impacts to federally listed
4 vernal pool species and jurisdictional Waters of the U.S. resulting from projects at MCAS Miramar. The
5 proposed mitigation areas may be used in the future as part of a mitigation/conservation strategy, which
6 may include the formalization of a self-use conservation/mitigation bank, in-lieu fee mitigation program,
7 or permittee-responsible advanced mitigation area. The establishment and management of formally
8 designated mitigation areas would represent a change in land use at MCAS Miramar for those specific
9 locations and would require a Master Plan update and internal coordination. Proposed mitigation areas
10 would not be available for incompatible uses such as construction, trenching, and ground-based military
11 training. Section 2.1 also describes other actions such as range closure (if applicable), regulatory approval
12 and permitting, and site-specific planning to develop functional habitats. Finally, this section also
13 includes a description of the screening criteria and alternatives development process.

14 Section 2.2 identifies the three alternatives under the proposed action that are carried forward for analysis
15 in this EA. Also included are the No Action Alternative and the alternatives that were considered but
16 eliminated from further evaluation. Section 2.3 identifies environmental protection measures that would
17 be carried forward as part of any alternative selected. These measures are considered part of the project
18 description. Finally, Section 2.4 presents a summary of the environmental consequences resulting from
19 implementation of Alternatives 1 through 3 and the No Action Alternative.

2.1 Proposed Action

21 This section presents an overview of the proposed action; a discussion of the site-selection process
22 followed to identify proposed mitigation areas on MCAS Miramar, including selection criteria; and
23 identification of the specific mitigation areas evaluated as part of the proposed action. Section 2.1.1
24 provides an overview of the specific types of planning and restoration actions that would occur
25 independent of the alternative or sites selected. Section 2.1.2 describes the process undertaken to identify
26 specific site alternatives on MCAS Miramar including the selection criteria and screening process
27 utilized. Section 2.1.3 identifies the “proposed mitigation areas” resulting from the site selection process.

2.1.1 Overview of the Proposed Action

29 The proposed action is the proactive establishment and management of mitigation areas at MCAS
30 Miramar. The proposed mitigation areas would accommodate future project and operational mitigation
31 needs. Proposed mitigation areas would be used as part of a mitigation/conservation strategy on MCAS
32 Miramar, which includes phased establishment of areas suitable for compensatory mitigation for federally
33 listed vernal pool species, as well as jurisdictional Waters of the U.S. when feasible. This approach would
34 include the formalization of a self-use conservation/mitigation bank, a permittee-responsible advanced
35 mitigation structure, or an in-lieu fee mitigation program because of the benefits of advanced mitigation
36 planning (Section 1.2). The three alternatives represent various locations on MCAS Miramar where the
37 proposed action could be accomplished; therefore, this section describes the general requirements for
38 establishment of a mitigation area on MCAS Miramar, independent of the specific location.

39 The proposed action would be located at various proposed mitigation areas throughout MCAS Miramar
40 as developed through the site-selection process. Development of each mitigation area would involve site-
41 specific planning (i.e., range closure, other remedial actions, and preparation of site-specific restoration
42 documents); temporary access roads and laydown areas if necessary; land re-contouring for vernal pool

1 creation and enhancement; placement of inoculum in pools (soil containing fairy shrimp cysts³ and plant
2 seeds); weed/exotic plant control and removal; as well as maintenance and monitoring. In general, typical
3 equipment would include hand tools, mechanical line trimmers, scrapers, bulldozers, bobcats, backhoes,
4 loaders, water trucks, pickup trucks, and miscellaneous smaller equipment. Staging and laydown areas
5 would be located within each mitigation area for the duration of the restoration period and identified in
6 the implementation plan specific to each mitigation area. The proposed mitigation areas would be
7 accessed by existing roads when feasible and by transiting fence line security clear zones. However,
8 access roads may be required for sites that do not have existing access roads or access suitable for the
9 delivery of heavy equipment.

10 **2.1.1.1 Site-Specific Planning**

11 ***Stakeholder Coordination***

12 Conservation and mitigation banks are typically permanently protected lands that contain natural resource
13 values. However, with respect to the creation of conservation banks on DoD lands, Section 13(b) of
14 DODINST 4715.03 details that “DoD shall ensure the USFWS Directors’ approval to create conservation
15 banks on DoD lands...” but that such banks shall not be created to sell, trade, or transfer credits to
16 non-DoD entities. The instruction further details that “DoD components [i.e., USMC] shall not restrict the
17 use of DoD fee-owned or withdrawn lands such that the lands may be unavailable for otherwise
18 appropriate mission uses.” The proposed self-use joint conservation/mitigation bank, in-lieu fee
19 mitigation program, or other advanced mitigation instrument would support the MCAS Miramar mission.
20 Bank creation can facilitate operations, facilities construction, and utility maintenance/repair while
21 thoughtfully compensating for the habitats in an area of lesser operational importance or conflict. In areas
22 with existing land use constraints (e.g., pre-existing mitigation, concentrations of protected resources,
23 accident potential zones [APZ]), use as a mitigation site can be the most appropriate mission use.

24 Early in the planning process, a stakeholder meeting was held on 20 February 2013 to identify areas best
25 suited for mitigation that would not further restrict or impede current or future military operations
26 (see Section 2.1.2.1 and Appendix B). Further coordination with the stakeholder group would occur
27 throughout the entire planning and implementation process, including meetings, briefings, and decision
28 maker involvement. Prior to the restoration of each area, proposed mitigation areas would be re-examined
29 by a stakeholder group to ensure that there have been no changes to the human environment or mission
30 requirements. As a result, not all areas may be used and/or additional review may be required.

31 Any impacts to the mitigation area after implementation would require additional consultations with
32 regulatory agencies, which may result in the need for additional mitigation. To provide conservation
33 assurances as long as the proposed mitigation areas are under military control, the Station Master Plan
34 and the Integrated Natural Resources Management Plan (INRMP) would be revised to identify and
35 protect the conservation land use of the areas. Although, some long-term assurance mechanisms may be
36 legally restricted on federal government property, DODINST4717.03 does allow for the designation of
37 “Special Areas” and provides other guidance related to natural resources mitigation. In addition,
38 coordination with the General Services Administration, which ultimately oversees the usage of land in the
39 event that the land would ever leave DoN control, may occur. Specific long-term assurances are
40 determined on a case by case basis with the appropriate regulatory agencies.

³ Fairy shrimp cysts can accumulate in the soil after several years of reproduction. Cyst banks resemble the seed banks of plants. Cysts that are near the soil surface are available for hatching. The cyst bank is generally present in a few centimeters of soil.

Range Closure and Other Contaminated Areas

Any proposed mitigation areas located east of Kearny Villa Road are within the East Miramar Range Complex and, therefore, are incompatible with range activities. These incompatible use areas require removal from the operational range inventory. USMC guidance allows for an incompatible use area to be administratively closed where no active or historic ranges occur and where no known current or historical military munitions use resulted in a potential release as defined by the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). Range closure will require approval from MCAS Miramar S-3 Training, MCAS Miramar Commanding Officer, Marine Corps Installations West (MCI West), Commanding General Training and Education Command (TECOM), and Headquarters Marine Corps (HQMC)/MCI Command (MCICOM).

In the case of historical ranges and/or when munitions-related release is suspected, the project will be required to evaluate and remove any contaminants if present, in accordance with CERCLA and all appropriate local, state, and federal regulations. Additionally, for explosive safety concerns, the project will comply with all Naval Ordnance Safety and Security Activity (NOSSA) or Marine Corps Systems Command (MARCORSYSCOM) requirements. These munitions cleanup areas may be entered into the Military Munitions Response Program (MMRP). The MMRP was established under the Defense Environmental Restoration Program (DERP) and addresses areas that are suspected or known to contain unexploded ordnance (UXO), discarded military munitions, or munitions constituent contamination from past military munitions activities. Current sites being addressed under the MMRP included MRP Site 1, a historical Grenade Course.

Suspected releases that are non-munitions related may be addressed through the Installation Restoration Program (IRP), such as old buildings and foundations that may be contaminated with asbestos and/or lead-based paint. IRP was also established under the DERP. Both IRP and MMRP cleanups are the responsibility of Naval Facilities Engineering Command (NAVFAC).

If a munitions cleanup area is entered into the MMRP, the area will be subjected to an evaluation and scoring process using the Munitions Response Site Prioritization Protocol (MRSPP). The MRSPP score reflects the relative potential for the site to be a danger to human health and the environment. The MMRP process is driven by a number of policy and guidance documents that are consistent with the CERCLA.

Site-Specific Restoration Planning

To ensure that the proposed mitigation areas are planned properly, multiple documents are needed. The documents provide a general framework to ensure success of the proposed mitigation areas both in the short term and in the long term. The following documents would be produced, regardless of the mitigation strategy chosen:

Development Plan. Site-specific development plans describe the methods and procedures for habitat creation, including a habitat design, planting plan, and sources of materials and permits. The development plan includes a rationale as to why the design would be successful, explains how the site would be monitored for success, and describes the standards to measure success. Finally, the development plan also outlines the general process to phase the implementation of the mitigation development. The phasing may occur by developing a whole area (or multiple areas) at a time, or it may allow for the development of portions of one area.

Interim Management Plan. Describes the management of the mitigation area(s) until the mitigation area is fully restored and credits have been used. The Interim Management Plan would be included within the MCAS Miramar INRMP.

1 *Long-Term Management Plan.* Outlines the management of the mitigation area after success standards are
2 met and credits have been used. It incorporates contingency planning and may need to be updated to adapt
3 results from monitoring. The Long-Term Management Plan would be included within the MCAS
4 Miramar INRMP.

