Draft

Environmental Assessment

Proposed Establishment of R-2507W Restricted Airspace Chocolate Mountain Aerial Gunnery Range Imperial and Riverside Counties, California

* Aircraft depictions not to scale.

March 2014

Prepared by:
United States Department of the Navy
United States Marine Corps

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ENVIRONMENTAL ASSESSMENT

PROPOSED ESTABLISHMENT OF SPECIAL USE AIRSPACE RESTRICTED AREA R-2507W CHOCOLATE MOUNTAIN AERIAL GUNNERY RANGE IMPERIAL AND RIVERSIDE COUNTIES, CALIFORNIA

Lead Agency:	United States Marine Corps
Cooperating Agency for the EA:	Federal Aviation Administration
Title of Proposed Action:	Proposed Establishment of R-2507W SUA Restricted Area
Project Location:	Imperial and Riverside Counties, California
Document Type:	Environmental Assessment

Abstract

The United States Marine Corps (USMC) has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code §§ 4321-4370h), as implemented by the Council on Environmental Quality regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508); Department of the Navy regulations for implementing NEPA (32 CFR Part 775); and Marine Corps Order P5090.2A, Change 3, dated 26 August 2013, *Environmental Compliance and Protection Manual*, which establishes USMC procedures for implementing NEPA. As the Federal Aviation Administration (FAA) is a cooperating agency for this action, this EA has also been prepared in accordance with FAA Joint Order 7400.2J, Change 1, effective 26 July 2012, *Procedures for Handling Airspace Matters* (FAA 2012) and FAA Order 1050.1E, Change 1, dated 20 March 2006, *Environmental Impacts: Policies and Procedures* (FAA 2006). The USMC proposes the establishment of a SUA Restricted Area within the Chocolate Mountain Aerial Gunnery Range to support Marine Corps and Naval aviation air-to-ground and ground training requirements and to effectively de-conflict Department of Defense and civilian air traffic from hazards associated with live-fire military training. The USMC has requested the FAA to designate the proposed SUA Restricted Area as R-2507W Chocolate Mountains West, CA.

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March 2014

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EXECUTIVE SUMMARY

The United States Marine Corps (USMC) has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code §§ 4321-4370h), as implemented by the Council on Environmental Quality regulations (40 Code of Federal Regulations [CFR] Parts 1500-1508); Department of the Navy regulations for implementing NEPA (32 CFR Part 775); and Marine Corps Order P5090.2A, Change 3, dated 26 August 2013, *Environmental Compliance and Protection Manual*, which establishes USMC procedures for implementing NEPA. As the Federal Aviation Administration (FAA) is a cooperating agency for this action, this EA has also been prepared in accordance with FAA Joint Order 7400.2J, Change 1, effective 26 July 2012, *Procedures for Handling Airspace Matters* (FAA 2012) and FAA Order 1050.1E, Change 1, dated 20 March 2006, *Environmental Impacts: Policies and Procedures* (FAA 2006).

The USMC proposes the establishment of a Special Use Airspace (SUA) Restricted Area (R) within the Chocolate Mountain Aerial Gunnery Range (CMAGR). The Proposed Action is required to effectively de-conflict civilian air traffic from vertical hazards associated with Department of Defense airspace and ground training activities within the CMAGR. Currently, nonparticipating aircraft may transit the existing Niland and Bombay Controlled Firing Areas (CFAs) without limitation and without warning, often resulting in lengthy training interruptions and a reduced ability to meet training requirements.

The purpose of the Proposed Action is the establishment of R-2507W above Special Warfare Training Areas 4 and 5 to support the achievement of direct fire (e.g., automatic rifles), indirect fire (e.g., mortars), and aviation training objectives required to meet both Marine Corps and Naval aviation air-to-ground and ground training requirements. The establishment of R-2507W is needed because the current configuration of airspace allows nonparticipating aircraft to disrupt military training, thus reducing training ability and degrading overall operational readiness.

The USMC has requested the FAA to designate the proposed SUA as R-2507W Chocolate Mountains West, CA, with a designated altitude from the surface to approximately 40,000 feet above mean sea level, and generally coinciding with the existing Niland and Bombay CFA boundaries. The existing Niland and Bombay CFAs would cease to exist. The Proposed Action is entirely airspace-based; no changes to existing ground-based training within the CMAGR would occur under the Proposed Action. The creation of R-2507W would substantially enhance both the capability and capacity of the CMAGR to support critically required, doctrinally appropriate Marine Corps and Naval aviation air-to-ground and ground training requirements.

In accordance with NEPA, the USMC performed a focused analysis that describes the potential environmental consequences resulting from two action alternatives (Alternatives 1 and 2) and the No-Action Alternative on the following resource areas: airspace, safety, noise, biological resources, and socioeconomics and environmental justice.

Impacts to other resource areas, which are primarily ground-based, are anticipated to be negligible or non-existent from implementation of the alternatives. Table ES-1 presents a summary of the potential impacts to each resource area resulting from the implementation of the alternatives.

As shown in Table ES-1, no significant impacts to any resource area would occur with implementation of the Proposed Action. Based on the analysis presented in this EA, the USMC has identified Alternative 2 as the Preferred Alternative. Chapter 3 provides descriptive information on the existing conditions and level of analysis for each resource area and Chapter 4 provides a more detailed analysis of the potential impacts associated with Alternatives 1 and 2, as well as the No-Action Alternative.

Table ES-1 Summary of Anticipated Environmental Impacts

Resource Area(s)	Alternative 1	Alternative 2	No-Action Alternative
Resource Areas Eliminated from Detailed Analysis[1]			
Geological Resources	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Water Resources	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Land Use	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Visual Resources	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Cultural Resources	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact[2].**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact[2].**	No change from existing conditions. *Conclusion*: **No Impact.**
Ground Transportation	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Air Quality	No increase in emissions that would affect ground-level air quality in the project area and no net increase in emissions in the CMAGR. *Conclusion*: **No Impact**	No increase in emissions that would affect ground-level air quality in the project area and no net increase in emissions in the CMAGR. *Conclusion*: **No Impact**	No change from existing conditions. *Conclusion*: **No Impact.**
Utilities	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**

Resource Area(s)	Alternative 1	Alternative 2	No-Action Alternative
Hazardous Materials and Wastes	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Recreational Resources	Imperceptible increase in noise level exposure to persons on segments of the Bradshaw Trail. *Conclusion*: **No Significant Impact.**	Imperceptible increase in noise level exposure to persons on segments of the Bradshaw Trail. *Conclusion*: **No Significant Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Resource Areas Analyzed in Detail			
Airspace	An average of four flights per day would be routed around R-2507W. *Conclusion:* **No Significant Impact.**	An average of three flights per day would be routed around R-2507W. *Conclusion:* **No Significant Impact.**	No change to existing airspace. *Conclusion:* **No Impact.**
Safety	Increase in airspace safety. *Conclusion:* **Beneficial Effect.**	Increase in airspace safety. *Conclusion:* **Beneficial Impact.**	Nonparticipating aircraft would continue to have the potential to affect training. No change to existing conditions. *Conclusion:* **No Significant Impact.**
Noise	Up to a 2.1 decibel increase in average daily noise levels. *Conclusion:* **No Significant Impact.**	Up to a 2.1 decibel increase in average daily noise levels. *Conclusion:* **No Significant Impact.**	No change from existing conditions. *Conclusion:* **No Impact.**
Biological Resources	Small increase in potential for bird/bat aircraft strikes. No impact to terrestrial resources, including the federally listed Agassiz's desert tortoise. *Conclusion:* **No Significant Impact.**	Small increase in potential for bird/bat aircraft strikes. No impact to terrestrial resources, including the federally listed Agassiz's desert tortoise. *Conclusion:* **No Significant Impact.**	No change from existing conditions. *Conclusion:* **No Impact.**
Socioeconomics and Environmental Justice	Re-routing impact of approximately $35/per day per aircraft. Negligible increase in noise levels. *Conclusion:* **No Significant Impact.**	Re-routing impact of approximately $35/per day per aircraft. Negligible increase in noise levels. *Conclusion:* **No Significant Impact.**	No change from existing conditions. *Conclusion:* **No Impact.**

Notes: [1] See Section 3.1.1.
[2] Subject to completion of consultation with Tribal Governments.

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PROPOSED ESTABLISHMENT OF SPECIAL USE AIRSPACE RESTRICTED AREA R-2507W
CHOCOLATE MOUNTAIN AERIAL GUNNERY RANGE
IMPERIAL AND RIVERSIDE COUNTIES, CALIFORNIA

TABLE OF CONTENTS

ABSTRACT ..... **Following Front Cover**

EXECUTIVE SUMMARY **ES-1**

ACRONYMS AND ABBREVIATIONS **A-1**

CHAPTER 1 PURPOSE AND NEED FOR THE PROPOSED ACTION **1-1**

1.1 INTRODUCTION 1-1
1.2 PROJECT LOCATION 1-1
1.3 BACKGROUND 1-5
1.3.1 Special Use Airspace 1-5
1.3.2 Chocolate Mountain Aerial Gunnery Range 1-6
1.3.3 On-Going Training Challenges 1-9
1.4 PURPOSE AND NEED FOR THE PROPOSED ACTION 1-9
1.5 SCOPE OF ANALYSIS 1-10
1.6 REGULATORY SETTING 1-10
1.7 FEDERAL AVIATION ADMINISTRATION COORDINATION 1-11
1.8 PUBLIC AND AGENCY COORDINATION 1-12
1.9 ORGANIZATION OF THE ENVIRONMENTAL ASSESSMENT 1-12

CHAPTER 2 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES **2-1**

2.1 PROPOSED ACTION OVERVIEW 2-1
2.2 ALTERNATIVE 1 2-1
2.2.1 Ground-Based Activities 2-6
2.2.2 Aircraft-Based Activities 2-6
2.2.3 Other Elements 2-8
2.3 ALTERNATIVE 2 2-8
2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM ANALYSIS 2-11
2.5 NO-ACTION ALTERNATIVE 2-11
2.6 PREFERRED ALTERNATIVE 2-11
2.7 SUMMARY OF ENVIRONMENTAL CONSEQUENCES 2-12

CHAPTER 3 AFFECTED ENVIRONMENT **3-1**

3.1 APPROACH TO ANALYSIS 3-1
3.1.1 Resources Eliminated From Detailed Analysis 3-1
3.2 AIRSPACE 3-4
3.2.1 Definition of Resource and Regulatory Setting 3-4
3.2.2 Affected Environment 3-4

3.3 SAFETY 3-10
3.3.1 Definition of Resource and Regulatory Setting 3-10
3.3.2 Affected Environment 3-10
3.4 NOISE 3-11
3.4.1 Definition of Resource and Regulatory Setting 3-11
3.4.2 Affected Environment 3-11
3.5 BIOLOGICAL RESOURCES 3-19
3.5.1 Definition of Resource and Regulatory Setting 3-19
3.5.2 Affected Environment 3-19
3.6 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE 3-25
3.6.1 Definition of Resource and Regulatory Setting 3-25
3.6.2 Affected Environment 3-25

CHAPTER 4 ENVIRONMENTAL CONSEQUENCES 4-1

4.1 AIRSPACE 4-1
4.1.1 Alternative 1 4-1
4.1.2 Alternative 2 4-2
4.1.3 No-Action Alternative 4-2
4.2 SAFETY 4-2
4.2.1 Alternative 1 4-3
4.2.2 Alternative 2 4-3
4.2.3 No-Action Alternative 4-3
4.3 NOISE 4-3
4.3.1 Alternative 1 4-4
4.3.2 Alternative 2 4-4
4.3.3 No-Action Alternative 4-9
4.4 BIOLOGICAL RESOURCES 4-9
4.4.1 Alternative 1 4-9
4.4.2 Alternative 2 4-10
4.4.3 No-Action Alternative 4-10
4.5 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE 4-10
4.5.1 Alternative 1 4-10
4.5.2 Alternative 2 4-11
4.5.3 No-Action Alternative 4-11

CHAPTER 5 CUMULATIVE EFFECTS 5-1

5.1 REGULATORY SETTING 5-1
5.2 AFFECTED ENVIRONMENT 5-1
5.2.1 Methodology 5-1
5.3 ENVIRONMENTAL CONSEQUENCES 5-7
5.3.1 Proposed Action 5-7
5.3.2 Cumulative Impacts 5-8

CHAPTER 6 OTHER CONSIDERATIONS 6-1

6.1 POSSIBLE CONFLICTS BETWEEN THE PROPOSED ACTION AND THE OBJECTIVES OF FEDERAL, STATE, LOCAL, AND REGIONAL LAND USE PLANS, POLICIES, AND CONTROLS 6-1
6.2 CLIMATE CHANGE 6-1

6.2.1 Predicted Future Conditions 6-1
6.2.2 Impact of the Proposed Action on Climate Change 6-2
6.3 ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL OF ALTERNATIVES INCLUDING THE PROPOSED ACTION AND ALL MITIGATION MEASURES BEING CONSIDERED 6-3
6.4 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF NATURAL OR FINITE RESOURCES 6-3
6.5 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF THE HUMAN ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM NATURAL RESOURCE PRODUCTIVITY ..6-3
6.6 MEANS TO MITIGATE AND/OR MONITOR ADVERSE ENVIRONMENTAL IMPACTS 6-3

CHAPTER 7 REFERENCES 7-1

CHAPTER 8 LIST OF PREPARERS....8-1

CHAPTER 9 AGENCIES AND PERSONS CONTACTED....9-1

APPENDICES

APPENDIX A Correspondence....A-1
APPENDIX B SUA Legal Description....B-1

List of Figures

Figure **Page**

1-1 Regional Location of the Chocolate Mountain Aerial Gunnery Range and the Niland and Bombay Controlled Firing Areas 1-2
1-2 Project Location 1-3
1-3 Existing Special Use Airspace within and near the Chocolate Mountain Aerial Gunnery Range 1-7
2-1 Proposed R-2507W Coordinates under Alternatives 1 and 2 2-3
2-2 Three-Dimensional Depiction of Proposed R-2507W under Alternatives 1 and 2 2-5
2-3 Resulting Special Use Airspace within and near the Chocolate Mountain Aerial Gunnery Range under Alternatives 1 and 2 2-9
3.2-1 Special Use Airspace, Training Ranges, Low-Altitude Airways, and Airfields Adjacent to the Project Area 3-7
3.4-1 Location of Noise-Sensitive Areas 3-13
3.4-2 Noise-Sensitive Areas in Relation to Flights Transiting the Proposed R-2507W 3-17
3.5-1 Special Status Wildlife Species Within and in the Vicinity of Alternatives 1 and 2 3-21
3.6-1 Region of Influence, Socioeconomics and Environmental Justice 3-27
4.3-1 Projected Noise Levels within the Project Area under Alternative 2 4-7
5-1 General Location of Cumulative Projects within the Vicinity of the Project Area 5-5

List of Tables

Table **Page**

ES-1 Summary of Anticipated Environmental Impacts ES-3
1-1 Regulatory Consultations for the Proposed Action 1-11
2-1 Currently Used Weapon Types and Associated Maximum Altitudes 2-6
2-2 Aircraft Types and Sorties in the Proposed R-2507W 2-7
2-3 Summary of Anticipated Environmental Impacts 2-13
3.2-1 Existing Special Use Airspace Within the ROI 3-5
3.2-2 Altitude Distribution of Existing Aircraft Crossings of R-2507N, R-2507S, and R-2507E 3-9
3.4-1 Baseline CNEL Noise Levels at Noise-sensitive Areas[a] 3-15
3.5-1 Special Status Species Known to Occur at the CMAGR and in the Vicinity[a] of the Proposed R-2507W 3-24
3.6-1 Selected Socioeconomic and Demographic Characteristics 3-25
4.3-1 Aircraft Types and Sorties in the Proposed R-2507W 4-4
4.3-2 Baseline and Alternative 2 Predicted Noise Levels at Noise-sensitive Areas 4-5
5-1 Cumulative Projects and Associated Anticipated Impacts 5-2
5-2 Baseline, Proposed Action, and Cumulative Predicted CNEL at Noise-sensitive Areas 5-9