5 Terminology and structure of required documentation depends on the specific type of mitigation planning
6 mechanism implemented (mitigation/conservation bank, in-lieu fee mitigation program, or advanced-
7 permittee responsible mitigation). However, encapsulated within the documentation noted above, or
8 otherwise required separately, the following minimum requirements are likely to be required independent
9 of the advanced mitigation instrument developed.

- 10 • *Prospectus or other Project Description.* This is the preliminary assessment (PA) of the
11 mitigation areas proposed for development that is used to initiate planning and review by the
12 appropriate agencies. A draft is typically submitted prior to the full Bank Enabling Instrument,
13 and the final is included within the Bank Enabling Instrument. General information as to
14 objectives of the bank, what species or habitat would be used for mitigation, proposed joint land
15 uses, and any other pertinent information that allows the regulatory agencies to determine need
16 and technical feasibility is included in the prospectus. The prospectus is used as a formal agency
17 involvement initiation. Prior to this, it is recommended that proponents involve the agencies for
18 pre-application coordination.
- 19 • *Phase I Site Assessment.* This document analyzes the mitigation area's history to determine if
20 there are any prior issues with contamination or pollution that may impact the site. It also
21 examines a buffer area to ensure that surrounding land uses would not cause degradation of
22 habitat.
- 23 • *Real Estate Assurances.* In the private sector, this would be a conservation easement or grant
24 deed. Due to federal regulations, the USMC is unable to grant an easement or deed for
25 government property. To meet this requirement, MCAS Miramar would revise the Base Master
26 Plan map to include the proposed mitigation areas as a protected land use. To ensure long-term
27 conservation and protection, in the event of a Station realignment or closure scenario, the USMC
28 may develop and sign a Site Protection Memorandum of Agreement with regulatory agencies or
29 may seek a letter from the General Services Administration regarding resource protection in
30 circumstances of any future land transfer of the mitigation area. The MCAS Miramar INRMP
31 also contains site identification and protection provisions (MCAS Miramar 2011a).
- 32 • *Objectives.* A description of the resource type(s) and amount(s) that will be provided, the method
33 of compensation, and the manner in which the resource functions of the project would address the
34 needs of the watershed.
- 35 • *Site Selection.* A description of the factors considered during the site selection process.
- 36 • *Site Protection Instrument.* A description of the legal arrangements and instrument that would
37 ensure the long-term protection of the proposed mitigation areas.
- 38 • *Baseline Site Information.* A description of the ecological characteristics of the proposed site.
- 39 • *Determination of Credits.* A description of the number of credits to be provided, including a brief
40 explanation of the rationale for this determination.
- 41 • *Mitigation Work Plan.* Detailed written specifications and work descriptions for the project,
42 including geographic boundaries; construction methods, timing, and sequence; source(s) of water,
43 including connections to existing waters and uplands; methods for establishing the desired plant
44 community; plans to control invasive plant species; the proposed grading plan; soil management;
45 and erosion control measures.

- 1 • *Maintenance Plan.* A description and schedule of maintenance requirements to ensure the
2 continued viability of the resource once initial grading/basin development is completed.
- 3 • *Performance Standards.* Ecologically based standards that would be used to determine whether
4 the compensatory mitigation project is achieving its objectives.
- 5 • *Monitoring Requirements.* A description of parameters to be monitored in order to determine if
6 the compensatory mitigation project is on track to meet performance standards and if adaptive
7 management is needed. A schedule for monitoring and reporting on monitoring results must also
8 be included.
- 9 • *Long-term Management Plan.* A description of how the project would be managed after
10 achievement of performance standards to ensure the long-term sustainability of the resource,
11 including long-term financing mechanisms and the party responsible for long-term management.
- 12 • *Adaptive Management Plan.* A management strategy to address unforeseen changes in site
13 conditions or other components of the project, including the party or parties responsible for
14 implementing adaptive management measures. The adaptive management plan would guide
15 decisions for revising mitigation plans and implementing measures to address both foreseeable
16 and unforeseen circumstances that adversely affect the project's success.
- 17 • *Financial Assurances.* A description of financial assurances that would be provided and how they
18 are sufficient to ensure a high level of confidence that the compensatory mitigation project would
19 be successfully completed, in accordance with its performance standards.
- 20 • Other information as deemed necessary.

21 **2.1.1.2 Vernal Pool Restoration Actions**

22 Individual vernal pools would be established, enhanced, and/or preserved (hereafter collectively referred to
23 as vernal pool restoration) within suitable sites of each mitigation area. Where possible, the proposed action
24 includes restoration of vernal pools that are immediately adjacent to and/or connected to federal CWA
25 jurisdictional Waters of the U.S. Specific creation sites would be cleared of vegetation and graded to create
26 new basins through soil re-contouring. The ability of the basin to hold water would be tested and then the
27 basin would be inoculated. Upland areas disturbed by restoration activities would be replanted with
28 appropriate native seed or plantings. Post-restoration management and monitoring would evaluate the
29 success of the restoration actions against the performance criteria outlined in the Restoration Plan. Adaptive
30 management strategies, as outlined in the Restoration Plan, would be implemented in the event that the
31 performance standards are not met.

32 **Site Access**

33 The proposed mitigation areas would be accessed by existing roads or along the 20-foot-wide fence line
34 security clear zones whenever feasible. "Cross-country" access during the dry season and/or temporary
35 access routes may be required. No paving is anticipated. Staging and laydown areas would be located
36 within each mitigation site for the duration of the restoration period and identified in the implementation
37 plan specific to each mitigation area.

38 **Site Preparation and Soil Re-Contouring**

39 Individual basins would be created by clearing, grading, and re-contouring the existing topography to
40 duplicate hydrologic depth, surface area, and inundation period of similar naturally occurring vernal
41 pools. Excavated material from new basin areas would typically be used on-site to create upland mounds.
42 Any debris associated with site preparation and soil re-contouring would be removed and transported to a
43 permitted, off-site disposal site. In addition to creation, enhancement of existing but disturbed or degraded

1 vernal pool habitat would generally create larger, more natural basins. New basins adjacent to CWA
2 jurisdictional streambeds may be designed to flow between basins and streambeds during extreme rainfall
3 periods so as to be hydrologically connected to the jurisdictional feature. Small ephemeral channels
4 connecting to the existing streambed may also be created to better establish adjacency or hydrologic
5 connection to waters of the U.S. for more of the area in which vernal pools would be created.

6 Site preparation and soil re-contouring associated with restoration/enhancement of existing basins would
7 be done carefully, using small-scale equipment or hand tools. Soil re-contouring and any other heavy
8 equipment work would occur during the dry season, when the soil is completely dry.

9 ***Water Retention and Inoculation***

10 Newly created vernal pools may be filled via water trucks to determine if they hold sufficient water long
11 enough to support vernal pool species, including San Diego fairy shrimp. Once the pools are deemed
12 suitable, inoculum from MCAS Miramar would be placed into each vernal pool. Surface sediment at any
13 basin supporting federally listed vernal pool fairy shrimp species and/or federally listed vernal pool plant
14 species would be salvaged prior to the start of soil disturbance during enhancement activities to minimize
15 displacement of shrimp cysts. Pool inoculation (placement of inoculum into the pools) would be timed to
16 occur in the fall/early winter to coincide with the rainy season.

17 ***Planting and Seeding***

18 The relatively small size of vernal pools allows for preservation of desirable shrubs and perennial grasses
19 when adapting the design to site-specific conditions. In addition, surface sediment at any basin supporting
20 federally listed vernal pool species would be salvaged prior to the start of soil disturbance during
21 enhancement activities to minimize displacement of vernal pool plant seeds or vernal pool fairy shrimp
22 cysts.

23 Upland areas disturbed by restoration activities would be replanted with appropriate native seed or
24 plantings as outlined in site-specific restoration plans. Planting would be timed to occur in the fall/early
25 winter to coincide with the rainy season. Reseeding/replanting that becomes necessary after the start of
26 the rainy season would be done as soon as possible. The vernal pool creation and planting schedule would
27 vary by site and would depend on the size and topography of each proposed mitigation area.

28 Irrigation water may be provided to the proposed mitigation areas by a water truck as necessary during
29 establishment and maintenance of the areas. No utilities are required as part of the proposed action.

30 **2.1.1.3 Restoration Monitoring and Maintenance**

31 The vernal pool restoration sites would be actively maintained and monitored by the restoration contractor
32 for at least 5 years following restoration of vernal pools (i.e. establishment, enhancement of vernal pools),
33 or until the performance standards are met. Biological monitoring during rain events at newly created or
34 enhanced vernal pools would determine if runoff from ground-disturbing activities is entering any
35 watershed and would recommend and implement necessary best management practices (BMPs).
36 Maintenance would include irrigation of native vegetation, invasive weed control (i.e., hand removal,
37 mechanical and herbicide), maintenance of erosion control materials (e.g., straw wattles), trash removal,
38 and site protection measures. Invasive weed control in upland areas would be implemented with the start
39 of each phase of vernal pool restoration.

40 Monitoring of the sites would be conducted in accordance with established vernal pool monitoring
41 transect procedures already in use at MCAS Miramar. In addition, all pools would include a depth gauge
42 installed at the lowest elevation to compare functionality against other natural and constructed vernal

1 pools in the area. The restoration plans would outline detailed performance standards for the mitigation
2 sites and reference site(s) as part of the site-specific planning process in coordination with approving
3 agencies. Performance standards would primarily involve hydrology, vernal pool and upland watershed
4 vegetation, and presence of vernal pool species (Table 2-1). Monitoring would assess the performance of
5 the mitigation sites relative to the reference site. The adaptive management plan would guide decisions
6 for revising and implementing measures (e.g., reseeding and watering) to address foreseeable and
7 unforeseen circumstances that affect the mitigation site's success. The status would be reported to
8 USFWS and USACE, as appropriate, as part of the monitoring program.