Acronyms and Abbreviations

AGL	above ground level
ATC	Air Traffic Control
BCC	Bird of Conservation Concern
BO	Biological Opinion
CDFW	California Department of Fish and Wildlife
CEQ	Council on Environmental Quality
CERAP	Combined Center Radar Approach Control
CFA	Controlled Firing Area
CFR	Code of Federal Regulations
CH_4	methane
CMAGR	Chocolate Mountain Aerial Gunnery Range
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CO_2	carbon dioxide
CO_2e	CO_2 equivalent
dB	decibel
DoD	Department of Defense
E	Endangered
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FL	Flight Level
FP	Fully Protected
GHG	greenhouse gas
GWP	global warming potential
JO	Joint Order
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MCO	Marine Corps Order
mm	millimeter
MOA	Military Operations Area
MSL	mean sea level
N_2O	nitrous oxide
NAF	Naval Air Facility
NAVFAC SW	Naval Facilities Engineering Command Southwest
Navy	Department of the Navy
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NSW	Naval Special Warfare
R	Restricted Area
RCO	Range Control Officer
ROI	region of influence
RTA	Range and Training Area
SC	Species of Special Concern
StaO	Station Order
SUA	Special Use Airspace
SWAT	Special Warfare Training Area (spelled and called “SWAT” for pronunciation ease)
T	Threatened
UAS	Unmanned Aerial System
U.S.	United States
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGCRP	U.S. Global Change Research Program
USMC	United States Marine Corps
WL	Watch List
YTRC	Yuma Training Range Complex

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CHAPTER 1
PURPOSE AND NEED FOR THE PROPOSED ACTION

1.1 INTRODUCTION

The United States (U.S.) Marine Corps (USMC) proposes the establishment of a Special Use Airspace (SUA) Restricted Area (R) to support the achievement of direct fire (e.g., automatic rifles), indirect fire (e.g., mortars), and aviation training objectives required to meet Marine Corps and Naval aviation air-to-ground and ground training requirements. The USMC has requested the Federal Aviation Administration (FAA) to designate the proposed airspace as R-2507W Chocolate Mountains West, CA. The proposed R-2507W boundary generally coincides with boundaries of the Niland and Bombay Controlled Firing Areas (CFAs) airspace, located in the Chocolate Mountain Aerial Gunnery Range (CMAGR), California (Figure 1-1). The Niland and Bombay CFAs overlie Special Warfare Training Areas (SWATs) 4 and 5, also located within the CMAGR.

The CMAGR is primarily used for live-fire aviation and ground warfare training[1] conducted by USMC and Navy forces. Responsibility for operations and administration of the CMAGR has been delegated by the Secretary of the Navy to the Commanding Officer, Marine Corps Air Station (MCAS) Yuma. The CMAGR is essential for developing and maintaining the readiness of Marine Corps and Naval aviators and is vital for land warfare training conducted by select Navy (i.e., Naval Special Warfare [NSW] Sea, Air, and Land units) and Marine Corps forces in SWATs 4 and 5.

The USMC has prepared this Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA) of 1969 (42 U.S. Code [USC] §§ 4321-4370h), as implemented by the Council on Environmental Quality (CEQ) (40 Code of Federal Regulations [CFR] Parts 1500-1508) regulations; Department of the Navy (Navy) procedures for implementing NEPA (32 CFR Part 775); and Marine Corps Order (MCO) P5090.2A, Change 3, dated 26 August 2013, *Environmental Compliance and Protection Manual*, which establishes USMC procedures for implementing NEPA.

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1.2 PROJECT LOCATION

The project is located within Imperial and Riverside Counties in southeastern California (Figure 1-1). The boundary of the proposed R-2507W airspace is generally equivalent to the surface area defined by the existing Niland and Bombay CFAs that overlie SWATs 4 and 5 (Figure 1-2).

[1] The USMC uses the phrase "ground warfare training" to describe USMC ground combat element training activities that are land based, whereas the Navy uses the phrase "land warfare training" to describe Navy training activities that occur on the land (not at sea). To facilitate reading comprehension, "ground warfare training" is used in this EA when not branch specific; however, when describing branch-specific training, service-specific phrasing is used.

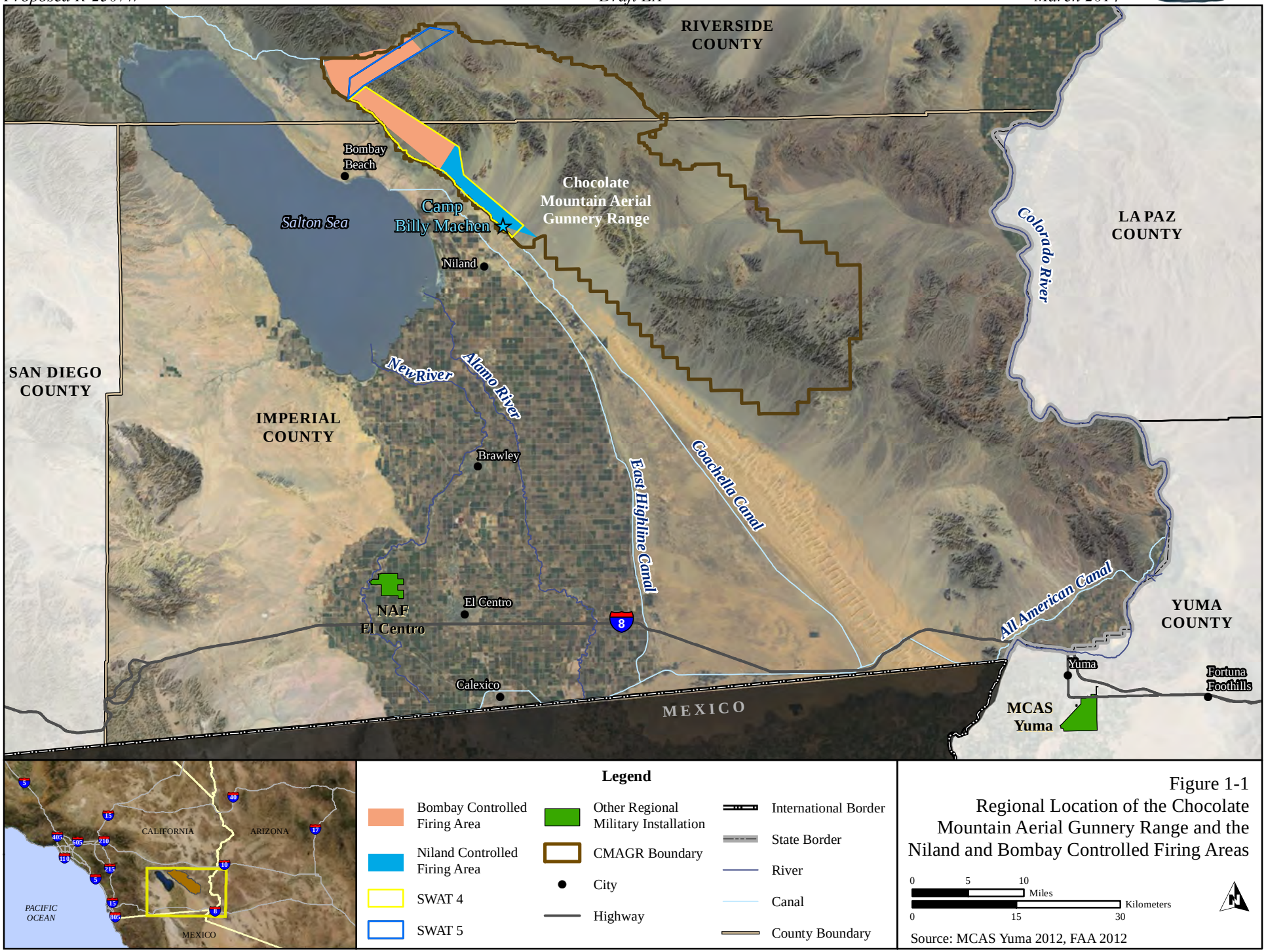
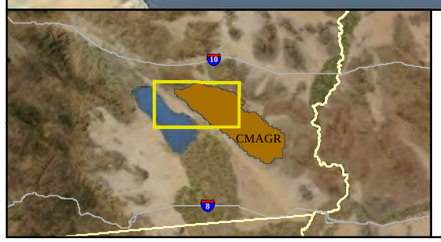


Figure 1-1
Regional Location of the Chocolate Mountain Aerial Gunnery Range and the Niland and Bombay Controlled Firing Areas

Source: MCAS Yuma 2012, FAA 2012



Legend

- Bombay Controlled Firing Area
- Niland Controlled Firing Area
- R-2507N/S Restricted Airspace
- SWAT 5
- SWAT 4
- Overlapping SWAT 4 and CMAGR Boundaries
- Overlapping SWAT 4 and R-2507N Boundaries
- Overlapping SWAT 5 and R-2507N Boundaries
- CMAGR Boundary
- County Boundary
- Canal
- Highway
- Road

Figure 1-2
Project Location

0 2 4 Miles
0 2 4 Kilometers

Source: MCAS Yuma 2012

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1.3 BACKGROUND

1.3.1 Special Use Airspace

1.3.1.1 Overview

Congress has charged the FAA to administer navigable airspace to ensure the safety of aircraft and its efficient use. Although the FAA must protect the public's right of freedom of transit through the airspace, full consideration must be given to all airspace users, to include national defense, commercial and general aviation, and space operations. Accordingly, while a sincere effort must be made to negotiate equitable solutions to conflicts over the use of the airspace for non-aviation purposes, preservation of the navigable airspace for aviation must be the primary emphasis (FAA 2012).

The primary purpose of the FAA SUA program is to establish/designate airspace in the interest of national defense, security and/or welfare. Charted SUA identifies to other airspace users where these activities occur. SUA is airspace of defined dimensions wherein activities must be confined because of their nature, or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. The types of SUA are Prohibited Areas, Restricted Areas, Military Operations Areas (MOAs), Warning Areas, Alert Areas, CFAs, and National Security Areas (FAA 2012). The following sections describe Restricted Areas, MOAs, and CFAs as they are the primary types of SUA discussed and analyzed in this EA.

1.3.1.2 Restricted Areas

A Restricted Area (denoted with an "R") is a a type of SUA established under 14 CFR Part 73 provisions, within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Penetration of Restricted Areas by nonparticipating aircraft without authorization from the using or controlling agency may be extremely hazardous to the aircraft and its occupants.

Restricted Areas are established when determined necessary to confine or segregate activities considered hazardous to nonparticipating aircraft. Examples of hazardous activities include firing of aircraft cannons, rockets, or missiles; aircraft delivery of aerial bombs; firing artillery; surface-to-air or surface-to-surface missile launches; or training aircrews at night in the use of night vision goggles with the external lights of the participating aircraft turned off. The FAA identifies Restricted Areas with the letter "R" prefix followed by a dash, a four-digit number, a location, and the two-letter state abbreviation (e.g., R-2309, Yuma, AZ) (FAA 2012).

1.3.1.3 Miltary Operations Area

A MOA is airspace to separate or segregate certain nonhazardous military activities from Instrument Flight Rules traffic and to identify for Visual Flight Rules traffic where these activities are conducted. MOAs are designated to contain nonhazardous, military flight activities including, but not limited to, air combat maneuvers, air intercepts, low altitude tactics, etc. MOAs are identified by a name followed by the acronym MOA and the two-letter state abbreviation (e.g., Abel MOA, CA). MOA subdivisions may be identified by a suffix consisting of a number, letter, cardinal point, or the terms "High" or "Low," (e.g., Abel Low) (FAA 2012).

1.3.1.4 Controlled Firing Areas

A CFA is airspace designated to contain activities that would be hazardous to nonparticipating aircraft if not conducted in a controlled environment. The distinguishing feature of a CFA, compared to other SUA,

is that the FAA does not chart CFAs, and activities are suspended immediately when a nonparticipating aircraft approaches the area. The responsibility lies completely with the CFA user to terminate activities so that there is no impact on aviation. Nonparticipating aircraft are not required to avoid the airspace and communications or air traffic control (ATC) separation requirements are not imposed (FAA 2012).

Only those activities that can be immediately suspended when a nonparticipating aircraft is approaching are authorized within a CFA. Examples of such activities include ordnance disposal, blasting, and static testing of large rocket motors. Other activities (e.g., artillery firing, etc.) may be considered provided they can meet the criteria and comply with the safety precautions. CFAs are not intended to support aircraft ordnance delivery activities. Operation of observer or surveillance aircraft is permitted within a CFA (FAA 2012).

1.3.2 Chocolate Mountain Aerial Gunnery Range

1.3.2.1 Overview

The CMAGR is a live-fire training range that has been used to train USMC and Navy aircrews in the delivery of air-to-ground ordnance since World War II. While the USMC is the primary user of the CMAGR, the range is also used by units of the Navy, U.S. Air Force, U.S. Army, U.S. Reserve Components, U.S. National Guard, and allied nations including Canada, the United Kingdom, and others. Ground combat training at the CMAGR also began during World War II with the opening of a USMC artillery school. The use of the range for ground warfare training dates from 1966, and is oriented toward individual fighting skills and unit tactics (USMC 1997).

1.3.2.2 Airspace Training

In and around the CMAGR are several types of SUA that support training at the CMAGR. Figure 1-3 depicts existing SUA within and near the CMAGR. The following paragraphs provide descriptions of existing SUA shown in this figure.

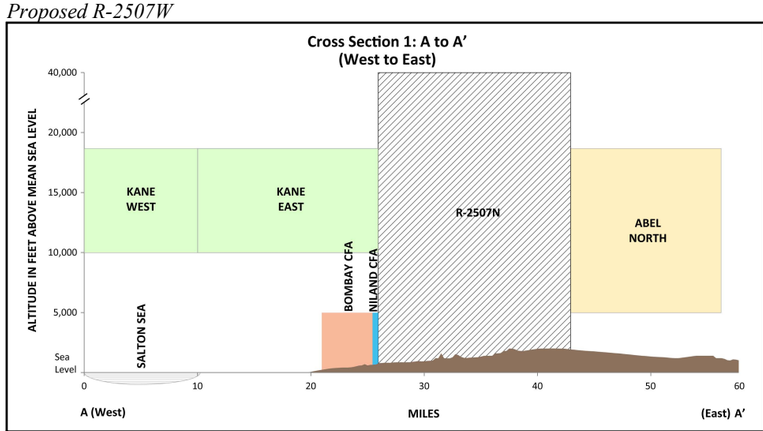
<u>Niland and Bombay Controlled Firing Areas</u>

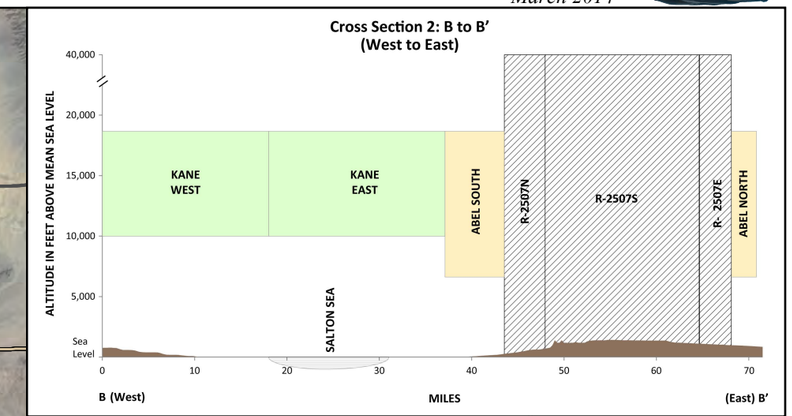
The designated altitudes of the Niland and Bombay CFAs are from the surface to 5,000 feet above ground level (AGL) (roughly 5,500 feet above mean sea level [MSL]) and generally overlie the boundaries of SWATs 4 and 5 (Figure 1-3).

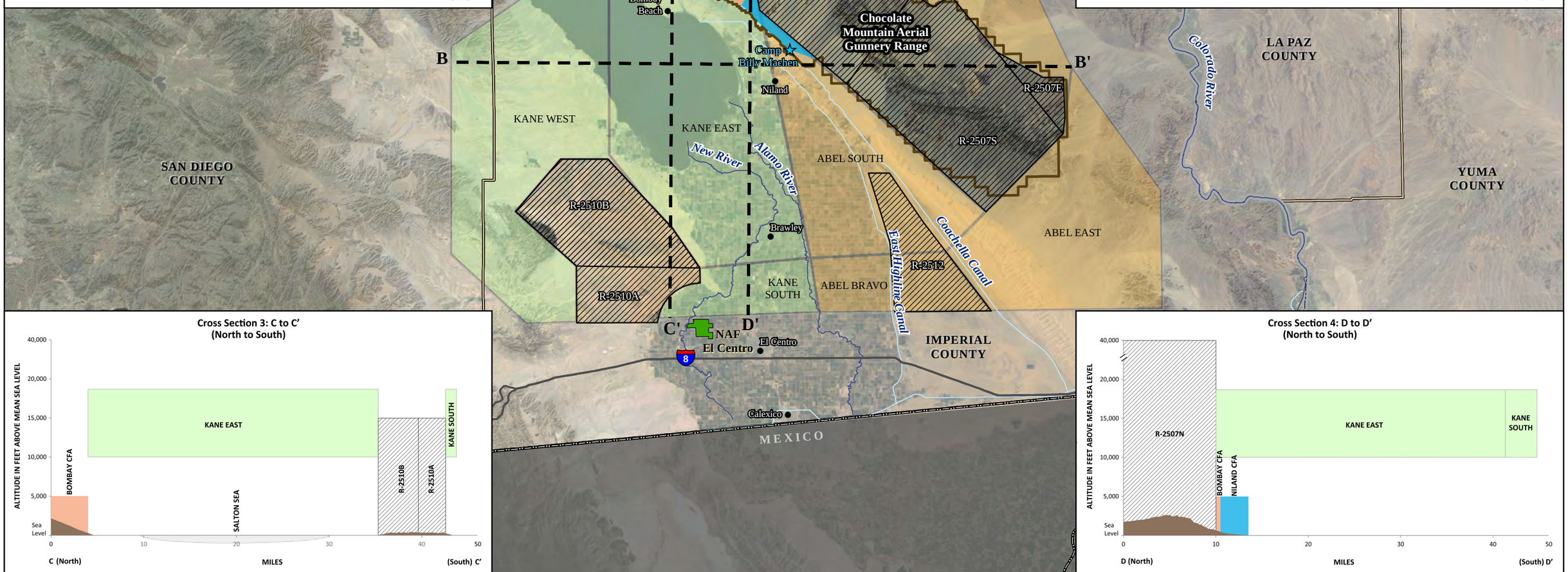
<u>Other Special Use Airspace</u>

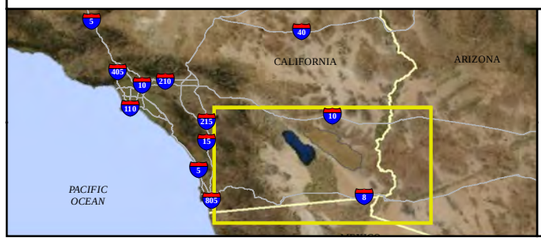
Three existing Restricted Areas are located within the CMAGR: R-2507N, R-2507S, and R-2507E (Figure 1-3). These Restricted Areas extend from the surface to 40,000 feet above MSL[2] and provide exclusive use for military aircraft operations and live-fire training exercises. When operationally required, the lateral boundaries of R-2507N, R-2507S, and R-2507E can be combined to form a contiguous unit of airspace that is roughly 12- to 15-miles wide and about 45-miles long. The entire R-2507 complex can be used for training that encompasses its full dimensions, or the R-2507 complex can be partitioned administratively into smaller north and south sub ranges when operationally required.

[2] FAA convention is to use the phrase "feet MSL;" however, to make this EA more reader-friendly, the phrase "feet <u>above</u> MSL" is used throughout this EA.









Legend

- Bombay Controlled Firing Area
- Niland Controlled Firing Area
- Existing Restricted Airspace
- CMAGR Boundary
- Abel MOA
- Kane MOA
- Other Regional Military Installation
- Cross Section
- City
- River
- Canal
- International Border
- State Border
- County Boundary
- Highway

Figure 1-3
Existing Special Use Airspace within and near the Chocolate Mountain Aerial Gunnery Range

0 5 10 Miles
0 15 30 Kilometers

Source: MCAS Yuma 2012, FAA 2012

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The Abel MOA surrounds the majority of the CMAGR. Kane MOA, R-2510A, and R-2510B are located to the west and southwest, respectively, of the CMAGR. R-2512 is situated to the south of the CMAGR (see Figure 1-3).

1.3.2.3 Land Warfare Training

Within the western portion of the CMAGR are SWATs 4 and 5, each of which include a series of land warfare training ranges. The Commanding Officer, MCAS Yuma, operates and controls SWATs 4 and 5. NSW and other forces currently conduct land warfare basic individual skills, intermediate unit level, and advanced integration and sustainment training within SWAT 4. SWAT 5 is not currently used for training.

1.3.3 On-Going Training Challenges

Maintaining forces that are ready to defend the U.S. is the primary task of the Department of Defense (DoD). Recent publications of the *National Security Strategy of the United States* and the *National Military Strategy* both direct U.S. armed forces to "transform" to meet the challenges of the 21st century. These challenges, notably the most acute challenge of global terrorism, are vastly different from those faced by the U.S. during previous eras.

Marine Corps aviation plays a crucial role in the USMC's ability to conduct warfare. The ultimate goal of Marine Corps aviation is to attain the highest possible combat readiness to support warfare, while preserving and conserving Marines and their equipment. Embedded within combat readiness is the requirement that Marine Corps aviation units maintain the ability to rapidly, effectively, and efficiently deploy combat capable aircrew and aircraft on short notice, and to maintain the ability to quickly and effectively plan for crises and/or contingency operations.

As the Niland and Bombay areas are CFAs, there is no requirement for nonparticipating aircraft to avoid the airspace, meaning that an aircraft cannot be prevented from flying through the airspace and disrupting training, even when a Notice to Airmen advising aviators of the scheduled use of the airspace has been properly filed. Types of nonparticipating aircraft can include civilian, commercial, and other military aircraft. During ground-based training, observers and firing Range Control Officers (RCOs) continuously monitor the Niland and Bombay CFAs to ensure that nonparticipating aircraft are not present during firing activity. Whenever a designated spotter aircraft, radar, or ground lookout indicates the approach of a nonparticipating aircraft, current training activities must be halted. As shown on Figure 1-3, the Niland and Bombay CFAs constitute a gap in regional Restricted Area coverage; therefore, nonparticipating aircraft can disrupt training. Furthermore, based on the CFA designation, units are limited in the types of training that can be accomplished, thus limiting training flexibility.

No FAA approval currently exists for the deployment of Unmanned Aerial Systems (UASs) in the Niland and Bombay CFAs except for those UASs that weigh less than 20 pounds and fly below 1,200 feet AGL under continuous surveillance by observers (USMC 2008; Navy 2010, 2012). In addition, no FAA approval exists for rotary- or fixed-wing aircraft to fire from the Niland or Bombay CFAs to ground targets within the CMAGR. These conditions limit the ability to support a wide diversity of combat training and emerging training missions within the CMAGR.

1.4 PURPOSE AND NEED FOR THE PROPOSED ACTION

The purpose of the Proposed Action is the establishment of a SUA Restricted Area above SWATs 4 and 5 to support the achievement of direct fire (e.g., automatic rifles), indirect fire (e.g., mortars), and aviation

training objectives required to meet both Marine Corps and Naval aviation air-to-ground and ground training requirements. The establishment of R-2507W is needed because the current configuration of airspace allows nonparticipating aircraft to disrupt military training, thus reducing training ability and degrading overall operational readiness.

1.5 SCOPE OF ANALYSIS

The following studies were completed in support of this EA and have been incorporated into the analysis where appropriate:

- *Initial Noise Study* (Naval Facilities Engineering Command Southwest [NAVFAC SW] 2013a)
- *Airspace Traffic Impact Analysis* (ATAC 2013)

This EA describes the potential environmental consequences resulting from two action alternatives (Alternatives 1 and 2) and the No-Action Alternative on the following resource areas: airspace, safety, noise, biological resources, and socioeconomics and environmental justice.

1.6 REGULATORY SETTING

This EA has been prepared based on NEPA requirements as outlined in the following statutes, regulations, and guidance documents:

- NEPA of 1969 (42 USC §§ 4321-4370h), which requires an environmental analysis for major federal actions that have the potential to significantly impact the quality of the human environment;
- CEQ regulations (40 CFR Parts 1500-1508), which implement the requirements of NEPA;
- Navy regulations for implementing NEPA (32 CFR Part 775), which provides Navy policy for implementing the CEQ regulations and NEPA;
- MCO P5090.2A, Change 3, Chapter 12, dated 26 August 2013, *Environmental Compliance and Protection Manual*, which establishes USMC procedures for implementing NEPA;
- FAA Order 1050.1E, Change 1, dated 20 March 2006, *Environmental Impacts: Policies and Procedures* (FAA 2006); and
- FAA JO 7400.2J, Change 1, effective 26 July 2012, *Procedures for Handling Airspace Matters* (FAA 2012).

This EA has been prepared in accordance with the following additional statutory and executive requirements:

- American Indian Religious Freedom Act, (42 USC § 1996);
- Archaeological Resources Protection Act, (16 USC §§ 470aa-470mm);
- Clean Air Act, as amended (42 USC §§ 7401-7671q), including 1990 General Conformity Rule;
- Endangered Species Act (ESA) (16 USC §§ 1531-1544);
- Executive Order (EO) 11593 – *Protection and Enhancement of the Cultural Environment*;
- EO 12898 – *Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations*;
- EO 13045 – *Protection of Children from Environmental Health Risks and Safety Risks*;
- EO 13148 – *Greening the Government through Leadership in Environmental Management;*

- EO 13186 – *Responsibilities of Federal Agencies to Protect Migratory Birds*;
- FAA Order 1210.20, *American Indian and Alaska Native Tribal Consultation Policy and Procedures*
- Migratory Bird Treaty Act (MBTA) (16 USC §§ 703-712);
- National Historic Preservation Act (NHPA) (16 USC §§ 470-470x-6); and
- Native American Graves Protection and Repatriation Act (25 USC §§ 3001-3013).

Table 1-1 reflects the consultation the USMC is conducting with the FAA and Tribal Governments for the Proposed Action. Because the Proposed Action would be consistent with those activities addressed and analyzed in the 1996 Biological Opinion (BO) prepared by the U.S. Fish and Wildlife Service (USFWS) (USFWS 1996) for the Yuma Training Range Complex (YTRC) Environmental Impact Statement (EIS) (USMC 1997), additional consultation with the USFWS is not anticipated for this action. Appendix A presents correspondence with federal agencies and tribal governments.

Table 1-1. Regulatory Consultations for the Proposed Action

Organization	Permit or Approval	Current Status
FAA	Restricted Area Establishment	On-going coordination in advance of formal aeronautical proposal package submittal
Tribal Governments	Section 106 of the NHPA	On-going

1.7 FEDERAL AVIATION ADMINISTRATION COORDINATION

The USMC is the action proponent for the Proposed Action and is the lead agency for the preparation of this EA. As defined in 40 CFR § 1508.5, a cooperating agency "means any federal agency other than a lead agency which has jurisdiction by law or special expertise with respect to any environmental impact involved in a proposal (or a reasonable alternative) for legislation or other major federal action significantly affecting the quality of the human environment." A cooperating agency's responsibilities include participation in the NEPA process as early as possible, participation in the scoping process, and on the lead agency's request, development of information to be included, and staff support during document preparation (40 CFR § 1501.6). Under 40 CFR § 1501.6, federal agencies with jurisdiction by law shall be cooperating agencies if requested by the lead agency.

As the FAA administers navigable airspace and the Proposed Action is airspace-related, the USMC invited the FAA to become a cooperating agency as part of this EA. The FAA has signed a letter of agreement indicating their willingness to be a cooperating agency (see Appendix A, *Correspondence*). The FAA may adopt this EA prepared by DoD if the FAA independently evaluates the information in the document and takes full responsibility for the scope and content that addresses FAA actions (FAA 2012). This EA has incorporated the FAA NEPA criteria as contained in FAA JO 7400.2J (FAA 2012) and FAA Order 1050.1E (FAA 2006).

This EA has been prepared in support of the USMC's SUA proposal. Before the completion of the NEPA process, the USMC will submit the aeronautical proposal to the FAA for review and processing. This will facilitate early consideration of aeronautical factors that may result in modification of the final SUA proposal, which in turn may affect the environmental analysis. The final SUA proposal package will be the result of a collaborative effort between the USMC and the FAA. The FAA will defer rulemaking (final decision) on the final SUA proposal until the NEPA process is completed. After the FAA has adopted this EA, as applicable, all FAA environmental requirements will have been satisfied.

1.8 PUBLIC AND AGENCY COORDINATION

Note to reviewers: to document the public review process the USMC undertook for this EA, this section will be updated after publication of the Public Draft EA.

1.9 ORGANIZATION OF THE ENVIRONMENTAL ASSESSMENT

Chapter 1 of this EA describes the background, purpose of, and need for the Proposed Action. Chapter 2 describes the alternatives. Chapter 3 provides a description of the affected environment. Chapter 4 presents the potential impacts of each alternative on each environmental resource area. Chapter 5 analyzes the Proposed Action in conjunction with the identified cumulative projects. Chapter 6 provides other analyses required by NEPA (i.e., possible conflicts between the action and the objectives of federal, regional, state and local plans, polices, and controls; irreversible and irretrievable commitment of resources; etc.). Chapter 7 contains all references. Chapter 8 provides the list of preparers and their qualifications. Chapter 9 presents the agencies and persons contacted during the development of this EA. The appendices contain additional information and documentation.

CHAPTER 2
DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 PROPOSED ACTION OVERVIEW

Implementation of the Proposed Action would create the R-2507W Chocolate Mountains West, CA SUA Restricted Area with a designated altitude from the surface to Flight Level[3] (FL) 400, or approximately 40,000 feet above MSL. The proposed R-2507W would be charted for continuous use in support of on-going military training. The proposed R-2507W would generally coincide with the existing Niland and Bombay CFA boundaries and would be contiguous with the western boundary of existing R-2507N and the eastern portion of the Kane East MOA. In addition, a low sector would be temporarily activated by the USMC within the proposed R-2507W when ground-based training would involve certain weapons that have a substantial vertical element. The existing Niland and Bombay CFAs would cease to exist. A legal description of the proposed R-2507W is provided in Appendix B.

The Proposed Action is entirely airspace-based; no changes to existing ground-based training within the CMAGR are included as part of the Proposed Action[4]. The establishment of R-2507W would allow for aircraft sorties currently occurring within the existing CMAGR airspace (e.g., R-2507N) to also maneuver within the proposed R-2507W airspace. The proposed R-2507W boundary would overlie lands owned or controlled by the DoD (see the SUA Legal Description in Appendix B).

The charting of the proposed R-2507W would greatly enhance flight safety and substantially enhance both the capability and capacity of the CMAGR to support critically required, doctrinally appropriate Marine Corps and Naval aviation air-to-ground and ground training events. In addition to facilitating the achievement of Marine Corps and Navy training requirements, the establishment of R-2507W would also support on-going training conducted by a diverse mix of other services and state and federal agencies.

As this Proposed Action would support on-going training activities within the CMAGR, the project team did not consider any locational alternatives other than the CMAGR. Two action alternatives meet the purpose of and need for the Proposed Action and they are described in Sections 2.2 and 2.3. As required by 40 CFR § 1502.14, this EA also analyzes the No-Action Alternative.