9 Mitigation credit would be available approximately 6–7 years after the start of vernal pool restoration.
10 This accounts for 1–2 years of pool restoration and 5 years of monitoring.

11 **2.1.2 Site-Selection Process**

12 **2.1.2.1 Selection Criteria**

13 MCAS Miramar lands include vernal pool habitat that are unique to Southern California. The
14 Environmental Management Department (EMD) at MCAS Miramar maintains a database of these
15 resources, including vernal pool habitat that could support future restoration (conceptual vernal pool
16 development restoration areas). For the purposes of this exercise, conceptual vernal pool restoration
17 development areas were mapped installation-wide and establish the basis for the screening analysis. These
18 areas were initially delineated based on the following functional requirements:

- 19 • Nearly level topography (< 5 percent slope);
- 20 • No impacts to existing pools and pool watersheds;
- 21 • Redding gravely loam soil series with hardpan; and
- 22 • Areas with high non-native annual grassland cover or disturbed areas (Black 2007, 2009).

Table 2-1. Conceptual Performance Standards for Vernal Pool Wetland Habitat Restoration*

Parameter	Metric	Examples of Standard
Hydrology	Ponding depth and duration relative to reference vernal pools	Newly constructed vernal pools fall within the range of ponding characteristics of reference vernal pools by year 5.**
Vernal pool plant presence	Frequency of individual species relative to values in reference vernal pools	At least three native vernal pool plants present in more than one ponding year by year 5 (Indicator Species for Vernal Pools from USACE Special Public Notice of November 25, 1997). Native vernal pool plant presence frequency at > 75% of the range in reference vernal pools by year 5.**
General vernal pool basin ground cover	Vegetative ground cover relative to estimated values in reference vernal pools	Vernal pool and upland plant cover falls within > 75% of the range of estimates from reference vernal pools by year 5.** Cobble, plant litter, and bare ground also recorded.
Upland watershed vegetation	Upland plant cover in surrounding watershed area relative to estimated values at reference vernal pools	Watersheds have > 75% upland vegetation cover compared with that surrounding reference vernal pools by year 5.** Upland restoration may be emphasized, where feasible, to develop suitable California gnatcatcher habitat credit.
Federally listed vernal pool species		
Flora	Presence and abundance relative to reference vernal pools	For ESA credit, presence and population estimate of at least one listed plant species within 60% of the range in reference vernal pools containing particular listed plant species by year 5.**
Fauna	Presence and abundance relative to reference vernal pools	For ESA credit, population estimate of San Diego fairy shrimp within 60% of the range in reference vernal pools containing the species by year 5. Cyst density by year 5 is > 20% of the range found in reference pools.**
Weeds		
Flora-basin	Frequency of individual species relative to values in reference vernal pools	No invasive plants on federal or California noxious weed lists, nor any on California Invasive Plant Council (Cal-IPC) Invasive Plants of California Wildlands list. Frequency of other non-native plants less than average of reference vernal pools, annually.**
Flora-watershed	Presence and percent cover relative to values at reference vernal pool watersheds	No invasive plants on federal or California noxious weed lists, nor any on Cal-IPC Invasive Plants of California Wildlands list. Non-native upland plant cover in surrounding vernal pools watershed less than average at reference basins, annually.**
* "Restoration" includes the establishment of new vernal pool wetland habitat and/or the enhancement of existing vernal pool wetland habitat.		
** MCAS Miramar has long-term ecological monitoring data being collected for 15 natural or purposely created vernal pools that could be used as reference pools (data periodically collected from 1989–2010 and annually collected from 2010–2014). Additionally, two ongoing vernal pool establishment and re-establishment projects are collecting data in accordance with the same data collection protocol.		

1 From there, a two-tiered screening process was applied to narrow and then focus the reasonable site
2 alternatives that meet the purpose and need of the proposed action. The fundamental selection criteria
3 were first applied to ensure that the proposed mitigation areas met minimum requirements. The
4 preferential selection criteria were then applied to focus on transitional needs and efficiencies associated
5 with specific potential mitigation areas. The selection criteria are described next.

6 ***Fundamental Selection Criteria***

7 MCAS Miramar identified three fundamental selection criteria that must be satisfied to meet the purpose
8 and need for the proposed action. These criteria include:

- 9 • A location at MCAS Miramar that does not support mission-essential operations and other
10 incompatible land uses (i.e., flightline, designated ground training areas, lease areas, outgrants,
11 easements, right-of-way), and that would not be subject to known future development or land use
12 changes;
- 13 • An area that is large enough to support vernal pool habitat function and to maintain viable
14 populations of federally listed vernal pool species within its boundary or situated in a strategic
15 location that would overlay previously used mitigation sites and/or concentrations of other
16 protected resources; and
- 17 • A location that provides a nexus to traditional navigable waters or tributaries for at least part of
18 the area, as defined by the USACE, so that CWA jurisdiction can be established.

19 ***Preferential Selection Criteria***

20 MCAS Miramar further identified eight preferential selection criteria that were applied to proposed
21 mitigation areas that met the fundamental selection criteria. The preferential selection criteria are not
22 fundamental to the purpose and need for the proposed action; however, these criteria substantially affect
23 the suitability of, or preferences for, a specific advanced mitigation strategy alternative. These criteria
24 include:

- 25 • Proximity to existing vernal pools that support federally listed species;
- 26 • Maximization of the potential density of vernal pool creation;
- 27 • Protection from future land use conflicts;
- 28 • Support of additional community planning purposes such as encroachment buffer or maximum
29 use of sites where no other use could be feasibly supported;
- 30 • Minimization of potential impacts to sensitive cultural and biological resources;
- 31 • Ease of access for restoration and maintenance of the mitigation area;
- 32 • Limitation on public access and prevention of unauthorized use of the site, which could damage
33 restoration of vernal pool habitat; and
- 34 • Avoidance of underground utilities.

35 **2.1.2.2 Screening Process**

36 ***Geographic Information System Mapping***

37 Based on review of all potential mitigation areas at MCAS Miramar and the fundamental selection
38 criteria, MCAS Miramar identified potential locations for the proposed action. This was accomplished by
39 using existing geospatial data from the MCAS Miramar geographic information system (GIS) program

1 and overlaying it to remove areas that did not meet the fundamental performance standards. Preferential
 2 selection criteria were then included, calculated, and identified on maps (Appendix B). The resulting
 3 maps were utilized to help define possible mitigation areas to present to other stakeholders on
 4 MCAS Miramar.

5 **Stakeholder Meeting**

6 A stakeholder meeting was held to discuss the viability of possible mitigations areas on MCAS Miramar.
 7 The stakeholder group included representatives from USACE, EPA Region 9, Naval Facilities
 8 Engineering Command Southwest (NAVFAC SW), MCI West, Marine Corps Base (MCB) Camp
 9 Pendleton, and HQMC/MCICOM. MCAS Miramar was represented by Operations, Environmental
 10 Management Division, Command, Installations and Logistics/Public Works Division (I&L/PWD),
 11 Community Plans and Liaison Office (CP&L), I&L/Real Estate (RE), and Counsel (Appendix B). MCAS
 12 Miramar has also requested collaboration and participation by the USFWS, which has indicated general
 13 support during an early project development meeting. The USFWS has previously approved several of the
 14 proposed mitigation areas (including Charlie, Delta, and Echo) as part of prior homebasing projects.

15 MCAS Miramar EMD, in coordination with a stakeholder group, used the GIS maps to further refine
 16 possible mitigation areas. The group also examined the areas that would not restrict or impede current or
 17 future military operations on MCAS Miramar. From this, larger areas were grouped into proposed
 18 mitigation areas. It was determined that six areas represent reasonable locations for the proposed action
 19 (Figure 2-1). These six areas are described in Section 2.1.3 and are the basis for the alternatives presented
 20 in Section 2.2.

21 Within each of the six potential mitigation areas, mapping of conceptually suitable vernal pool restoration
 22 sites was provided by previous surveys (Black 2007, 2009). Table 2-2 presents GIS calculations of these
 23 sites and the potential acres of vernal basin that could be realized. Creation of vernal pools requires a
 24 watershed area surrounding each pool of about 7 to 10 times the area of the actual pool basin; therefore,
 25 the resulting vernal pool basin is substantially less than the area subjected to restoration. While these
 26 areas conceptually appear suitable for restoration, site-specific restoration planning is likely to identify
 27 somewhat different site configurations, quantities, and additional opportunities for enhancement of
 28 existing basins to create more vernal pool habitat. Each site-specific restoration plan would be reviewed
 29 and approved by MCAS Miramar Natural Resources Division staff and appropriate regulatory agencies
 30 prior to implementation. Areas and activities described in this EA would remain essentially as described
 31 except to accommodate site-specific nuances that would affect project success.