2.2 ALTERNATIVE 1

Under Alternative 1, R-2507W would be established as depicted on Figures 2-1 and 2-2; Figure 2-1 also presents the proposed coordinates of Alternative 2.

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[3] A FL is a standard nominal altitude of an aircraft, presented in hundreds of feet (i.e., FL400 is approximately 40,000 feet above MSL). This altitude is based on an internationally recognized average sea-level pressure (29.92 inches of mercury) datum. FL180 is the lowest FL. While an aircraft's FL is not necessarily the same as the aircraft's true altitude above MSL or AGL, henceforward in this EA, altitudes are presented in feet above MSL to make this EA less technical and more reader-friendly.

[4] A separate NEPA document is being prepared to analyze proposed changes to ground training within SWATs 4 and 5 (refer to cumulative project list, Table 5-1).

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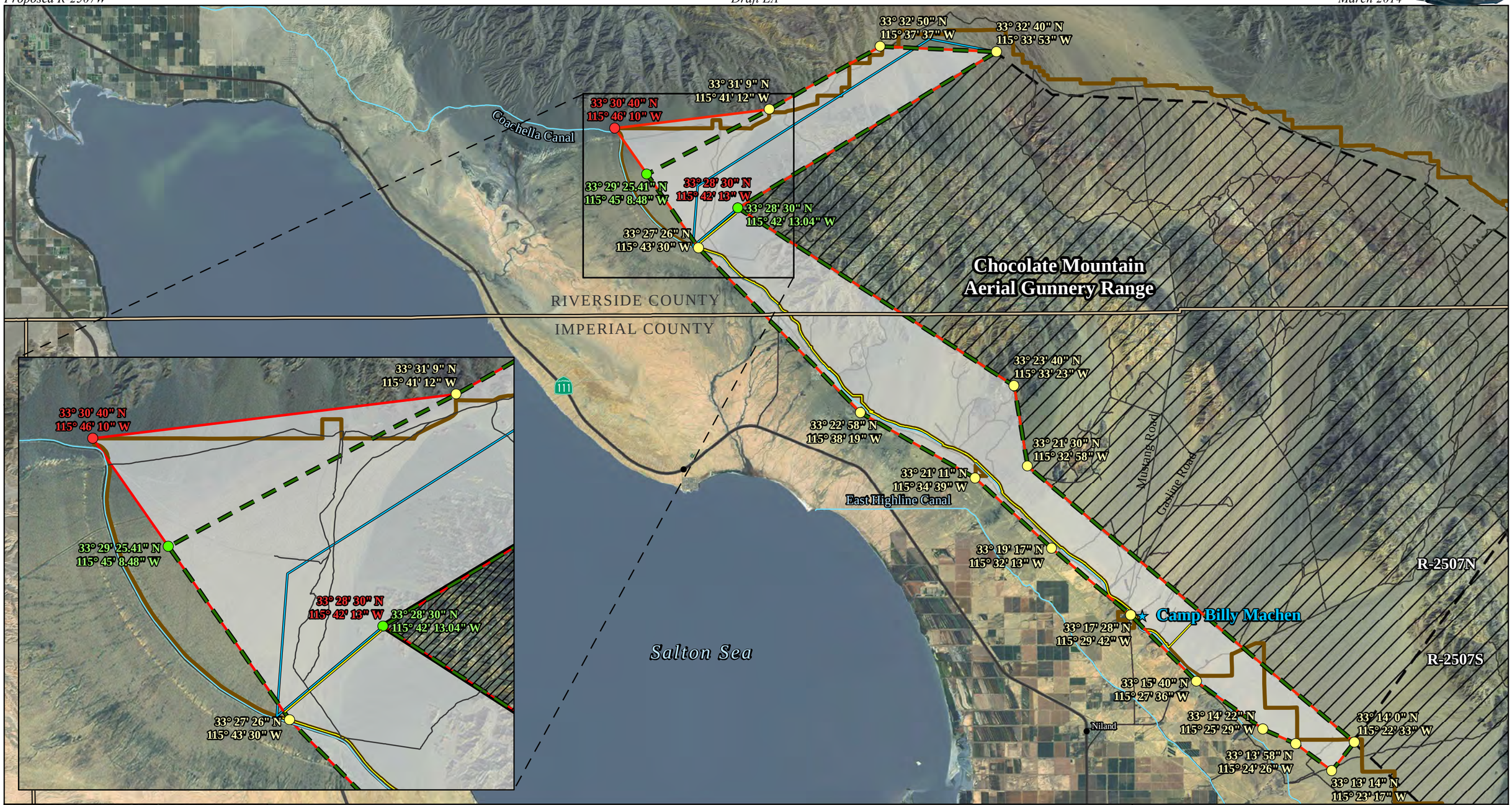

Legend

- CMAGR Boundary
- County Boundary
- Canal
- Highway
- Road
- Alternative 1
- Alternative 2
- Existing R-2507N/S
- SWAT 4
- SWAT 5

Proposed R-2507W Vertices

- Alternative 1 Only
- Alternatives 1 and 2
- Alternative 2 Only

Figure 2-1
Proposed R-2507W Coordinates under Alternatives 1 and 2

0 2 4 Miles
0 2 4 Kilometers

Sources: MCAS Yuma 2012

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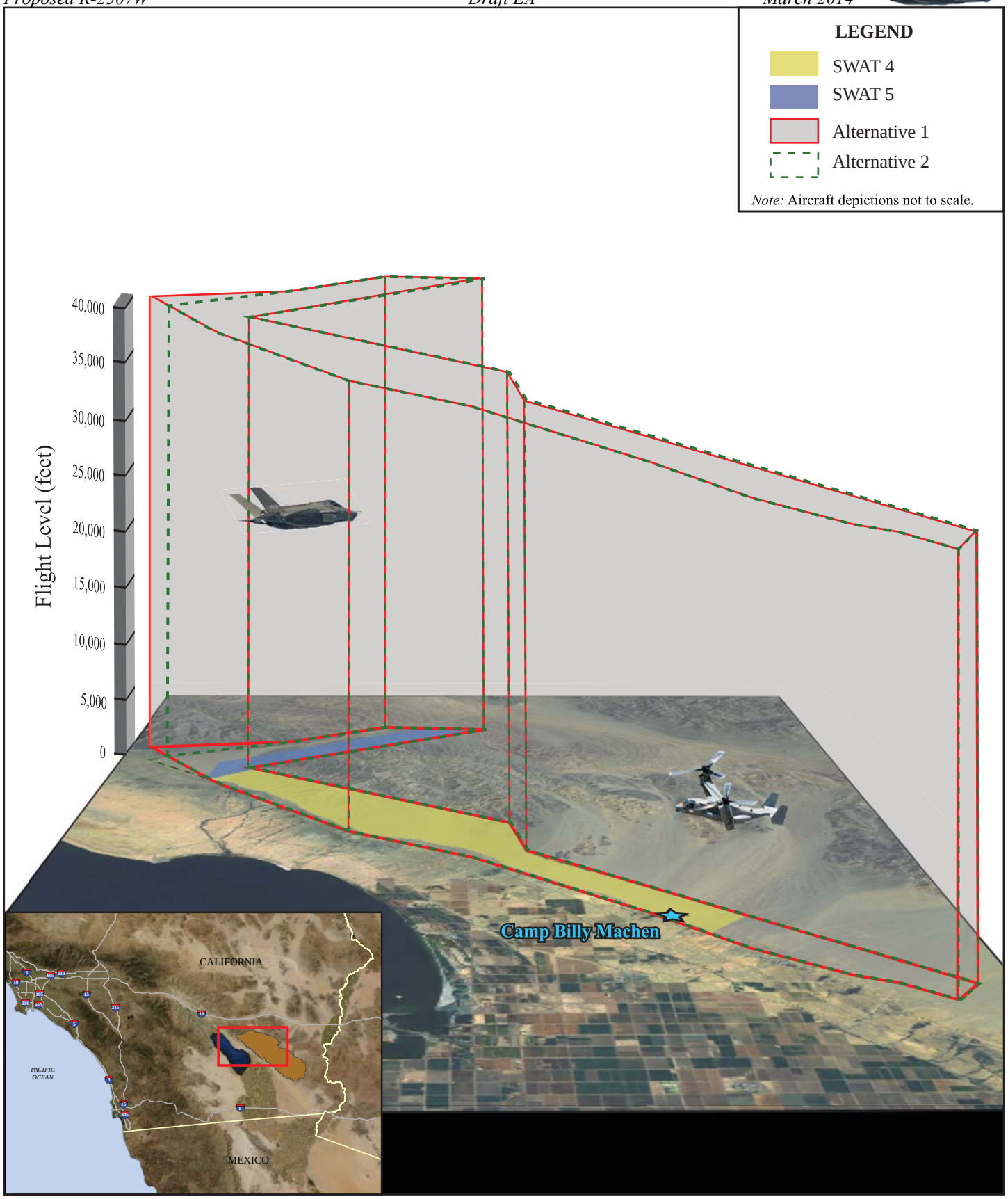

Figure 2-2
Three-Dimensional Depiction of Proposed
R-2507W under Alternatives 1 and 2

Under Alternative 1, R-2507W would be activated on a continuous basis (i.e., 365 days a year, 24 hours a day). Direct fire weapons would be used no less than 300 days per year, 6 to 24 hours per day. A minimum of 40 percent use of live fire would occur during hours of darkness (generally 10:00 P.M. to 7:00 A.M.). These activities are consistent with current operational use and tempo within the CFAs. With the establishment of R-2507W, the activities could continue without interruption from nonparticipating aircraft. The following paragraphs describe the aircraft- and ground-based elements associated with Alternative 1.

2.2.1 Ground-Based Activities

Currently, ground-based training activities conducted within CMAGR consist of live fire from various small arms, machine guns, anti-tank weapons, mortars, and grenades. Table 2-1 presents the types and maximum altitudes of each weapon type used as part of on-going ground-based training. Certain on-going ground-based activities with a substantial vertical element (e.g., mortars) are currently subject to the availability of the overlying CFA airspace and lack of encroachment by nonparticipating aircraft, which results in training delays or cancellation of training events. The establishment of R-2507W would eliminate these constraints on training and support the efficient achievement of established training requirements. The Proposed Action would not establish any new training ranges or target areas, or result in additional ground disturbance.

Table 2-1. Currently Used Weapon Types and Associated Maximum Altitudes

Weapon Type	Maximum Altitude (feet AGL)
Small arms (5.56 millimeter [mm])	1,066
Small arms (7.62 mm)	2,316
Cannon (25 mm)	7,244
Cannon (30 mm)	10,531
Machine Gun (.50 caliber)	2,966
Winchester Magnum (.300 caliber)	2,762
Carl Gustav (84 mm)	3,117
Light Anti-Armor Weapon	3,117
Grenade (40 mm)	2,562
Mortar (60 mm) [a]	7,017
Mortar (81 mm)	7,942
Mortar (120 mm)	39,370
Artillery (155 mm) [b]	42,000
In-Place Demolitions [c]	1,000

Notes: [a] The footer of each page of this EA presents a line drawing of a 60 mm mortar.
[b] Based on a maximum altitude of 1,275 feet (389 meters) above MSL. Maximum altitude listed does not include rocket-assisted projectiles.
[c] Maximum net explosive weight of 27 pounds (12 kilograms) at this altitude; as the net explosive weight increases so would the maximum altitude.

2.2.2 Aircraft-Based Activities

The establishment of R-2507W would allow for aircraft sorties currently occurring within the existing CMAGR airspace (e.g., R-2507N) to maneuver within the proposed R-2507W airspace. Aviation activities within R-2507W would include both live-fire and non-live fire aviation training activities such as basic ordnance firing, air combat maneuvering, close air support, air-to-air gunnery, laser ranging and

designating, air strikes, and UAS operations. A typical strike mission would normally include attacking different target sets within CMAGR airspace as well as a simulated enemy scheme of maneuver to avoid/or defeat en route to, or within, the target area.

Individual aircraft and multiple aircraft formations would conduct high-performance maneuvering to evade enemy threats to the aircraft and the mission. More complex mission scenarios may include multiple flights of rotary-wing (i.e. helicopters) and tilt-rotor aircraft, fixed-wing fighters, C-130 gunships, and UASs as part of one single mission. No air-to-ground explosive ordnance delivery would occur within SWATs 4 or 5; all air-to-ground explosive ordnance delivery would continue to occur at designated impact ranges within the CMAGR and outside of SWATs 4 and 5. Aircraft would be able to release air-to-ground explosive ordnance from R-2507W towards existing ground targets located within the CMAGR, outside of SWATs 4 and 5.

Table 2-2 presents the aircraft types and annual number of sorties that would potentially use the proposed R-2507W under Alternative 1 and Alternative 2. The aircraft operations shown in Table 2-2 are expressed in terms of a sortie, which is defined as a one flight-training mission conducted by a single aircraft from takeoff to landing. While there would be an increase in aircraft activity in the proposed R-2507W, there would be no increase in overall CMAGR sorties, as the operations presented in Table 2-2 currently occur elsewhere within the CMAGR.

Table 2-2. Aircraft Types and Sorties in the Proposed R-2507W

Aircraft Type	Number of Proposed Annual Sorties[a]
Fixed-Wing Aircraft	
F-35B[b,e]	647
A-10[b]	14
F-35C[b,e]	216
F-5E[b]	91
F-16[b]	18
KC-130[b]	31
T-34[b]	105
T-45[b]	18
B-52[b]	6
F-15[b]	6
Rotary-Wing and Tilt-Rotor Aircraft	
AH-1W/Z[c]	330
CH-53E[c]	146
MV-22[c]	28
CH-46[c]	175
UH-1N/Y[c]	147
H-60[c]	392
Unmanned Aerial Systems	
RQ-7	17
Puma AE[d]	44
Total	**2,431**

Notes: [a] Annual aircraft operations are expressed in terms of a sortie, which is defined as one flight training mission conducted by a single aircraft in one airspace unit.
[b] Operations would occur only when R-2507W/N/S are activated together and used as one airspace unit.
[c] Rotary and tilt-rotor aircraft operations would take place primarily in R-2507W.
[d] AE = all environment.
[e] Only 10 percent of current F-35B/C sorties in the CMAGR would take place in R-2507W.
Source: NAVFAC SW 2013a.

In short, Alternative 1 would provide existing aircraft sorties within the CMAGR additional airspace, or room to maneuver, during training activities. Under the Proposed Action, 95 percent of all F-35B/C

operations would occur above 10,000 feet above MSL, 10 percent of all F-35B/C operations would occur in R-2507W, and F-35C/B operations would occur when the Abel South MOA, Kane East MOA, and/or R-2507N/S are concurrently scheduled. R-2507W would never be used as stand-alone airspace for fixed-wing operations.

Under Alternative 1, the resulting R-2507 complex (i.e., R-2507W, R-2507N, R-2507S, and R-2507E) would establish expanded training space that could accommodate multiple aircraft participating in complex missions. Supersonic flight would not occur in R-2507W. Existing low-altitude general aviation flight corridors would not be changed. Figure 2-3 presents an overview of the resulting airspace within and near the CMAGR with implementation of Alternative 1.

2.2.3 Other Elements

Under Alternative 1, no major changes to the existing communications and radar surveillance currently providing coverage of existing SUA at CMAGR would occur. Existing equipment used for real-time communications between on-site range users, on-site range safety personnel, MCAS Yuma Range Control, and adjacent ATC facilities would continue to be sufficient under the Proposed Action. Existing radar surveillance and communications capabilities would continue to provide the control capabilities for observing aircraft that overfly live-fire areas and to maintain the ability to direct an immediate cease-fire to ensure safety of any nonparticipating aircraft.