Table 2-2. Approximate Size of the Proposed Mitigation Areas, Suitable Sites for Vernal Pool Restoration, and Potential Vernal Pool Basin Area Realized for Mitigation Purposes

Proposed Mitigation Area	Total Size of Proposed Mitigation Area (acres)	Estimate of Suitable Area including Watershed for Vernal Pool Restoration within Proposed Mitigation Areas (acres)	Estimated Amount of Vernal Pool Basins Realized for Mitigation Purposes within the Proposed Mitigation Areas (acres)
Alpha	42	21	2
Bravo (North/South)	183 (84/99)	50	5 (3/2)
Charlie	109	26	3
Delta	132	60	6
Echo	189	36	4
Foxtrot	44	18	2
Total	699	210	22

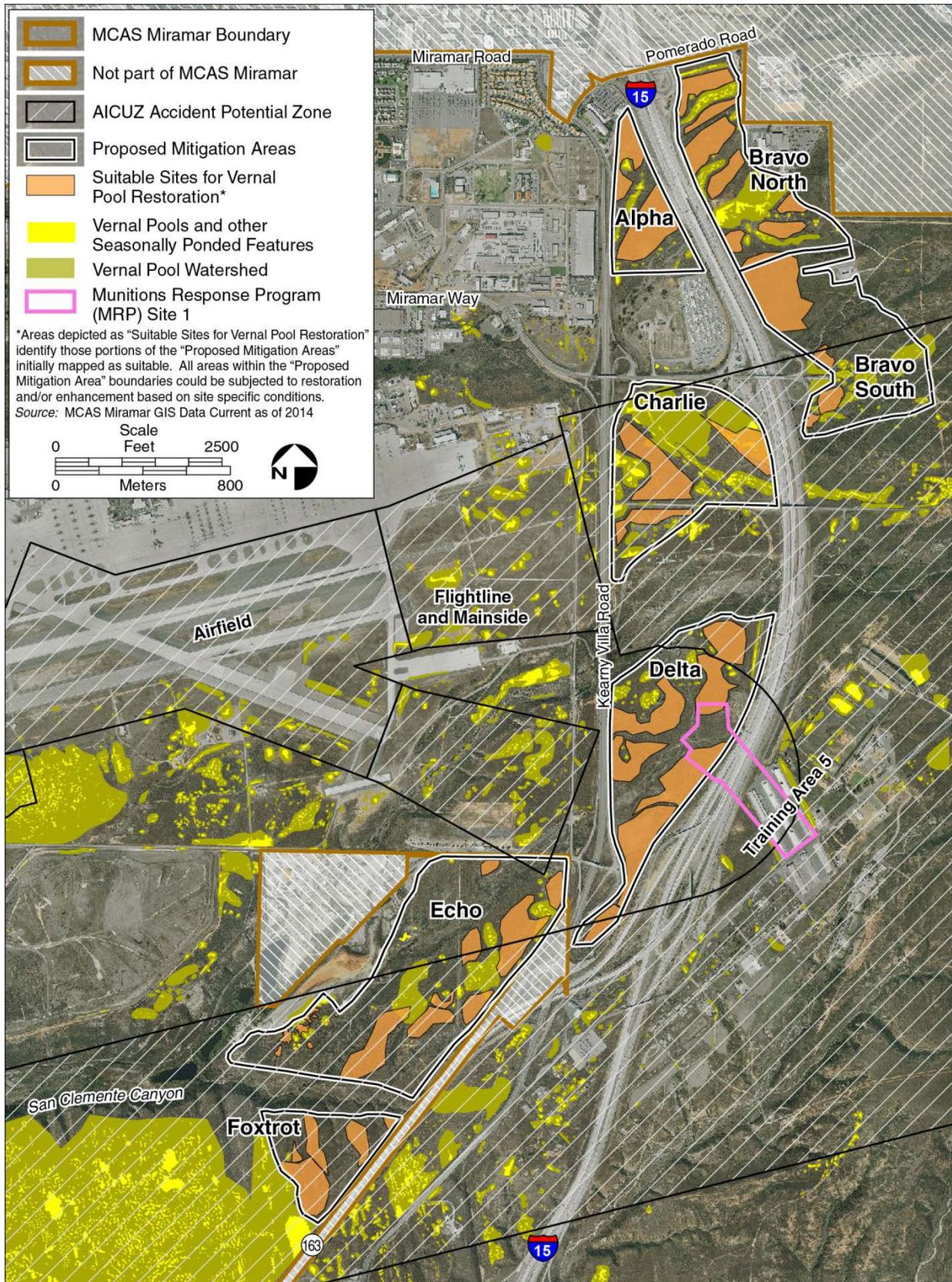


Figure 2-1. MCAS Miramar Proposed Mitigation Area Conceptual Layout

2.1.3 Proposed Mitigation Areas

The proposed action would occur within up to six different proposed mitigation areas at MCAS Miramar as developed through the stakeholder and alternatives screening process described in Section 2.1.2.2. These proposed mitigation areas are shown in Figure 2-1. Within each of the proposed mitigation areas, only a portion may be suitable for vernal pool restoration; these portions are hereafter referred to as “suitable sites for vernal pool restoration.” An estimate of the total acreage of each mitigation area, as well as the estimated amount of area identified as sites suitable for vernal pool restoration and resulting potential vernal pool basin area, is shown in Table 2-2. Vernal pools require a surrounding upland “watershed” planned for a 7-10:1 ratio; the actual vernal pool basin area created by restoration would be between one-seventh and one-tenth of the area suitable for vernal pool restoration. Site-specific restoration planning for each mitigation area may identify somewhat different site boundaries and other enhancement opportunities that could result in additional vernal pool basin areas.

The exact locations of the vernal pools within each mitigation area would be determined based on final mitigation and design plans; therefore, deviations from the current conceptual areas may be appropriate during site-specific planning. The conceptual restoration areas were designed to represent an estimate of area likely to undergo substantial landscape re-contouring for pool creation. All areas potentially disturbed are included within the boundaries for each mitigation area.

Mitigation Area Alpha. Mitigation area Alpha would be a 42-acre parcel located between I-15 and Kearny Villa Road. About 2 acres of vernal pool basins could be created within the conceptual vernal restoration sites. The specific acreage of the vernal pools that would support a nexus to federal CWA jurisdictional Waters of the U.S. would depend on the specific location; however, only the southern part of proposed mitigation area Alpha would be suitable for establishing a nexus. This area is associated with two historical ranges: 1) Range D, a .30 caliber machine guns, maneuver, combat, and marksmanship range; and 2) Range E, a tank course combat firing range. Prior to range closure, both ranges would be removed from the active range inventory and need to follow the CERCLA process for evaluation and remove any contaminants, in accordance with CERCLA and all appropriate local, state, and federal regulations. Consultation with the MCAS Miramar Explosive Safety Officer (ESO) would occur to determine if an Explosives Safety Submission (ESS) and/or any other NOSSA or MARCORSSYSCOM requirements will be needed. The ranges may be entered into the MMRP. Areas outside the two ranges but still located within East Miramar Range Complex would be removed from the active range inventory with appropriate Marine Corps approval.

Proposed mitigation area Alpha has been subject to encroachment by non-military land uses and is of low potential for ground-based field training use due to the proximity of I-15 and Kearny Villa Road.

Mitigation Area Bravo. Proposed mitigation area Bravo would be a 183-acre parcel located directly east of I-15 and south of Pomerado Road. The northern half of the area is the only location on MCAS Miramar with endangered Riverside fairy shrimp (*Streptocephalus wootoni*). The proposed mitigation area is divided into Bravo North and Bravo South. About 5 acres of vernal pool basins (3 acres in Bravo North and 2 acres in Bravo South) could be created within the conceptual vernal pool restoration sites. Some of proposed mitigation area Bravo could support a nexus to federal CWA jurisdictional Waters of the U.S. This area is associated with two historical ranges: Range D and Range E, as described for mitigation area Alpha. Prior to range closure, both ranges would be removed from the active range inventory and need to follow the CERCLA process for evaluation and remove any contaminants. Consultation with the MCAS Miramar ESO would occur to ensure compliance with all NOSSA or MARCORSSYSCOM requirements. Areas outside the two ranges but still located within East Miramar Range Complex would be removed from the active range inventory. Please refer to Section 2.1 for additional information.

1 Overall, lands within proposed mitigation area Bravo have been subject to non-military uses and are of
2 low potential for ground-based field training use. However, some potential for use exists. In comparison
3 to Bravo North, lands within the proposed Bravo South have minimal natural resource constraints and
4 therefore have a higher potential to be used for military readiness needs than proposed mitigation area
5 Bravo North, which has Riverside fairy shrimp. Due to this, proposed mitigation area Bravo has been
6 divided to allow for separate inclusion in some alternatives as described in Section 2.2.

7 **Mitigation Area Charlie.** Proposed mitigation area Charlie would be a 109-acre parcel located between I-15
8 and Kearny Villa Road south of Miramar Way. About 3 acres of vernal pool basins could be created within
9 the conceptual vernal pool restoration sites. Some of the conceptual vernal restoration could have a nexus to
10 federal CWA jurisdictional Waters of the U.S. This area is associated with a historical World War I machine
11 gun dugout and emplacement range. Prior to range closure, both ranges would be removed from the active
12 range inventory and follow the CERCLA process for evaluation and remove any contaminates. Consultation
13 with the MCAS Miramar ESO would occur to ensure compliance with all NOSSA or MARCORSSYSCOM
14 requirements. Areas outside the two ranges but still located within East Miramar Range Complex would be
15 removed from the active range inventory. Please refer to Section 2.1 for additional information.

16 Proposed mitigation area Charlie includes a Base Realignment and Closure (BRAC) vernal pool mitigation
17 site, which already requires special conservation protection. It is located under aircraft APZ 1 associated with
18 the typical runway approach from the east. There is low potential for ground-based field training use.