Air traffic control oversight of R-2507W would be provided by MCAS Yuma Combined Center and Radar Approach Control (CERAP). MCAS Yuma CERAP currently has connectivity and an automated interface capability with FAA Los Angeles Air Route Traffic Control Center and the Southern California Terminal Radar Approach Control Facility. Use of R-2507W would be controlled by the MCAS Yuma Range Control Facility per published range control regulations (i.e., MCAS Yuma Range and Training Area Standard Operating Procedures, Station Order (StaO) 3710.6). Real-time communications currently in place between on-site range safety personnel, actual range users, and MCAS Yuma Range Controllers would continue to be followed at all times during range usage.

2.3 ALTERNATIVE 2

The USMC presented the proposed R-2507W concept for Alternative 1 to the FAA Los Angeles Air Route Traffic Control Center on 30 October 2012. The FAA completed a preliminary assessment of the proposal to determine whether the proposed airspace was operationally feasible, would adversely impact aeronautical or facility operations, or if the location was not acceptable for aeronautical reasons. The FAA identified that aircraft departing San Diego-area airports often receive routings through a portion of the USMC-proposed R-2507W (Alternative 1) to assist in de-confliction efforts and provide for more efficient aircraft routings. Furthermore, airspace routinely used to facilitate non-radar arrivals and departures to and from the Palm Springs area overlaps a portion of the USMC-proposed R-2507W (Alternative 1). The areas of overlap are confined to a small area at the northwest corner/apex of the proposed R-2507W boundary described in Alternative 1. Given the potential impacts on nonparticipating aircraft from the original USMC SUA proposal, the USMC slightly modified Alternative 1 to minimize potential impacts to nonparticipating aircraft. These modifications constitute the airspace boundaries for Alternative 2 as depicted on Figures 2-1, 2-2 and 2-3 and having the coordinates as depicted on Figure 2-1. Alternative 2 would encompass approximately 1.61 fewer square miles (4.17 square kilometers) than Alternative 1.

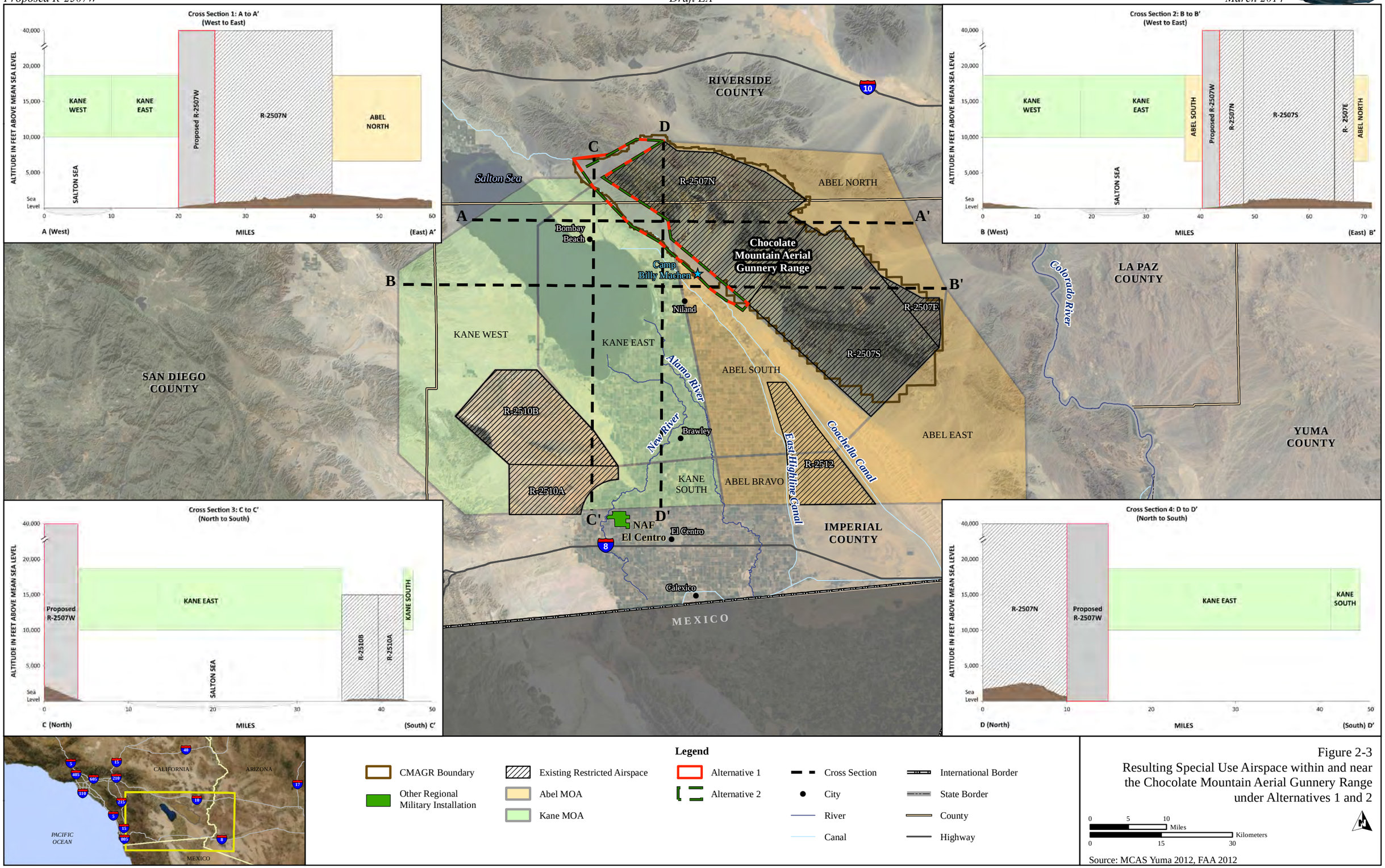

Figure 2-3
Resulting Special Use Airspace within and near the Chocolate Mountain Aerial Gunnery Range under Alternatives 1 and 2

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As discussed in Chapter 4, *Environmental Consequences*, the adjustments incorporated into Alternative 2 would reduce environmental impacts to certain resource areas (e.g., airspace), as compared to Alternative 1.

Establishment of Alternative 2 would provide sufficient airspace to meet the purpose and need for the proposed action while simultaneously allowing the FAA Los Angeles Center to support other users of the National Airspace System. The adjustment in the airspace boundaries constitute the only differences between Alternatives 1 and 2; all actions as described under Alternative 1 would occur under Alternative 2, and Alternative 2 would also span from the ground surface to approximately 40,000 feet above MSL. Refer to Figures 2-1 and 2-2 to see the differences in the airspace boundaries associated with Alternatives 1 and 2. Refer to Figure 2-3 for an overview of the resulting airspace within and near the CMAGR with implementation of Alternative 2.

2.4 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM ANALYSIS

As this Proposed Action is needed to support existing aviation and ground training activities within the CMAGR, no locational alternatives other than CMAGR were considered.

The USMC considered using the existing R-2507N and the adjacent R-2507S to support achievement of training requirements; however, R-2507N and R-2507S are primarily used for aerial ordnance delivery and air strikes and would thus be incompatible with existing co-use ground training activities. On-going ground-based training would not be able to occur safely, resulting in continued constraints in the ability to meet training objectives and a degradation of overall operational readiness. Thus, the training opportunities offered in the proposed R-2507W are unique and cannot be replicated in the CMAGR or elsewhere.

2.5 NO-ACTION ALTERNATIVE

Under the No-Action Alternative, the proposed R-2507W airspace would not be created. Units would continue to use the Niland and Bombay CFAs in support of training. Training would continue to be subject to lengthy interruptions caused by nonparticipating aircraft, resulting in a continued constraint to meeting training objectives and a degradation of overall operational readiness. With the enduring need to accommodate a diversity of combat training and emerging aviation training missions, the lack of SUA would continue to adversely impact on-going training within and above SWATs 4 and 5.

The No-Action Alternative is not considered a reasonable alternative because it does not meet the purpose of and need for the Proposed Action. However, as required under CEQ regulations (40 CFR § 1502.14[d]), the No-Action Alternative does provide a description of the baseline conditions against which the impacts of the Proposed Action can be compared.

2.6 PREFERRED ALTERNATIVE

The project team has identified Alternative 2 as the Preferred Alternative.

2.7 SUMMARY OF ENVIRONMENTAL CONSEQUENCES

In accordance with NEPA, the USMC performed a focused analysis of the following resource areas potentially affected by implementation of the three alternatives: airspace, safety, noise, biological resources, and socioeconomics and environmental justice. Impacts to other resource areas, which are primarily ground-based, are anticipated to be negligible or non-existent from implementation of the alternatives. Table 2-3 presents a summary of the potential impacts to each resource area from implementation of the alternatives. Chapter 3 provides descriptive information on the existing conditions and level of analysis for each resource area while Chapter 4 provides a more detailed analysis of the potential impacts associated with Alternatives 1 and 2, as well as the No-Action Alternative.

Table 2-3. Summary of Anticipated Environmental Impacts

Resource Area(s)	Alternative 1	Alternative 2	No-Action Alternative
Resource Areas Eliminated from Detailed Analysis[1]			
Geological Resources	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Water Resources	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Land Use	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Visual Resources	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Cultural Resources	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact**[2]**.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact**[2]**.**	No change from existing conditions. *Conclusion*: **No Impact.**
Ground Transportation	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Air Quality	No increase in emissions that would affect ground-level air quality in the project area and no net increase in emissions in the CMAGR. *Conclusion*: **No Impact.**	No increase in emissions that would affect ground-level air quality in the project area and no net increase in emissions in the CMAGR. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Utilities	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**

Resource Area(s)	Alternative 1	Alternative 2	No-Action Alternative
Hazardous Materials and Wastes	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	The Proposed Action is entirely airspace-based and no changes to ground-based training activities would occur. *Conclusion*: **No Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Recreational Resources	Imperceptible increase in noise level exposure to persons on segments of the Bradshaw Trail. *Conclusion*: **No Significant Impact.**	Imperceptible increase in noise level exposure to persons on segments of the Bradshaw Trail. *Conclusion*: **No Significant Impact.**	No change from existing conditions. *Conclusion*: **No Impact.**
Resource Areas Analyzed in Detail			
Airspace	An average of four flights per day would be routed around R-2507W. *Conclusion:* **No Significant Impact.**	An average of three flights per day would be routed around R-2507W. *Conclusion:* **No Significant Impact.**	No change to existing airspace. *Conclusion:* **No Impact.**
Safety	Increase in airspace safety. *Conclusion:* **Beneficial Effect.**	Increase in airspace safety. *Conclusion:* **Beneficial Effect.**	Nonparticipating aircraft would continue to have the potential to affect training. No change to existing conditions. *Conclusion:* **No Significant Impact.**
Noise	Up to a 2.1 decibel increase in average daily noise levels. *Conclusion:* **No Significant Impact.**	Up to a 2.1 decibel increase in average daily noise levels. *Conclusion:* **No Significant Impact.**	No change from existing conditions. *Conclusion:* **No Impact.**
Biological Resources	Small increase in potential for bird/bat aircraft strikes. No impact to terrestrial resources, including the federally listed Agassiz's desert tortoise. *Conclusion:* **No Significant Impact.**	Small increase in potential for bird/bat aircraft strikes. No impact to terrestrial resources, including the federally listed Agassiz's desert tortoise. *Conclusion:* **No Significant Impact.**	No change from existing conditions. *Conclusion:* **No Impact.**
Socioeconomics and Environmental Justice	Re-routing impact of approximately $35/per day per aircraft. Negligible increase in noise levels. *Conclusion:* **No Significant Impact.**	Re-routing impact of approximately $35/per day per aircraft. Negligible increase in noise levels. *Conclusion:* **No Significant Impact.**	No change from existing conditions. *Conclusion:* **No Impact.**

Notes: [1] See Section 3.1.1.
[2] Subject to completion of consultation with Tribal Governments.

CHAPTER 3
AFFECTED ENVIRONMENT

3.1 APPROACH TO ANALYSIS

This chapter presents the affected environment for the following resource areas: airspace, safety, noise, biological resources, and socioeconomics and environmental justice. Conversely, this EA does not include a detailed analysis of the resource areas discussed below in Section 3.1.1, as the USMC anticipates negligible or no impacts to these primarily ground-based resource areas. Throughout this EA, the term *"project area"* refers to the area enclosed by the proposed R-2507W, including both the land surface and the overlying airspace.

3.1.1 Resources Eliminated From Detailed Analysis

The following sections were considered for potential environmental impacts. However, further analysis was not required as the resource areas were not anticipated to be significantly affected by the Proposed Action for the reasons as presented for each resource area in the following sections.

3.1.1.1 Geological Resources

Geological resources are defined as the topography, geology, and soils of a given area. Topography is typically described with respect to the elevation, slope, aspect, and surface features found within a given area. The Proposed Action is entirely airspace-based, with no changes to ground-based training activities. Thus, existing geological resources would not be impacted. Therefore, implementation of any one of the alternatives would result in no impact to geological resources.

3.1.1.2 Water Resources

Water resources include surface and subsurface water. Surface water includes all lakes, ponds, rivers, streams, impoundments, and wetlands. Subsurface water, commonly referred to as groundwater, is typically found in aquifers, which consist of mostly high porosity alluvium or fractured rock where water can be stored within alluvium pore spaces or fractures. The Proposed Action is entirely airspace-based, with no changes to ground-based training activities. Thus, existing water resources would not be impacted. Therefore, implementation of any one of the alternatives would result in no impact to water resources.

3.1.1.3 Land Use

Land use refers to the various ways in which land might be used or developed (e.g., military training, parks and preserves, agriculture, commercial, etc.), the kinds of activities allowed (e.g., factories, mines rights-of-way, etc.), and the type and size of structures permitted (e.g., towers, single-family homes, multi-story office buildings, etc.). The Proposed Action would occur above lands owned by the federal government designated for military training. The Proposed Action would not change this designation and would be consistent with the CMAGR Proposed Land Withdrawal Renewal Legislative EIS (Navy 2012). Surrounding land uses, which include open space, natural resource exploration, recreation, utility corridors, and transportation corridors, would not be altered, and no activities considered incompatible with surrounding land uses would be introduced. Under the Proposed Action, existing aircraft operations within the expanded R-2507 complex would include maneuvers within the proposed R-2507W. The

Proposed Action would result in a relatively minor increase in aviation-related noise. However, based on the data and analyses presented in Section 4.3, *Noise*, noise associated with the Proposed Action would be below significance thresholds and would have no significant impact. Accordingly, anticipated noise levels would not result in any land use incompatibility. Therefore, implementation of any one of the alternatives would result in no impact to land use.

3.1.1.4 Visual Resources

Aesthetics, or visual resources, are the natural and man-made (cultural) features of the landscape that can be seen and that contribute to the public's appreciative enjoyment of the environment. Aesthetics are generally defined in terms of a project's physical characteristics and potential visibility. Impacts are assessed based on the extent to which the project's presence would change the perceived visual character and quality of the environment in which it would be located. Scenic resources can be designated by state and local agencies and include designated and/or eligible scenic highways by the Caltrans Scenic Highway Program and locally designated roadways and resources. The establishment of the proposed R-2507W would not alter the existing visual setting of the project area and vicinity as the setting would continue to support on-going military aviation and ground-based training. Furthermore, training tempo would remain constant within the boundaries of the CMAGR, but would be distributed over a larger area. Therefore, implementation of any one of the alternatives would result in no impact to visual resources.

3.1.1.5 Recreational Resources

Recreational areas are defined as public or private lands that provide for relaxation, rest, activity, education, or other opportunities for leisure services and community support that lead to an enhanced quality of life. Lands adjacent to the CMAGR offer recreational uses such as hiking, camping, bird watching, hunting, rock climbing (Navy 2012). The Bradshaw Trail and the Salton Sea State Park are adjacent to the northern and northwestern boundaries, respectively, of the CMAGR, while the Salton Sea National Wildlife Refuge is approximately 5 miles (8 kilometers) to the southwest of the CMAGR and portions of the Bradshaw Trail near SWAT 5 encroach into the CMAGR boundary (refer to Figure 3.4-1).