19 **Mitigation Area Delta.** Proposed mitigation area Delta would be a 132-acre parcel located between I-15 and
20 Kearny Villa Road to the south of mitigation area Charlie. Most of the area is inside aircraft APZs
21 associated with the downwind turn of the typical flight pattern. There is low potential for ground-based field
22 training use. About 6 acres of vernal pool basins could be created, a portion of which could support a nexus
23 to federal jurisdictional Waters of the U.S. Prior to range closure, any areas associated with East Miramar
24 Range Complex would be removed from the active range inventory. If a suspected munitions-related release
25 is discovered, the project would be required to follow the CERCLA process for evaluation and removal of
26 contaminates. Already being addressed by the CERCLA process is MRP Site 1, a historical grenade course
27 range. Based on previous work conducted by NAVFAC at MRP Site 1, UXO support would be required
28 during grading activities. Consultation with the MCAS Miramar ESO would occur to ensure compliance
29 with all NOSSA or MARCORSSYSCOM requirements. In addition, the southernmost part of Area Delta is
30 associated with World War II Camp Elliot buildings and foundations that are potentially contaminated with
31 asbestos and/or lead-based paint. These buildings and foundations will be evaluated under the appropriate
32 federal, state and local regulations and possibly be included into the IRP. Camp Elliot is the only known
33 area of concern for potential asbestos and lead contamination within any of the proposed mitigation areas.
34 Both the MRP Site 1 and Camp Elliot portion would be restored as a separate phase from other portions of
35 Area Delta. Please refer to Section 2.1 for additional information.

36 Proposed mitigation area Delta currently is the site for the MV-22 vernal pool mitigation site, which
37 already requires special conservation protection. It is isolated from the rest of MCAS Miramar by I-15 and
38 Kearny Villa Road. The site also has floodplains and CWA jurisdictional Waters of the U.S. There is low
39 potential for ground-based field training and the surrounding APZ is compatible with vernal pool mitigation.

40 **Mitigation Area Echo.** Proposed mitigation area Echo would be a 189-acre parcel located west of
41 Highway 163 and Kearny Villa Road. The area includes a vernal pool mitigation site related to past leases
42 associated with the Harris Plant. About 4 acres of vernal pool basins could be created within the conceptual
43 vernal pool development restoration sites, a portion of which would likely support a nexus to federal CWA
44 jurisdictional Waters of the U.S. The area includes an existing San Diego Gas and Electric (SDG&E) natural
45 gas pipeline easement through the middle that may be excluded; however, the easement access road would
46 be an important access route for restoration work. The area is not within the East Miramar Range Complex
47 Inventory; thus, administrative removal from the range inventory is not applicable to the area.

1 There is low potential for ground-based field training and the overlying APZ provides an overlying land
 2 use that is compatible with vernal pool mitigation. There are current mitigation sites located on the parcel.

3 **Mitigation Area Foxtrot.** Proposed mitigation area Foxtrot would be a 44-acre parcel located west of
 4 Highway 163 south of Area Echo. It is located within the Miramar Mounds National Natural Landmark,
 5 which already requires special conservation attention. About 2 acres of vernal pool basins could be created
 6 within the conceptual vernal pool restoration sites. A small portion of the area could reasonably support a
 7 nexus to federal CWA jurisdictional Waters of the U.S. This area is not within the East Miramar Range
 8 Complex Inventory; thus administrative removal from the range inventory is not applicable to the area.

9 There is low potential for ground-based field training and the overlying APZ provides an overlying land
 10 use that is compatible with vernal pool mitigation.

11 **2.2 Alternatives to the Proposed Action and the No Action**
 12 **Alternative**

13 Based on the site-selection process described in Section 2.1.2, MCAS Miramar has determined that
 14 six mitigation areas (Alpha through Foxtrot) represent suitable locations for the proposed action. These
 15 options are carried forward as alternatives for evaluation. These options were analyzed and identified as
 16 ways to provide the most efficient and substantive amount of mitigation area. Through this discussion, it
 17 was determined that proposed mitigation area Bravo would be split into two different sites, Bravo North
 18 and Bravo South.

19 This section describes the three alternatives to the proposed action carried forward for analysis. This
 20 section also describes the No Action Alternative and the alternatives that were considered but not carried
 21 forward for analysis in this EA. Table 2-3 provides an estimate of the total acreage of each mitigation area
 22 for Alternatives 1 through 3, as well as the estimated amount of potential vernal pool basin area that could
 23 be created.

Table 2-3. Approximate Size of the Proposed Mitigation Areas and Potential Vernal Pool Basin Area for Alternatives 1 through 3 and the No Action Alternative

Mitigation Area	Full Mitigation Area (Alternative 1)		Partial Configuration A (Areas Alpha, Bravo North, Delta, and Echo) (Alternative 2)		Partial Configuration B (Areas Charlie, Delta, Echo, and Foxtrot) (Alternative 3)		No Action Alternative	
	Mitigation Area (Acres)	Potential Pool Basin Area (Acres)	Mitigation Area (Acres)	Potential Pool Basin Area (Acres)	Mitigation Area (Acres)	Potential Pool Basin Area (Acres)	Mitigation Area (Acres)	Potential Pool Basin Area (Acres)
Alpha	42	2	42	2	-	-	-	-
Bravo North	84	3	84	3	-	-	-	-
Bravo South	99	2	-	-	-	-	-	-
Charlie	109	3	-	-	109	3	-	-
Delta	132	6	132	6	132	6	-	-
Echo	189	4	189	4	189	4	-	-
Foxtrot	44	2	-	-	44	2	-	-
Total	699	22	447	15	474	15	0	0

1 The restoration of vernal pool habitat within each of the proposed mitigation areas would be phased
2 (i.e., one mitigation area, or a portion thereof, would be developed at a time). Regulatory commitments
3 would similarly be phased as proposed mitigation areas are formally planned for use. In addition,
4 development of the conceptual vernal pool areas within each mitigation area would likely also be phased
5 (i.e., the development areas within each mitigation area could be developed all at once or sequentially).
6 All areas and sites would be restored, as described previously in Section 2.1, with environmental
7 protection measures described in Section 2.3 implemented, as applicable.

8 Regardless of the alternative selected, Area Delta would be restored first because it supports an existing
9 vernal pool mitigation project currently undergoing active maintenance and monitoring (MV-22 Basing
10 Mitigation). This already limits land use and requires conservation management and protection to the
11 area. Using Area Delta first would also allow the most efficient capture of credit for a potential surplus
12 from the MV-22 Basing Mitigation project. The order of subsequent phases would be determined by
13 MCAS Miramar once mitigation within Area Delta has been completed.

14 **2.2.1 Alternative 1: Full Mitigation Area (Preferred Alternative)**

15 The Full Mitigation Area Alternative (Alternative 1) could ultimately create about 22 acres of vernal pool
16 basins within six proposed mitigation areas (proposed mitigation areas Alpha through Foxtrot) at MCAS
17 Miramar (Figure 2-1; Table 2-2).

18 **2.2.2 Alternative 2: Partial Configuration A (Areas Alpha, Bravo North, Delta, 19 and Echo)**

20 This alternative could ultimately create about 15 acres of vernal pool basins within four proposed
21 mitigation areas (proposed mitigation areas Alpha, Bravo North, Delta, and Echo) at MCAS Miramar
22 (Figure 2-1; Table 2-2). The partial configuration reduces the options for phased implementation of vernal
23 pool restoration and the total potential vernal pool restoration. However, this alternative meets the
24 purpose and need and was developed based on the following rationale:

- 25 • Proposed mitigation areas within this alternative are not located under the direct aircraft approach
26 to the airfield from the east, which may be needed in the future for placement of aircraft
27 navigational equipment;
- 28 • The configuration includes areas of lesser operational importance that have been subject to non-
29 military land use interests (such as removing Bravo South);
- 30 • There is low potential for ground-based field training use;
- 31 • Areas Delta and Echo underlie aircraft APZs, which reduces the potential for future conflicts with
32 military operations or new development;
- 33 • All sites provide potential for connection to jurisdictional Waters of the U.S.;
- 34 • There is sufficient suitable area for vernal pool restoration;
- 35 • Access is available to most areas;
- 36 • Proposed mitigation areas include sites previously used for vernal pool mitigation, and thus are
37 already subject to special conservation protection (e.g., proposed mitigation area Delta includes

1 vernal pool mitigation for the MV-22 Basing; proposed mitigation area Echo includes vernal pool
2 mitigation from the Harris Plant Lease⁴); and

- 3 • This configuration includes sites suitable for re-establishment of the federally listed willowy
4 monardella (proposed mitigation area Bravo North).

5 **2.2.3 Alternative 3: Partial Configuration B (Areas Charlie, Delta, Echo, 6 and Foxtrot)**

7 The Partial Configuration B Alternative (Alternative 3) could ultimately create about 15 acres of vernal
8 pool basins within four proposed mitigation areas (Areas Charlie, Delta, Echo, and Foxtrot) at MCAS
9 Miramar (Figure 2-1; Table 2-2). Similar to Alternative 2, this partial configuration reduces the options
10 for phased implementation of vernal pool restoration and the total potential vernal pool restoration.
11 However, this alternative meets the purpose and need of the proposed action based on the following
12 rationale:

- 13 • All areas underlie aircraft APZs;
- 14 • There is low potential for ground-based field training use;
- 15 • Access is available to most areas, with the exception of Area Foxtrot;
- 16 • Proposed mitigation areas are close or adjacent to each other, which may provide cost and/or
17 logistical efficiencies;
- 18 • There is sufficient suitable area for vernal pool restoration;
- 19 • Areas Charlie, Delta, Echo, and Foxtrot provide potential for connection to federal CWA Waters
20 of the U.S.;
- 21 • There is a limited need for range closure actions because Areas Echo and Foxtrot are not overlain
22 by existing or former ranges; and
- 23 • This configuration also includes sites previously used for mitigation that already require special
24 conservation protection (e.g., Area Charlie includes vernal pool mitigation for past BRAC
25 actions; Area Delta includes vernal pool mitigation for the MV-22 Basing; Area Echo includes
26 vernal pool mitigation from the Harris Lease; and Area Foxtrot is located near the Miramar
27 Mounds National Natural Landmark).