For all alternatives, the predicted noise contours in Figure 4.3-1 indicate that the 60 decibel (dB) contour would be located more than one mile (1.6 kilometers) within the existing CMAGR boundary, and that the 55 dB contour would not extend beyond the proposed R-2507W boundary. At the point where the Bradshaw Trail extends the furthest into the CMAGR, the Proposed Action would increase noise levels by 1.6 dB. However, the predicted noise level at this location is approximately 55 dB, and therefore below the significance criteria identified in Section 4.3, *Noise*. While other sections of the trail within the CMAGR are also within the 55 dB contour, the change in noise levels would be less. Therefore, the Proposed Action would not result in a significant noise impact along the Bradshaw Trail.

As shown in Table 4.3-2, the Proposed Action would increase noise at the Salton Sea National Wildlife Refuge by a maximum of 0.4 dB, to 41.8 dB. This impact falls below the noise significance criteria presented in Section 4.3, *Noise*. Other recreational resources identified in Figure 3.4-1 are greater than ten miles from the project area and would not be impacted by the Proposed Action, given their distance from the project area. Because the Proposed Action is airspace-based and would not involve ground disturbance, and because changes in noise exposure caused by either action alternative would not reach significance thresholds and would therefore be barely noticeable to recreational users, implementation of the alternatives would not significantly affect nearby recreational activities. Therefore, implementation of any one of the alternatives would result in no significant impact to recreational resources.

3.1.1.6 Cultural Resources

Cultural resources include buildings, structures, sites, districts, and objects eligible for or included in the National Register of Historic Places, cultural items, Native American sacred sites, archeological artifact collections, and archeological resources (Secretary of the Navy Instruction 4000.35A, Department of the Navy Cultural Resources Program; MCO P5090.2A, Environmental Compliance and Protection Manual [21 May 2009] chapter 8 "Cultural Resource Management"). Current training within the project area avoids known cultural resource sites. As part of the Proposed Action, MCAS Yuma has coordinated with area tribes to solicit their input as to areas of recognized cultural value (see Appendix A, *Correspondence*). Their input will be incorporated into this EA as it is received. Noise contours in Section 4.3, *Noise* (refer to Figure 4.3-1) indicate that the 60 dB contour is located more than one mile (1.6 kilometers) within the existing CMAGR boundary, and that the 55 dB contour would not extend beyond the CMAGR boundary. As the Proposed Action is entirely airspace-based and would not involve ground disturbance, there would be no direct physical effects to cultural resources. The increase in noise would be below the significance threshold (see Section 4.3, *Noise*) and cultural resources are not expected to be impacted. Therefore, it is not anticipated that implementation of any one of the alternatives would impact cultural resources.

3.1.1.7 Ground Transportation

Ground transportation and circulation refers to roadway and street systems and the movement of vehicles on roadway networks. The Proposed Action would not involve any site improvements, the construction of any new facilities, or any increase in personnel or activities that would place an additional temporary or permanent demand on the regional surface transportation network. Furthermore, because the Proposed Action would not change the number of sorties in the CMAGR, there would be no potential increase in traffic volumes on roadways near the air installations from which CMAGR training flights originate. Therefore, implementation of any one of the alternatives would result in no impact to ground transportation.

3.1.1.8 Air Quality

Existing air quality at a given location can be described by the concentrations of various pollutants in the atmosphere. Pollutants are defined as two general types: (1) criteria pollutants and (2) toxic compounds. Criteria pollutants have national and/or state ambient air quality standards. Implementation of the Proposed Action would not adversely affect air quality resources within CMAGR, the Salton Sea Air Basin, or in Imperial and Riverside counties, as there would be no substantial change to existing training within the CMAGR. While there would be an increase in aircraft activity in the proposed R-2507W, there would be no increase in overall CMAGR sorties. The additional airspace within R-2507W for existing military aircraft operations would result in slightly longer flight times as they would have more room to maneuver, and would also require that commercial flights have slightly longer trips to avoid the proposed R-2507W. However, these flights would continue to be above 3,000 feet (914 meters), which is considered to be the average elevation for the mixing layer (California Air Resources Board 1994). As a result, emissions above this elevation do not generally affect surface-level air quality. Soils within the project area are subject to physical disturbance because of on-going training activity. The Proposed Action would continue to generate fugitive dust clouds during training activities (e.g., rotary-wing and tilt-rotor aircraft landings/take-offs and weapons firing); however, the fugitive dust clouds would be temporary and localized to the CMAGR, away from population centers, and consistent with existing training activities. No increase in fugitive dust emissions would occur. Therefore, implementation of any one of the alternatives would result in no impact to air quality.

3.1.1.9 Utilities

Utilities include those portions of the infrastructure (e.g., sanitary sewer, phone, information technology, gas transmission lines, etc.) needed to serve physical facilities and personnel. No utility infrastructure would be constructed, and no additional utility usage would be required for implementation of the Proposed Action. Under the No-Action Alternative, there would be no increase in utility demand. Therefore, implementation of any one of the alternatives would result in no impact to utilities.

3.1.1.10 Hazardous Materials and Wastes

In general, hazardous materials include substances that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may present substantial danger to public health or the environment when released into the environment. Hazardous wastes are regulated under the Resource Conservation and Recovery Act and defined as any solid, liquid, contained gaseous, or semisolid waste, or any combination of wastes that either exhibit one or more of the hazardous characteristics of ignitability, corrosivity, toxicity, or reactivity, or are listed as a hazardous waste under 40 CFR Part 261. The implementation of the Proposed Action would not change baseline conditions, as training tempo would remain constant. All hazardous materials utilized and wastes generated would continue to be managed and handled in accordance with MCAS Yuma Environmental Compliance and Protection Standard Operating Procedures (MCAS Yuma 2010a). Therefore, implementation of any one of the alternatives would result in no impact to hazardous materials and wastes.

3.2 AIRSPACE

3.2.1 Definition of Resource and Regulatory Setting

The nation's airspace is designed and managed by the FAA and is intended to meet both the individual and common needs of all military, commercial, and general aviation interests. All airspace is classified according to the operating and flight rules that apply to the use of each area. Classification of airspace areas is dependent on (1) the complexity or density of aircraft operations, (2) the nature of those operations, (3) the level of safety required, and (4) national and public interest. Airspace management impact analysis considers the implications of the Proposed Action relative to SUA, civilian and military flight corridors, and civilian and military airfields.

Air traffic refers to the movement of aircraft through airspace. Airspace and the control of air traffic are closely regulated for safety and security reasons. As such, the FAA regulates all aircraft to define permissible uses of designated airspace, and to control use within the airspace. A Restricted Area is airspace established under 14 CFR Part 73 provisions, within which the flight of aircraft, while not wholly prohibited, is subject to restriction. Penetration of Restricted Areas by nonparticipating aircraft without authorization from the using or controlling agency may be extremely hazardous to the aircraft and its occupants.

3.2.2 Affected Environment

The region of influence (ROI) for airspace includes the existing R-2507 complex, the proposed R-2507W, and the surrounding airspace that supports regional military and civilian aviation activities. The Proposed Action would be established within an interrelated network of SUA that is located above and adjacent to numerous training ranges (Figure 3.2-1 and Table 3.2-1). R-2507N, R-2507S, and R-2507E directly overlie the majority of CMAGR and are surrounded by the Abel North, Abel South, Abel East, and Kane

East MOAs. The Niland and Bombay CFAs cover less than 10 percent of the CMAGR, and generally overlie the boundaries of SWATs 4 and 5. As shown on Figure 3.2-1, numerous military, civilian (both public and private), and joint military/civilian airfields are located adjacent to the project area.

Table 3.2-1. Existing Special Use Airspace Within the ROI

SUA	Associated Training Ranges	Published Altitudes[a]	Times of Use[b]
R-2507N	CMAGR, SWAT 4, and SWAT 5	Surface to 40,000[b]	Continuous
R-2507S	CMAGR	Surface to 40,000	Continuous[c]
R-2507E	CMAGR	Surface to 40,000	7:00 A.M. to 11:00 P.M.[d]
CFA Niland	CMAGR and SWAT 4	Surface to 5,000	As needed
CFA Bombay	CMAGR and SWAT 5	Surface to 5,000	As needed
Abel North MOA	Aviation only, no underlying land range	7,000 to 40,000	Monday to Friday, 5:00 A.M. to 10:00 P.M. [d]
Abel South MOA	Aviation only, no underlying land range	7,000 to 40,000	Monday to Friday, 5:00 A.M. to 10:00 P.M. [d]
Abel East MOA	Aviation only, no underlying land range	5,000 to but not including 13,000	Intermittently, as announced by Notice to Airmen
Abel Bravo MOA	Aviation only, no underlying land range	7,000 to 40,000	Monday to Friday, 5:00 A.M. to 10:00 P.M. [d]
Kane East MOA	Aviation only, no underlying land range	10,000 to 40,000	5:00 A.M. to 9:00 P.M. [d]
Kane South MOA	Aviation only, no underlying land range	10,000 to but not including 18,000	5:00 A.M. to 9:00 P.M. [d]
Kane West MOA	Aviation only, no underlying land range	10,000 to but not including 18,000	5:00 A.M. to 9:00 P.M. [d]
R-2510A	El Centro Ranges[e]	Surface to 15,000	7:00 A.M. to 11:00 P.M. [d]
R-2510B	El Centro Ranges[e]	15,000 to 40,000	7:00 A.M. to 11:00 P.M. [d]
R-2512	El Centro Ranges[e]	Surface to 23,000	6:00 A.M. to 11:00 P.M. [d]

Notes: [a] Altitudes are in feet above MSL (as approximated and converted from specific flight level designations, as applicable).
[b] 7 days a week, unless otherwise noted.
[c] 24 hours a day, 7 days a week, during training exercises (i.e., when not released for joint-use).
[d] Other times by Notice to Airmen.
[e] 4 small ranges located near Naval Air Facility El Centro.
Source: Navy 2012.

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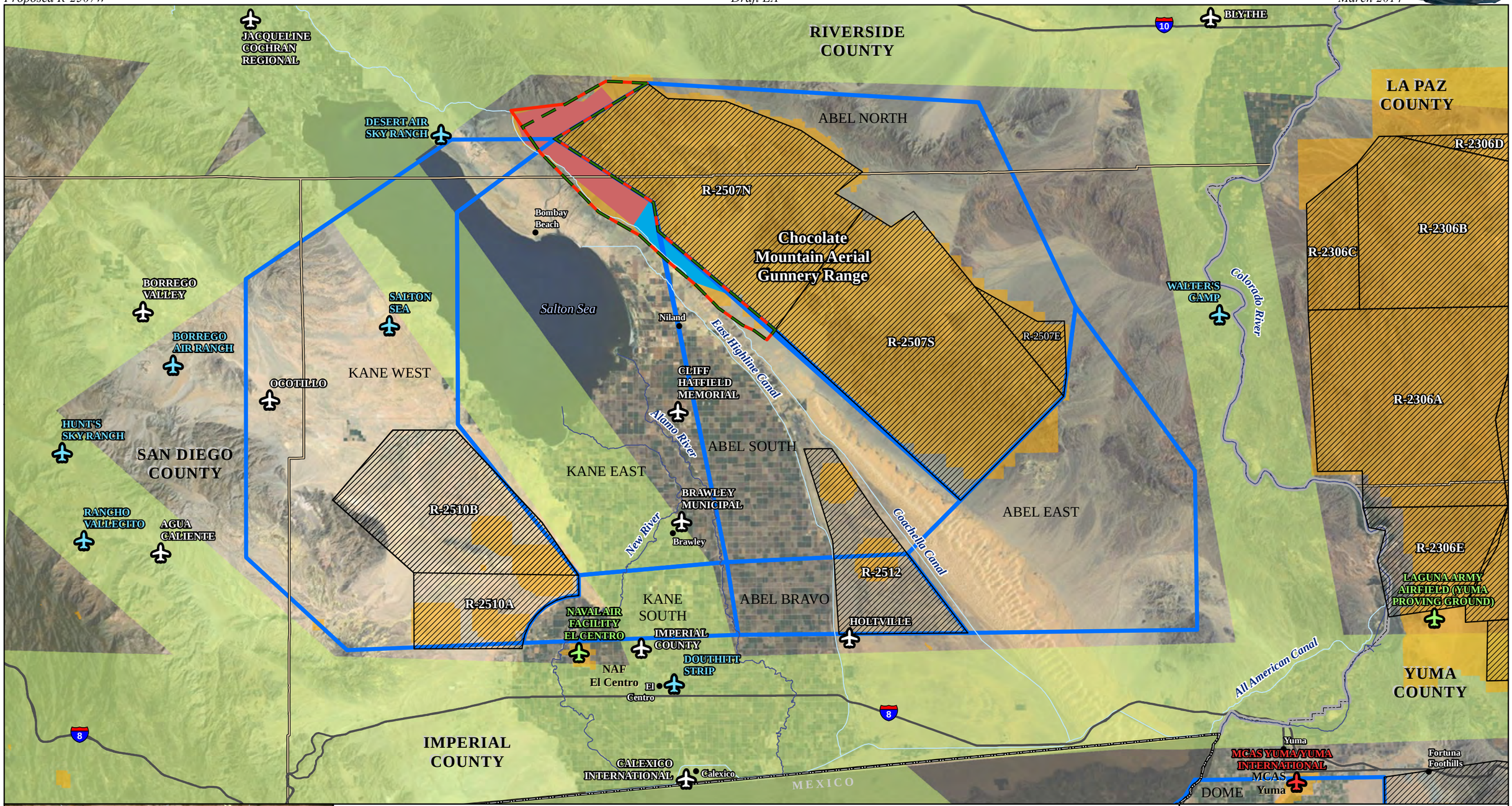

Legend

- Alternative 1
- Alternative 2
- Military Operations Area (MOA)
- Existing Restricted Airspace
- Bombay Controlled Firing Area
- Niland Controlled Firing Area
- Military Land Range
- Low-Altitude (Victor) Airways
- Military Training Route
- Military Airfield
- Military-civilian Joint-use Airfield
- Civilian Private Airfield
- Civilian Public-use Airfield
- Community
- River
- Canal
- International Border
- State Border
- County Border
- Highway

Figure 3.2-1
Special Use Airspace, Training Ranges, Low Altitude Airways, and Airfields Adjacent to the Project Area

0 5 10 Miles
0 15 30 Kilometers

Sources: U.S. Bureau of Transportation Statistics 2012, MCAS Yuma 2012, FAA 2012

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Air traffic control for the R-2507 complex and other SUA in the ROI is managed by MCAS Yuma CERAP. As discussed in Section 2.2.3, Other Elements, MCAS Yuma CERAP has connectivity and an automated interface capability with FAA Los Angeles Air Route Traffic Control Center and the Southern California Terminal Radar Approach Control Facility.

Commercial air traffic traveling to and from southern California airports passes through the ROI. General aviation aircraft operating from various public and private airfields also transit the area. Low-altitude airways (also known as "Victor" airways) accommodate civilian aircraft below approximately 18,000 feet above MSL. Low-altitude airways near the project area generally run in an east/west direction, and are located to the north of the CMAGR and to the south of the Naval Air Facility (NAF) El Centro. Also, a low-altitude airway crosses the Kane West, Kane East and Kane South MOAs along a generally northwest to southeast axis (see Figure 3.2-1). High-altitude jet routes (i.e., between approximately 18,000 feet above MSL and 45,000 feet above MSL) are located outside the ROI, and run in an east/west direction to the north of the CMAGR and to the south of NAF El Centro (Navy 2012).

Section 21-1-8 of JO 7400.2J (FAA 2012) establishes a joint-use policy whereby Restricted Areas and other types of SUA are released to the controlling agency and become available for use by nonparticipating aircraft when a specific SUA is not needed by the using agency for its designated purpose (for example, training exercises). A review of radar flight tracks and other information for a 240-day period (covering years 2010 to 2012) was conducted (ATAC 2013). The review determined that a substantial number of nonparticipating aircraft pass through the R-2507 complex under current conditions (Table 3.2-2). Of the 21,767 crossings shown in Table 3.2-2, 19,359 (or 89 percent) were by commercial airliners, 1,575 (7 percent) were by general aviation aircraft, and 833 (4 percent) were by military aircraft. Civilian aircraft crossings of Restricted Areas occur in accordance with the joint-use policy (i.e., these crossings take place when no training exercises occur in existing Restricted Areas).

Table 3.2-2. Altitude Distribution of Existing Aircraft Crossings of R-2507N, R-2507S, and R-2507E

Approximate Altitude (in feet above MSL)	Number of Crossings [a]	Percentage (%) of Total
Surface to 18,000	955	4%
18,000 – 24,000	1,014	5%
24,000 – 27,000	1,355	6%
27,000 – 40,000	18,443	85%
Total	**21,767**	**100%**

Notes: [a] Data collected for selected 8 months from 2010 to 2012.
Source: ATAC 2013.

Also, some commercial flights (e.g., eastbound departures originating from the west coast) fly over the existing R-2507 complex at altitudes above approximately 40,000 feet above MSL. Because these overflights pass over (rather than through) the Restricted Areas, they are not counted in the crossing summary presented above. The ten busiest days, in terms of aircraft crossings, occurred in December (around the Christmas and New Year's holidays), August, March, and February (ATAC 2013).

On average, between three and four aircraft pass through the proposed R-2507W on a daily basis (ATAC 2013).

3.3 SAFETY

3.3.1 Definition of Resource and Regulatory Setting

The primary concern with regard to flight safety is the potential for aircraft accidents. Such mishaps may occur as a result of mid-air collisions, collisions with manmade structures or terrain, weather-related accidents, mechanical failure, or pilot error. Mishaps can also occur from air-to-ground or air-to-air ordnance; military aircraft; ground-to-ground fires from artillery and mortars; expenditures of ground-to-air ordnance; ricochets from surface-fired heavy machine guns; and the use of other infantry weapons, high explosive detonations of demolition charges, and maneuvers by tactical aircraft at night without illuminated recognition lights. Flight safety risks apply to military, civilian, and commercial aircraft.

The FAA is responsible for ensuring safe and efficient use of airspace by military and civilian aircraft and supporting national defense requirements. To meet these requirements, the FAA has established regulations for airspace safety, developed airspace management guidelines, implemented a civil-military common system, and coordinated cooperative activities between the FAA and the DoD.

3.3.2 Affected Environment

The ROI for safety consists of the project area. Air traffic control for the R-2507 complex and other SUA in the ROI is managed by MCAS Yuma CERAP. By acting as a single unit of air traffic control responsibility, MCAS Yuma enhances the safety of a myriad of training activities that take place in and around the area ranges and airspace. Controllers familiar with military aircraft capabilities and experienced at handling aircraft emergencies continuously monitor CMAGR airspace. Should any civilian or unauthorized aircraft stray into or purposely enter the controlled airspace at the CMAGR, MCAS Yuma has strict procedures to immediately halt all military training until the violating aircraft departs.

Weapon danger zones and surface danger zones have been developed within the CMAGR to laterally and vertically contain projectiles, fragments, debris, and components resulting from the firing, launching, and/or detonation of ordnance to protect public health and safety. Within SWATs 4 and 5, no ground impacts from aircraft-launched weapons are permitted, as training in this area is primarily for the use of ground-based infantry weapons such as rockets, mortars, and demolition charges.

Chaff and flare deployment, which are defensive mechanisms used by aircrews to avoid detection and/or attack by adversaries, is authorized in R-2507N and R-2507S. Procedures governing chaff use include restrictions to protect airport surveillance radar, altitude restrictions for chaff operations, restrictions to protect weather radar, dictates to use current weather data for chaff flow predictions; and contact information for the MCAS Yuma Frequency Manager (MCAS Yuma 2010b).

MCAS Yuma StaO 3710.6I (MCAS Yuma 2010b) defines the procedures and regulations for Commands using the Range and Training Areas (RTA) managed by MCAS Yuma, including the CMAGR. StaO 3710.6I specifies individual responsibilities; gives descriptions of available training ranges; provides instructions on how to schedule the RTA; and defines safety regulations for all live fire, maneuver, and air operations within the RTA. As part of the Range Management Department, Operations Division, the RCO is responsible for range safety. The CMAGR Range Safety Officer and range inspectors serve as the direct representatives of the RCO for the enforcement of StaO 3710.6I and safety standards throughout the RTA. MCAS Yuma schedules all or portions of seven Restricted Areas, including the R-2507N complex, and has adopted specific air safety rules as directed in StaO 3710.6I (MCAS Yuma 2010b).

As the Niland and Bombay CFAs are uncharted, there is no requirement for nonparticipating aircraft to avoid the airspace, meaning that an aircraft cannot be prevented from flying through the airspace and disrupting training, even when a Notice to Airmen advising aviators of the scheduled use of the airspace has been properly filed. Types of nonparticipating aircraft can include civilian, commercial, and other military aircraft. During ground-based training, observers and firing range safety officers continuously monitor the Niland and Bombay CFAs to ensure that nonparticipating aircraft are not present during firing activity. Whenever a designated spotter aircraft, radar, or ground lookout indicates the approach of a nonparticipating aircraft, current training activities must be halted. Although military operations are halted when general aviation flights approach the existing CFAs, there remains risk to safety due to the low altitude flight paths utilized by general aviation aircraft.

3.4 NOISE

3.4.1 Definition of Resource and Regulatory Setting

The noise impacts of the Proposed Action were evaluated in the *Final Initial Noise Analysis for the Proposed Establishment of R-2507W Restricted Airspace, Chocolate Mountain Aerial Gunnery Range, Imperial and Riverside Counties, California* (i.e., the "noise report") (NAVFAC SW 2013a). The noise report provides a detailed discussion of the basic characteristics of noise, noise modeling methods, and the noise impacts of the action alternatives.

Noise is measured in terms of dB, a logarithmic unit[5] that represents the intensity of a sound. A sound level of 0 dB is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dB; sound levels above 120 dB begin to be felt inside the human ear as discomfort. The minimum change in the sound level of individual events that an average human ear can detect is about 1 dB (Mills 1960, Blauert 1997). On average, a person perceives a change in sound level of about 10 dB as a doubling (or halving) of the sound's loudness, and this relation holds true for both loud and quiet sounds.

In California, Community Noise Equivalent Levels (CNEL) are typically used for the evaluation of community noise effects (i.e., long-term annoyance and compatible land uses). CNEL is a composite metric that accounts for all noise events over a 24-hour period. To account for increased human sensitivity to noise at night, a 10 dB penalty is applied to nighttime events (10:00 P.M. to 7:00 A.M), and a 5 dB penalty is applied to flights occurring from 7:00 P.M. to 10:00 P.M.

Navy criteria for noise impact analysis are identified in the Range Air Installation Compatible Use Zone Program instructions (Navy 2008). In addition, FAA Order 1050.1E, Change 1, dated 20 March 2006, *Environmental Impacts: Policies and Procedures* (FAA 2006) defines thresholds for noise impacts.

3.4.2 Affected Environment

The ROI for noise includes the project area and 15 existing noise-sensitive areas, which are located to the west of the project area (Figure 3.4-1). The noise-sensitive areas consist of a mix of residential, religious, educational, recreational, and health related sites. The Salton Sea National Wildlife Refuge and the Salton Sea State Park, both located west of the project area, were also identified as noise-sensitive areas.

[5] A scale of measurement that displays the value of a quantity in terms of orders of magnitude.

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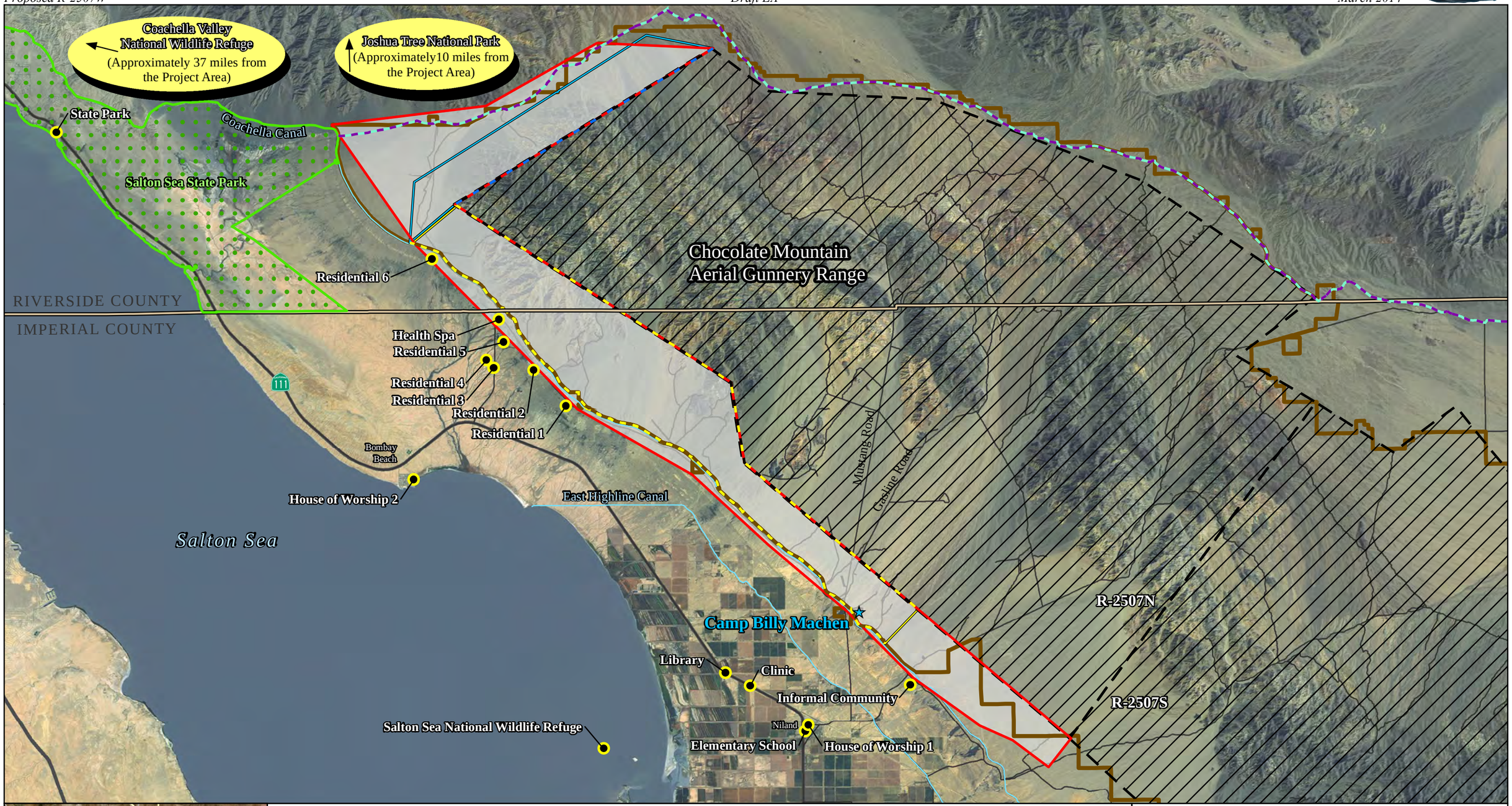

Legend

- Proposed R-2507W
- Existing R-2507N/S
- SWAT 5
- SWAT 4
- Salton Sea State Park
- CMAGR Boundary
- County Boundary
- Canal
- Highway
- Road
- Bradshaw Trail
- Noise-Sensitive Area
- SWAT 4 and CMAGR Shared Boundary
- SWAT 4, R-2507N and R-2507W Shared Boundary
- SWAT 5, R-2507N and R-2507W Shared Boundary

Figure 3.4-1
Location of Noise-Sensitive Areas

0 2 4 Miles
0 2 4 Kilometers

Source: MCAS Yuma 2012

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Baseline noise levels at each location were estimated using noise modeling techniques and software (NAVFAC SW 2013a). The noise level at each location is shown in Table 3.4-1.

Table 3.4-1. Baseline CNEL Noise Levels at Noise-sensitive Areas[a]

Noise-sensitive Area[b]	Noise Levels (dB)
Clinic	41.8
Elementary School	41.9
Health Spa	48.7
House of Worship 1	42.3
House of Worship 2	36.9
Informal Community	49.5
Library	41.4
Residential 1	45.8
Residential 2	46.8
Residential 3	45.2
Residential 4	49.9
Residential 5	45.4
Residential 6	47.3
Salton Sea National Wildlife Refuge	41.4
Salton Sea State Park	< 35.0

Notes: [a] Military aircraft.
[b] Refer to Figure 3.4-1 for the locations of the noise-sensitive areas.
Source: NAVFAC SW 2013a.

As shown in Table 3.4-1, the baseline CNEL noise level at each of the noise-sensitive areas is less than 50 dB, and is therefore analogous to the 50 dB of a quiet urban area during the daytime (NAVFAC SW 2013a). Over the past 10 years, the USMC has received two noise complaints in the vicinity of CMAGR. One complaint came from Niland and the other from a community located northwest of Camp Billy Machen along the Bradshaw Trail (USMC 2013).

As noted in Section 3.2, *Airspace*, the existing R-2507 complex and surrounding areas are regularly crossed at various altitudes by commercial and general aviation aircraft. Figure 3.4-2 presents flight track data obtained from the FAA and presented in the Air Traffic Impact Analysis (ATAC 2013). These data provide the number and altitude of flights crossing the proposed R-2507W, and represents a composite summary of all flights crossing the proposed R-2507W during all times of day over the 240-day study period. Approximately 96 percent of the air traffic that crosses existing Restricted Areas are above approximately 18,000 feet above MSL, including 85 percent that fly above approximately 27,000 feet above MSL. The remaining 4 percent that operate between the surface and approximately 18,000 feet above MSL are relatively small general aviation aircraft. Given the high average altitude of commercial aircraft, and the small percentage of general aviation aircraft operating at lower flight levels, commercial and general aviation aircraft are not expected to contribute substantially to the existing noise environment (NAVFAC SW 2013a).