28 **2.2.4 No Action Alternative**

29 Under the No Action Alternative, the proposed mitigation areas would not be specifically identified and
30 approved for future impacts to federally listed vernal pool species and jurisdictional Waters of the U.S.
31 from projects at MCAS Miramar. As described in Chapter 1, impacts to federally listed vernal pool
32 species and jurisdictional Waters of the U.S. would be mitigated on a project-by-project basis.

33 Without a well-planned mitigation program, projects at MCAS Miramar would have to individually fund
34 compensatory mitigation for any impacts to federally listed vernal pool species and jurisdictional Waters

⁴ The Harris Plant (owned by Hanson Aggregates) is a 76-acre private inholding within the boundaries of MCAS Miramar, located south of the Mainside. Adjacent to this property, the company obtained rights from the Navy for mineral extraction on two separate parcels (Parcel A and Parcel B) on what is now MCAS Miramar. The presence of vernal pool habitat on Parcel A resulted in cancellation of mining and required mitigating restoration of damaged vernal pools on the site.

1 of the U.S. Benefits of regulatory agency pre-approval and advanced mitigation would not be realized.
2 The ability to develop mitigation credit in advance and independent of project-specific requirements
3 would not be possible. For smaller construction and repair projects, the added cost of mitigation has the
4 potential to cause the total project cost to exceed the threshold for a Military Construction Project,
5 requiring Congressional approval.

6 The No Action Alternative is not considered a reasonable alternative because it does not meet the purpose
7 and need for the proposed action. While compensatory mitigation could occur on a project-by-project basis
8 under the No Action Alternative, it would require additional time to execute and higher mitigation ratios.
9 Therefore, the No Action Alternative does not meet the purpose of the proposed action to establish an
10 efficient means to mitigate for impacts to listed vernal pool species and jurisdictional Waters of the U.S. or
11 the need to provide flexibility and cost-effective mitigation.

12 However, the No Action Alternative does provide a measure of the baseline conditions against which
13 impacts of the proposed action can be compared. In this EA, the No Action Alternative represents the
14 baseline condition described in Chapter 3. In addition, the No Action Alternative would be implemented
15 in the event that MCAS Miramar decides not to go forward with the proposed action.

16 **2.2.5 Alternatives Considered but Eliminated**

17 As part of MCAS Miramar's decision-making process, three potential mitigation areas alternatives were
18 considered but eliminated as infeasible.

19 **2.2.5.1 Alternative Location Off-MCAS Miramar**

20 Establishing proposed mitigation areas at different locations off of MCAS Miramar was evaluated as a
21 potential alternative. However, mitigation on land outside of MCAS Miramar is costly, and the
22 availability of suitable locations within Southern California is limited. Therefore, this alternative was
23 eliminated from further consideration.

24 **2.2.5.2 Alternative Locations at MCAS Miramar**

25 ***Northwestern Portion of MCAS Miramar***

26 Developing proposed mitigation areas in the northwestern portion of MCAS Miramar was evaluated as a
27 potential location for the proposed action. However, the presence of the Veterans Affairs Cemetery limits
28 establishment of the potential mitigation areas in this location. The capacity to create new vernal pools is
29 quite limited when considering a larger banking approach. In addition, this area is located relatively far
30 away from the other potential mitigation areas that could hamper collective bank management and
31 conservation. Therefore, this location was eliminated from further consideration.

32 ***Southeastern Portion of MCAS Miramar***

33 There is low potential to create a large number of vernal pools in the southeastern part of the Station
34 because of inappropriate topography. Access to the area is limited because it is within the surface danger
35 zone of firing ranges adjacent to Training Area 5. Therefore, this location was eliminated from further
36 consideration.

1 **South-central Portion of MCAS Miramar**

2 Potential locations adjacent to or within the Miramar Mounds National Natural Landmark were also
3 evaluated (just to the north of SR-52). The existing designation of the landmark would benefit any
4 restoration done there. However, beyond Area Foxtrot, which is evaluated in this EA, the amount of
5 suitable restoration area is quite limited and access is difficult because of existing vernal pool resources.

6 **2.3 Environmental Protection Measures**

7 This section summarizes the environmental protection measures that would be included in all action
8 alternatives (i.e., Alternative 1, Alternative 2, and Alternative 3). These measures would be included as
9 requirements on all relevant project scoping, scheduling, and planning documents.

10 **2.3.1 General Measures**

- 11 1. Access to restoration areas will maximize the use of existing roads and by transiting 20-foot fence
12 line security clear zones. However, new temporary unpaved access roads and temporary
13 laydown/stockpiling areas may be required for sites that do not have existing access roads or
14 access suitable for the delivery of heavy equipment. When required, these will be depicted on
15 restoration plans and designed to minimize disturbance. All measures prescribed to the restoration
16 of vernal pool upland watershed areas also apply to establishment and restoration of temporary
17 access roads.
- 18 2. MCAS Miramar will coordinate with the San Diego Regional Water Quality Control Board
19 (RWQCB) to ensure compliance with the National Pollution Discharge Elimination System
20 (NPDES) permit program. Project activities may be eligible for a Rainfall Erosivity Waiver, if the
21 rainfall erosivity is less than five during the period of construction activity and the disturbance is
22 less than 5 acres. If the project is not eligible for the waiver and the ground disturbance is greater
23 than one (1) acre, the project will need coverage under the Construction General Permit. Specific
24 conformance requirements include submitting a Notice of Intent to the State Water Resources
25 Control Board (SWRCB), implementing a Storm Water Pollution Prevention Plan (SWPPP) for
26 the proposed construction, including associated BMPs, and submitting a Notice of Termination to
27 the SWRCB upon completion of construction.
- 28 3. Should petroleum-impacted soil be encountered during excavation, MCAS Miramar will comply
29 with all applicable requirements of the San Diego RWQCB Order No. R9-2002-0342.
- 30 4. No earthwork, storage of equipment/vehicles, or other type of laydown work would be allowed
31 within the MRP Site 1 until all necessary remedial action activities are deemed complete by the
32 appropriate regulatory agencies.
- 33 5. Temporary activities that involve the storage of oils in quantities equal to or greater than
34 55-gallon are required to implement Spill Prevention, Control, and Countermeasures (SPCC)
35 requirements as presented in 40 CFR 112; MCO P5090.2A, Chapter 7; and the MCAS Miramar
36 SPCC Plan. This includes any container used for standby storage, seasonal storage, temporary
37 storage, or not otherwise considered “permanently closed.” Additionally, spill containment
38 structures must be provided to prevent spills, leaks, and unauthorized discharges.
- 39 6. In the event that contamination is discovered, grading/excavation activities will be conducted in
40 compliance with EPA BMPs for Region IX; 40 CFR Part 260 (Federal Hazardous Waste
41 Regulations); and *California Code of Regulations*, Title 22 (Minimum Standards for Management
42 of Hazardous and Extremely Hazardous Wastes). The contamination will be appropriately
43 documented and the proper regulatory program would be consulted for further requirements. In

1 the event that contaminated soil is removed from a proposed mitigation area, appropriate hazard
2 constituent sampling and testing will be completed in accordance with the regulations noted
3 above. In addition, stockpiled soil will be properly characterized using San Diego Department of
4 Environmental Health Site Assessment and Mitigation Manual, and any contaminated soil
5 excavated would be managed in accordance with conditions set forth in San Diego
6 RWQCB Order No. R9-2002-342.

7 **2.3.2 Specific Protection Measures**

8 **2.3.2.1 Air Quality/Greenhouse Gases**

9 *Measure 1. Fugitive Dust Control.* MCAS Miramar, restoration oversight authority, or the duly
10 designated contractor will ensure that fugitive dust emissions do not extend beyond the property line for
11 more than 3 minutes in any 60-minute period and will mitigate fugitive dust to minimize track out/carry
12 out emissions during restoration activities/development, and transport in accordance with the San Diego
13 County Air Pollution Control District (SDCAPCD) Rule 55.

14 The restoration contractor will implement the following measures, where applicable, to minimize fugitive
15 dust emissions:

- 16 1. Use water trucks or sprinkler systems to keep all areas of vehicle movement damp enough to
17 prevent dust from leaving the restoration area.
- 18 2. Minimize the amount of disturbed ground area at a given time.
- 19 3. Minimize traffic speeds on all unpaved roads.
- 20 4. Install gravel pads at restoration area access points to prevent tracking of soil onto paved roads,
21 where applicable.
- 22 5. Provide temporary wind fencing around sites being graded or cleared.
- 23 6. Suspend all soil disturbance activities when winds exceed 25 miles per hour or when visible dust
24 plumes emanate from the site. Stabilize all disturbed areas at this time.
- 25 7. Cover truck loads that haul dirt, sand, or gravel or maintain at least two feet of freeboard in
26 accordance with Section 23114 of the *California Vehicle Code*.
- 27 8. After completion of clearing, grading, earthmoving, or excavation, treat the disturbed areas by
28 watering, revegetation, or by spreading non-toxic soil binders to stabilize restoration areas and
29 prevent dust generation.
- 30 9. Designate personnel to monitor the dust control program and to order increased watering, as
31 necessary, to prevent the transport of dust off-site. Their duties would include holiday and
32 weekend periods when work may not be in progress.

33 *Measure 2. Construction Equipment Emission Control Measures.* The restoration contractor will
34 implement the following measures during proposed vernal pool development activities, where feasible.

- 35 1. Maintain equipment according to manufacturer specifications.
- 36 2. Restrict idling of equipment and trucks to a maximum of five minutes at any location.
- 37 3. Ensure that diesel oxidation catalysts and/or catalyzed diesel particulate traps are installed on
38 equipment exhaust systems.
- 39 4. Use construction equipment with engines that meet EPA Tier 3 and 4 non-road standards.

- 1 5. Use alternatively fueled construction equipment, such as compressed natural gas, liquefied
2 natural gas, or electric.

3 **2.3.2.2 Biological Resources**

4 The proposed action includes many measures applicable to vernal pools, associated vernal pool species,
5 and vernal pool restoration. Those measures are described in Section 2.1 and are not repeated as
6 environmental protection measures. Additional measures beyond those described in Section 2.1 are
7 included below.

8 *Measure 3. Avoid and Minimize Disturbance to Sensitive Resources.*

- 9 1. During the site-specific design, the proposed vernal pool restoration sites will be selected to avoid
10 sensitive plant and wildlife species to the extent feasible. In addition, restoration sites will be
11 located in disturbed or non-native habitats to the extent feasible.
- 12 2. Where existing survey data do not exist, a qualified biologist will identify and survey (during the
13 appropriate time of year) sensitive resources in the vicinity of any proposed grubbing, grading, or
14 restoration activities to protect or relocate the individuals. Resources of primary concern are the
15 coastal California gnatcatcher, and vernal pools, federally listed plant species.
- 16 3. Sensitive resources to be protected will be identified and marked beyond their boundaries for
17 protection prior to any ground-disturbing activities.

18 *Measure 4. Conduct Initial Vegetation Removal/Grubbing Outside of Nesting Season for Migratory Bird 19 Treaty Act-Protected Species.*

- 20 1. Any initial grading, grubbing, mowing, and/or removal of surface vegetation will be scheduled
21 outside of the bird nesting season, to the maximum extent feasible, to avoid potential impacts on
22 nesting. If surface vegetation removal cannot be completed outside of the nesting season, a
23 biological monitor will be present and daily nest surveys will be completed by an MCAS
24 Miramar-approved biologist immediately prior to earthwork to ensure that no nests would be
25 affected. Most birds typically nest between January and August. Birds can nest in buildings, trees,
26 shrubs, and on the ground. If nesting birds or eggs are encountered, the restoration contractor
27 must phase the work to avoid disrupting the birds. The restoration contractor cannot take action to
28 remove the bird or nest from the areas which is being used.

29 *Measure 5. Avoid Impacts on coastal California Gnatcatcher, and Avoid, Minimize Disturbance to 30 Suitable Habitat.*

- 31 1. At proposed restoration sites in occupied California gnatcatcher habitat, any grading, mowing,
32 and/or mechanical removal of surface vegetation, particularly native shrubs, will not be scheduled
33 between 15 February and 15 August to avoid potential impacts to a nest.
- 34 2. Within occupied California gnatcatcher habitat, native shrubs typically used by the species will be
35 protected. One exception would be narrow areas necessary to establish connection to Waters of
36 the U.S., as outlined in site-specific restoration planning. Restoration reports will document the
37 actual effects to the species.
- 38 3. The removal of native upland vegetation will be replaced through upland restoration at the same
39 proposed mitigation area, including within the watershed area surrounding newly created or
40 enhanced vernal pools.

1 *Measure 6. Avoidance of Adjacent Vernal Pools and Other Seasonally Pondered Features Occupied by*
2 *Federally Listed Species, but not Proposed for Enhancement.* Vernal pools and other seasonally pondered
3 basins occupied by federally listed vernal pool plant or fairy shrimp species, but not proposed for
4 enhancement, will be protected.

5 1. Vernal pools and other seasonally pondered basins in the immediate vicinity of individual sites
6 proposed for restoration will be clearly marked on restoration plans, and flagged or fenced prior
7 to the start of restoration activities. During the rainy season (about 1 November to 1 June)
8 adequate protective measures, as determined by the Project Biologist, will be implemented to
9 prevent runoff into these adjacent basins.

10 2. Restoration will avoid an increase or decrease of water quantity, sediment transport, and change
11 in water quality runoff to adjacent vernal pools or other seasonally pondered basins not proposed
12 enhancement or restoration. Sedimentation shall be prevented through the implementation of
13 BMPs and soil-disturbing activities during rainy season or when ground is wet (about
14 1 November to 1 June) shall be minimized.

15 *Measure 7. Invasive Plant Species Control.* In addition to invasive plant and weed control on restoration
16 sites, all equipment and/or vehicles will be power-washed before entering MCAS Miramar property and
17 the proposed mitigation areas.

18 *Measure 8. Collection of Inoculum.* No more than five percent of the surface of any inoculum source pool
19 will be collected to minimize impacts to the source pool, and all inoculum collection will be supervised
20 by a USFWS-permitted biologist or an MCAS Miramar staff biologist.

21 **2.3.2.3 Cultural Resources**

22 No Environmental Protection Measures are required with respect to Cultural Resources.

23 **2.3.2.4 Geologic Resources**

24 No Environmental Protection Measures are required with respect to Geologic Resources.

25 **2.3.2.5 Land Use**

26 No Environmental Protection Measures are required with respect to Land Use.

27 **2.3.2.6 Public Health and Safety**

28 No Environmental Protection Measures are required with respect to Public Health and Safety.

29 **2.3.2.7 Water Resources**

30 No Environmental Protection Measures are required with respect to Water Resources.

31 **2.3.2.8 Summary of Environmental Protection Measures by Alternative**

32 Although the scale of activities varies by proposed alternative, with Alternative 2 and Alternative 3
33 representing a reduced scale of activities, the scope of activities would be the same across all alternatives.
34 As a result, all general and specific Environmental Protection Measures would apply to all alternatives.

1 **2.4 Summary of Impacts**

2 Resource areas analyzed in this EA include the following: air quality/greenhouse gases; biological
3 resources; cultural resources; geology/soils/seismicity; land use; and water resources. The environmental
4 consequences associated with implementation of Alternative 1, Alternative 2, Alternative 3, and the No
5 Action Alternative are presented and compared in Table 2-4. A detailed description of the affected
6 environment and analysis of the environmental consequences are presented in Chapter 3.

Table 2-4. Summary of Impacts

Resource Area	Full Mitigation Area (Alternative 1)	Partial Configuration A (Areas Alpha, Bravo North, Delta, and Echo) (Alternative 2)	Partial Configuration B (Areas Charlie, Delta, Echo, and Foxtrot) (Alternative 3)	No Action Alternative
Air Quality/ Greenhouse Gases	Emissions from Alternative 1 would be below the Conformity Rule <i>de minimis</i> or the Prevention of Significant Deterioration thresholds and would satisfy the conditions of a Clean Air Act Record of Non-Applicability (RONA). Implementation of Environmental Protection Measures 1 and 2 would minimize emissions of fugitive dust and construction equipment emission during earthwork. The mobile and intermittent operation of proposed diesel-powered construction equipment over a large area would result in disperse emissions of toxic air contaminants (TACs) from these sources, which would produce minimal ambient impacts of these pollutants. Therefore, significant impacts to air quality would not occur and no mitigation beyond the Environmental Protection Measures described in Section 2.3 would be required.	Under Alternative 2, impacts on air quality would be <i>de minimis</i> . Implementation of Environmental Protection Measures 1 and 2 would minimize emissions of fugitive dust and construction equipment emission during earthwork. Therefore, significant impacts to air quality would not occur and no mitigation beyond the Environmental Protection Measures described in Section 2.3 would be required.	Under Alternative 3, impacts on air quality would be <i>de minimis</i> . Implementation of Environmental Protection Measures 1 and 2 would minimize emissions of fugitive dust and construction equipment emission during earthwork. Therefore, significant impacts to air quality would not occur and no mitigation beyond the Environmental Protection Measures described in Section 2.3 would be required.	For the No Action Alternative, the proposed action would not occur, and there would be no change in existing conditions. No impacts on air quality would occur and no mitigation is required.

Table 2-4. Summary of Impacts

Resource Area	Full Mitigation Area (Alternative 1)	Partial Configuration A (Areas Alpha, Bravo North, Delta, and Echo) (Alternative 2)	Partial Configuration B (Areas Charlie, Delta, Echo, and Foxtrot) (Alternative 3)	No Action Alternative
Biological Resources	<p>Alternative 1 could result in the temporary loss of suitable habitat for the federally listed coastal California gnatcatcher within proposed mitigation areas Charlie and Echo; however, the amount of potentially suitable habitat removed for each restoration would be very small and all upland watershed plants removed would be immediately restored in place. Disturbed upland areas subject to restoration would be replaced with native shrubs suitable for the California gnatcatcher or other appropriate types representing a net benefit. Seasonal avoidance of vegetation removal/grubbing would avoid direct adverse impacts to nesting gnatcatchers.</p> <p>For migratory bird species, suitable habitat exists in all proposed mitigation areas and restoration activities could result in the temporary loss of habitat and an increase in noise, dust, and activity. Seasonal avoidance and on-site restoration of upland habitats would reduce the potential adverse impacts.</p>	<p>Under Alternative 2, adverse impacts to gnatcatchers would be similar to Alternative 1; however, only proposed mitigation area Echo supports gnatcatchers under this alternative.</p> <p>Adverse impacts to migratory birds would also be similar but reduced as compared to Alternative 1, including temporary loss of habitat and increase in noise, dust, and activity in small areas subject to development/restoration. Seasonal avoidance and on-site restoration of upland habitats would reduce the potential adverse impacts.</p>	<p>Under Alternative 3, impacts to coastal California gnatcatchers would be identical to Alternative 1.</p> <p>Adverse impacts to migratory birds would also be similar but reduced as compared to Alternative 1, including temporary loss of habitat and increase in noise, dust, and activity in small areas subject to development/restoration. Seasonal avoidance and on-site restoration of upland habitats would reduce the potential adverse impacts.</p>	<p>For the No Action Alternative, the proposed action would not occur, and there would be no change in existing conditions. No impacts, beneficial or adverse, on biological resources would occur and no environmental protection measures are proposed.</p>

Table 2-4. Summary of Impacts

Resource Area	Full Mitigation Area (Alternative 1)	Partial Configuration A (Areas Alpha, Bravo North, Delta, and Echo) (Alternative 2)	Partial Configuration B (Areas Charlie, Delta, Echo, and Foxtrot) (Alternative 3)	No Action Alternative
Biological Resources (continued)	Alternative 1 could also result in impacts to special status vernal pool species resulting from seed/inoculum collection and disturbance to existing basins during enhancement. Potential adverse impacts resulting from the collection of inoculum would be minimized by limiting the collection to no more than five percent of the surface area from a vernal pool (Environmental Protection Measure 8). The longer term ecological benefits of enhanced vernal pools would exceed the adverse impacts associated with the temporary ground disturbance caused during restoration. In conclusion, potential adverse impacts would not be significant and implementation of Environmental Protection Measures 3 through 8 as described in Section 2.3 would further reduce the scope and scale of adverse effects. Potential long-term effects would be beneficial resulting from an overall in-place increase in the ecological condition and quantity of vernal pool habitat.	Similarly, beneficial and adverse impacts to special status vernal pool species resulting from seed/inoculum collection and/or incidental damage to existing basins targeted for enhancement would occur. Potential adverse impacts would not be significant and implementation of Environmental Protection Measures 3 through 8 as described in Section 2.3 would further reduce the scope and scale of adverse effects. Potential long-term effects would be beneficial resulting from an overall in-place increase in the ecological condition and quantity of vernal pool habitat.	Similarly, beneficial and adverse impacts to special status vernal pool species resulting from seed/inoculum collection and/or incidental damage to existing basins targeted for enhancement would occur. Potential adverse impacts would not be significant and implementation of Environmental Protection Measures 3 through 8 as described in Section 2.3 would further reduce the scope and scale of adverse effects. Potential long-term effects would be beneficial resulting from an overall in-place increase in the ecological condition and quantity of vernal pool habitat.	
Cultural Resources	There are no known traditional cultural resources, or historic buildings or structures eligible for the National Register of Historic Places (NRHP), located in the project Area of Potential Effects (APE) or immediately adjacent to the APE. In the event that previously unrecorded or unevaluated cultural resources are encountered, MCAS Miramar would manage these resources in accordance with the Integrated Cultural Resources Management Plan (ICRMP).	There are no known traditional cultural resources, or historic buildings or structures eligible for the NRHP, located in the project APE or immediately adjacent to the APE. In the event that previously unrecorded or unevaluated cultural resources are encountered, MCAS Miramar would manage these resources in accordance with the ICRMP.	There are no known traditional cultural resources, or historic buildings or structures eligible for the NRHP, located in the project APE or immediately adjacent to the APE. In the event that previously unrecorded or unevaluated cultural resources are encountered, MCAS Miramar would manage these resources in accordance with the ICRMP.	For the No Action Alternative, the proposed action would not occur, and there would be no change in existing conditions. No impacts on cultural resources would occur and no mitigation is required.

Table 2-4. Summary of Impacts

Resource Area	Full Mitigation Area (Alternative 1)	Partial Configuration A (Areas Alpha, Bravo North, Delta, and Echo) (Alternative 2)	Partial Configuration B (Areas Charlie, Delta, Echo, and Foxtrot) (Alternative 3)	No Action Alternative
Geologic Resources	With conformance to established plans and policies, and through coordination and compliance with the NPDES permit program, including implementation of standard BMPs, and erosion control measures, significant impacts to geologic resources would not occur and no mitigation beyond the Environmental Protection Measures described in Section 2.3 would be required.	Under Alternative 2, impacts on geologic resources would be comparable to Alternative 1, but potentially fewer temporary access roads may be required. Therefore, significant impacts to geologic resources would not occur and no mitigation beyond the Environmental Protection Measures described in Section 2.3 would be required.	Under Alternative 3, impacts on geologic resources would be comparable to Alternative 1, but potentially fewer temporary access roads may be required. Therefore, significant impacts to geologic resources would not occur and no mitigation beyond the Environmental Protection Measures described in Section 2.3 would be required.	For the No Action Alternative, the proposed action would not occur, and there would be no change in existing conditions. No impacts on geologic resources would occur and no mitigation is required.

Table 2-4. Summary of Impacts

Resource Area	Full Mitigation Area (Alternative 1)	Partial Configuration A (Areas Alpha, Bravo North, Delta, and Echo) (Alternative 2)	Partial Configuration B (Areas Charlie, Delta, Echo, and Foxtrot) (Alternative 3)	No Action Alternative
Land Use	<p>Alternative 1 would have a beneficial impact on land use by improving strategic planning for future mission requirements, reducing future development costs, utilizing partially constrained land for compensatory mitigation, and minimizing land use incompatibility issues. The mitigation sites would be designated as INRMP Level I Management Areas, which support the Station's conservation and management of vernal pool habitat and limits future land uses. Alternative 1 would be compatible with existing uses (i.e., minimal development within the APZs) and land use constraints (APZ and Air Installations Compatible Use Zone [AICUZ]) at the project sites and in the project vicinity. Military operations would continue to occur over and in areas surrounding the mitigation sites.</p> <p>Implementation of Alternative 1 would require an update to the MCAS Miramar Master Plan and the MCAS Miramar INRMP. Following the update, Alternative 1 would be consistent with the MCAS Miramar Master Plan and the MCAS Miramar INRMP. Therefore, beneficial impacts would occur.</p>	<p>Alternative 2 would have a beneficial impact on land use by improving strategic planning for future mission requirements, utilizing partially constrained land for compensatory mitigation, and minimizing land use incompatibility issues. Designation of the mitigation sites as INRMP Level I Management Areas would be compatible with existing uses and land use constraints at the project sites and in the project vicinity. Military operations would continue to occur over and in areas surrounding the mitigation sites.</p> <p>Implementation of Alternative 2 would require an update to the MCAS Miramar Master Plan and the MCAS Miramar INRMP. Following the update, Alternative 2 would be consistent with the MCAS Miramar Master Plan and the MCAS Miramar INRMP.</p>	<p>Alternative 3 would have a beneficial impact on land use by improving strategic planning for future mission requirements, utilizing partially constrained land for compensatory mitigation, and minimizing land use incompatibility issues. Designation of the mitigation sites as INRMP Level I Management Areas would be compatible with existing uses and land use constraints at the project sites and in the project vicinity. Military operations would continue to occur over and in areas surrounding the mitigation sites.</p> <p>Implementation of Alternative 3 would require an update to the MCAS Miramar Master Plan and the MCAS Miramar INRMP. Following the update, Alternative 3 would be consistent with the MCAS Miramar Master Plan and the MCAS Miramar INRMP.</p>	<p>For the No Action Alternative, the proposed action would not occur, and there would be no change in existing conditions. No impacts on land use would occur and no mitigation is required. Under the No Action Alternative, some future conservation of these regulated resources may occur within or outside of the project area. The establishment of mitigation sites would occur on a project by project basis to support the mission and future military operations at MCAS Miramar; however, these future efforts would not be systematically planned as part of a long-term strategy.</p>

Table 2-4. Summary of Impacts

Resource Area	Full Mitigation Area (Alternative 1)	Partial Configuration A (Areas Alpha, Bravo North, Delta, and Echo) (Alternative 2)	Partial Configuration B (Areas Charlie, Delta, Echo, and Foxtrot) (Alternative 3)	No Action Alternative
Public Health and Safety	The project would comply with established plans and policies; the DoN Environmental Restoration Program; USACE EM 385-1-4 (<i>U.S. Safety and Health Requirement Manual</i>); MCO 5090.2A (<i>USMC Environmental Compliance and Protection Manual</i>); and EO 13423 (<i>Strengthening Federal Environmental, Energy, and Transportation Management</i>). Therefore, significant impacts to public health and safety would not occur and no mitigation is required.	Under Alternative 2, impacts on public health and safety would be the same as those described for Alternative 1. Therefore, significant impacts to public health and safety would not occur and no mitigation is required.	Under Alternative 3, impacts on public health and safety would be the same as those described for Alternative 1. Therefore, significant impacts to public health and safety would not occur and no mitigation is required.	For the No Action Alternative, the proposed action would not occur, and there would be no change in existing conditions. No impacts on public health and safety would occur and no mitigation is required.
Water Resources	Alternative 1 may require the establishment of temporary access roads, which would potentially increase erosion locally, but not likely discharge sediment that would affect the quality of surface water. All ground disturbance activities would be managed in coordination with the San Diego RWQCB and in conformance with applicable requirements including the NPDES permit program and SPCC Plan. Therefore, significant adverse impacts to water resources would not occur and no mitigation beyond the Environmental Protection Measures described in Section 2.3 would be required.	Under Alternative 2, impacts on water resources would be similar to those described for Alternative 1, although fewer temporary access roads may be required (based on fewer proposed mitigation areas under this alternative). All ground disturbance activities would be managed in coordination with the San Diego RWQCB and in conformance with applicable requirements including the NPDES permit program and SPCC. Therefore, significant impacts to water resources would not occur, and no mitigation beyond the Environmental Protection Measures described in Section 2.3 would be required.	Under Alternative 3, impacts on water resources would be similar to those described for Alternative 1, although fewer temporary access roads may be required (based on fewer proposed mitigation areas under this alternative). All ground disturbance activities would be managed in coordination with the San Diego RWQCB and in conformance with applicable requirements including the NPDES permit program and SPCC Plan. Therefore, significant impacts to water resources would not occur and no mitigation beyond the Environmental Protection Measures described in Section 2.3 would be required.	For the No Action Alternative, the proposed action would not occur, and there would be no change in existing conditions. No impacts on public water resources would occur and no mitigation is required.