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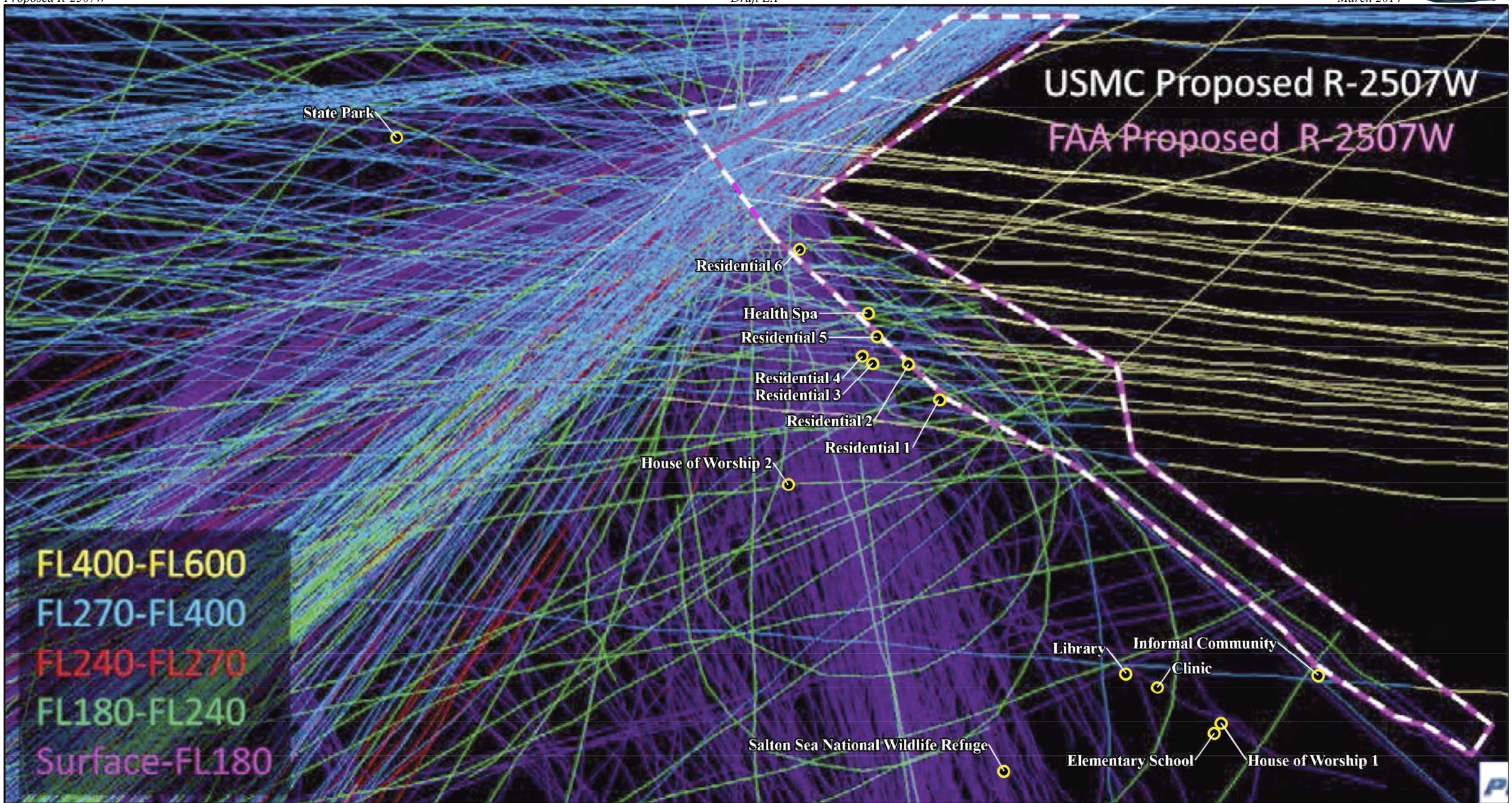

Legend

Noise-Sensitive Area

Note: FL stands for Flight Level, which is a standard nominal altitude of an aircraft, presented in hundreds of feet (i.e., FL 400 is approximated 40,000 feet above Mean Sea Level).

Figure 3.4-2
Noise-Sensitive Areas in Relation to Flights Transiting the Proposed R-2507W

0 2 4 Miles
0 2 4 Kilometers

Source: ATAC 2013

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3.5 BIOLOGICAL RESOURCES

3.5.1 Definition of Resource and Regulatory Setting

Biological resources include plant and animal species and the habitats within which they occur. This analysis focuses on species that are important to the function of ecosystems, are of special societal importance, or are protected under federal or state law. These resources are commonly divided into three categories: *Plant Communities and Aquatic Habitats*, *Wildlife*, and *Special Status Species*.

The Proposed Action is entirely airspace-based; no changes to existing ground-based training within the CMAGR would occur under the Proposed Action. Therefore, no impacts to *Plant Communities and Aquatic Habitats* would occur as a result of the Proposed Action and they are not analyzed further in this EA.

Biological resources are grouped and analyzed in this EA as follows:

- *Wildlife* includes the characteristic animal species that occur in the project area. Special consideration is given to bird species protected under the federal MBTA and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*.
- *Special Status Species* are defined as animal species that are listed, have been proposed for listing, or are candidates for listing by the USFWS or state agencies. The federal ESA protects federally listed threatened and endangered species and their associated designated critical habitat. The State of California uses a classification system similar to the federal ESA for protected species. Species may be listed by the California Department of Fish and Wildlife (CDFW) as endangered, threatened, or rare under the California ESA.

3.5.2 Affected Environment

3.5.2.1 Setting

The ROI for biological resources includes the proposed R-2507W. The proposed R-2507W would be contiguous with the northwestern and western boundaries of the CMAGR.

3.5.2.2 Wildlife

Wildlife within the project area is typical of that found throughout much of the Sonoran Desert region of southeast California. Common small mammals expected to occur in the project area include black-tailed jackrabbit (*Lepus californicus*), round-tailed ground squirrel (*Spermophilus tereticaudus*), white-tailed antelope squirrel (*Ammospermophilus leucurus*), kangaroo rats (*Dipodomys* spp.), and deer mice (*Peromyscus* spp.). Larger mammals that likely transit the project area and would reside in areas where there is an abundance of shelter/cover, water, and vegetation include burro deer (*Odocoileus hemionus eremicus*), coyote (*Canis latrans*), bobcat (*Lynx rufus*), and mountain lion (*Puma concolor*). Nelson's bighorn sheep (*Ovis canadensis nelsoni*) occurs in open, rocky, and steep terrain in the desert mountains of southeastern California, and are known to occur on CMAGR (California Natural Diversity Database [CNDDB] 2013). Multiple bat species are likely to occur throughout the project area.

Reptile species that are most likely to occur in the project area include the long-tailed brush lizard (*Urosaurus graciosus*), common side-blotched lizard (*Uta stansburiana*), Sonoran gopher snake (*Pituophis catenifer affinis*), western diamondback (*Crotalus atrox*), and Colorado Desert sidewinder (*Crotalus cerastes laterorepens*).

The Salton Sea, located approximately 5 miles (8 kilometers) west of the project area (Figure 3.5-1), is home to a high diversity of bird species and a stopover for many other migratory bird species. The majority of bird species in the project area would likely be transiting through the area (migrants) or be permanent residents of dry desert wash woodlands and surrounding desert scrub habitats that would provide food, shelter, and nesting habitat. Bird species likely to occur in the project area include mourning dove (*Zenaida macroura*), Gambel's quail (*Callipepla gambelii)*, ladder-backed woodpecker (*Picoides scalaris*), lesser nighthawk (*Chordeiles acutipennis*), verdin (*Auriparus flaviceps*), turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), cactus wren (*Campylorhynchus brunneicapillus*), warbling vireo (*Vireo gilvus*), Wilson's warbler (*Wilsonia pusilla*), house finch (*Carpodacus mexicanus*), and cliff swallow (*Petrochelidon pyrrhonota*). The majority of bird species occurring in, and/or utilizing, the project area are migratory species and are protected under the MBTA.

Noise and visual stimuli from aircraft overflights can disturb wildlife (Bowles et al. 1999, Manci et al. 1988). Specifically, aircraft noise can compromise predator/prey detection and/or mating signals, alter temporal or movement patterns, and increase physiological stress. However, species differ in their sensitivities to noise exposure and assessing the impacts of noise on wildlife is difficult as there are many potential ecological costs associated with noise exposure that have not been rigorously studied (Francis and Barber 2013).

Flying wildlife (birds and bats) are subject to aircraft strikes from both fixed-wing and rotary-wing aircraft. The frequency of wildlife strikes to fixed-wing aircraft is typically lowest during the "enroute" phase of flight (higher than 1,000 feet above MSL), whereas rotary-wing aircraft encounter a much higher rate of strikes during the enroute phase of flight (63 percent of strikes) (Washburn et al. 2012). However, fixed-wing aircraft typically fly at a much higher altitude than rotary-wing aircraft and consequently above the airspace (and altitudes) typically used by birds and bats during their normal flight activity patterns (Washburn et al. 2012).

3.5.2.3 Special Status Species

<u>Agassiz's Desert Tortoise</u>

Agassiz's desert tortoise (*Gopherus agassizii*) is the only federally listed wildlife species known to occur in the vicinity of the project area (Figure 3.5-1). The federally threatened Agassiz's desert tortoise is found north and west of the Colorado River including portions of California, Nevada, and portions of Arizona and Utah that are north of the Colorado River and was separated from Morafka's desert tortoise (*Gopherus morafkai*) in 2011; Morafka's desert tortoise is found south and east of the Colorado River (Murphy et al. 2011). Approximately 188,000 acres (76,081 hectares) of desert tortoise critical habitat are designated in the northeastern half of the CMAGR (USFWS 1994). The proposed airspace, for both Alternatives 1 and 2, overlies approximately 5,860 acres (2,370 hectares) of designated desert tortoise critical habitat.

In the southwestern portion of its range (including the project area), the Agassiz's desert tortoise occurs primarily in valleys, on alluvial fans or *bajadas*, rocky slopes, and in broad, well-developed washes with scattered shrubs and trees (USFWS 2011a). With the possible exception of the northernmost portion of the project area, desert tortoise density in the project area is much lower than other areas of the CMAGR (Figure 3.5-1) (CNDDB 2013, U.S. Geological Survey 2009).

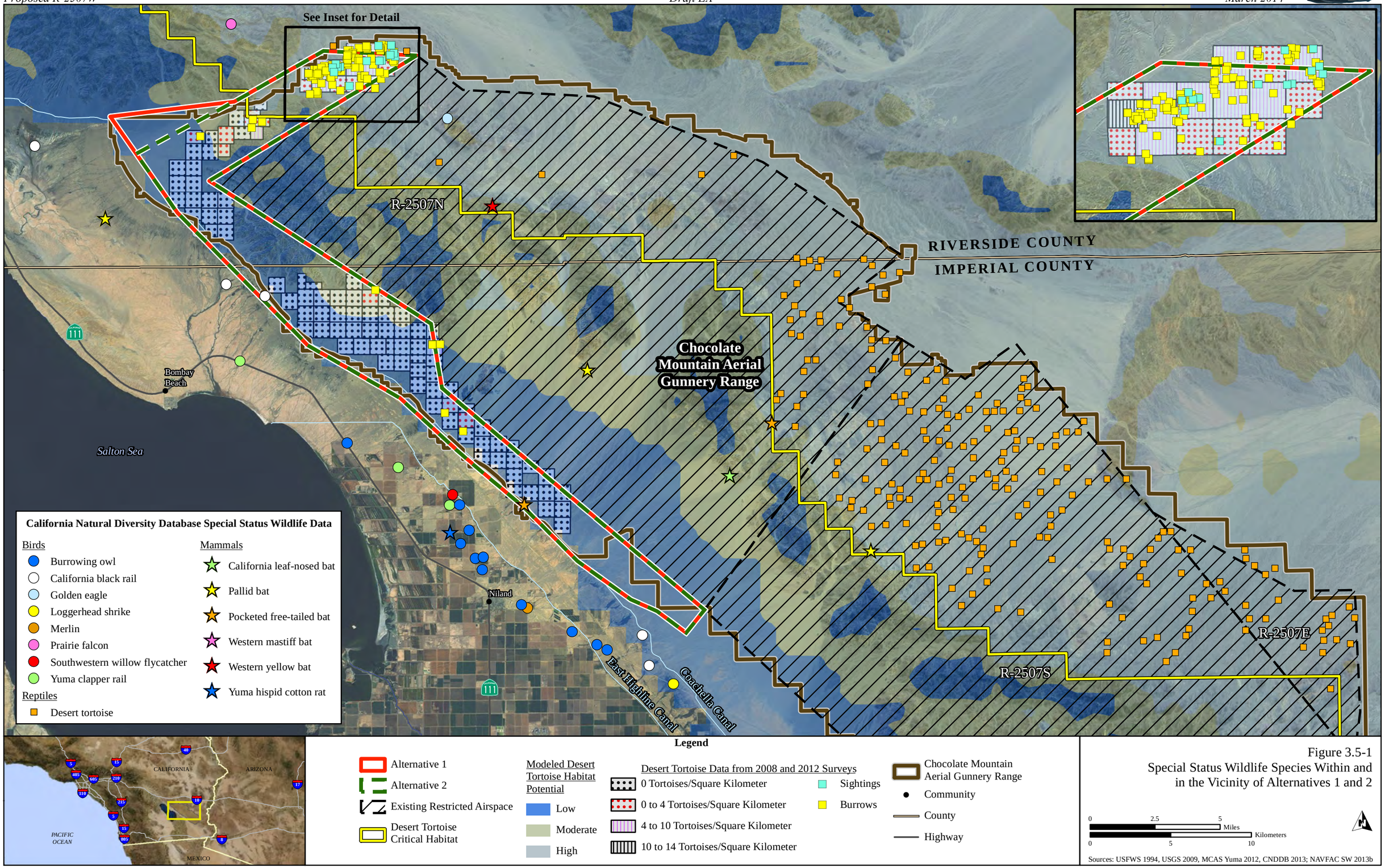

Figure 3.5-1
Special Status Wildlife Species Within and in the Vicinity of Alternatives 1 and 2

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The greatest threat to the Agassiz's desert tortoise is habitat loss and degradation caused by human activities including urbanization, agricultural development, military training, recreational use, mining, livestock grazing, and a lack of regulatory mechanisms (USFWS 2011a). Other known threats to the species include predation by common ravens (*Corvus corax*), canids (i.e., coyotes, kit foxes [*Vulpes macrotis*] and dogs [*Canis familiaris*]), and golden eagles (*Aquila chrysaetos*); collection by humans for pets or consumption; fire; collisions with vehicles on paved and unpaved roads; and mortality resulting from disease (upper respiratory tract disease) (USFWS 2011a).

Desert tortoises are not known to exhibit an abrupt acoustic startle response to low-altitude aircraft noise or sonic booms. The most common response by desert tortoises to such noises is a "freezing" of activity. However, noise from aircraft operations has not been shown to significantly alter the daily activity budget of desert tortoises (Bowles et al. 1999). In the Biological Opinion for Land Acquisition and Airspace Establishment to Support Large-scale Marine Air Ground Task Force Live-fire and Maneuver Training, Twentynine Palms, California, the USFWS concluded that the use of airspace for military overflights would not affect desert tortoises (USFWS 2011b).

As part of the YTRC EIS (USMC 1997), the USMC consulted with the USFWS for potential impacts to desert tortoise from implementation of existing and (at the time) proposed military use activities within the CMAGR. The USFWS prepared a BO for the YTRC EIS (USFWS 1996). The 1996 BO stated that military use activities in the YTRC EIS would not likely jeopardize the continued existence of the desert tortoise, or result in the significant destruction or adverse modification of critical habitat for the desert tortoise. The BO contained measures to reduce potential impacts to desert tortoise from training activities. As contained in the BO, reinitiating of formal consultation would be required if the YTRC EIS proposed action was significantly modified in a manner not analyzed in the EIS or BO, if new information became available on the desert tortoise, or if the incidental take limit were to be exceeded (USFWS 1996). In 2003, the 1996 BO was amended to reflect the construction of a sniper range adjacent to Camp Billy Machen (USFWS 2003).

<u>Other Special Status Species</u>

Other special status species known to occur at the CMAGR and in the vicinity of the proposed R-2507W are presented in Table 3.5-1 and are shown on Figure 3.5-1. The USFWS labels migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that represent the highest conservation priorities as *Birds of Conservation Concern* (USFWS 2008).

The CDFW gives the label *Species of Special Concern* to those species with declining population levels, limited ranges, and/or continuing threats that have made them vulnerable to extinction (CDFW 2011). The classification of *Fully Protected* was the CDFW's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction (CDFW 2011). Bird species on the CDFW *Watch List* are those not on the current Special Concern list but that warrant close attention (CDFW 2011).

Two federally endangered species, southwestern willow flycatcher (*Empidonax traillii extimus*) and Yuma clapper rail (*Rallus longirostris yumanensis*) have been observed southwest of the project area (see Figure 3.5-1). The southwestern willow flycatcher is a migratory riparian species that would likely only occur transitorily in the proposed airspace. The Yuma clapper rail is a secretive, marsh-nesting species that has significant populations in the Imperial Valley, in and around the Salton Sea (USFWS 2013), and occurs in densely-vegetated streams and marshes southwest of the project area.

Several special status bat species likely forage at low altitudes in the proposed R-2507W (refer to Table 3.5-1 and Figure 3.5-1). Bats are most active in the evening and dawn hours and roost in trees, caves, and other structures during the day. Most species typically forage at low altitudes (<600 feet [200 meters]) and very rarely are known to occur at maximum altitudes of approximately 10,000 feet (3,048 meters) above MSL (McCracken et al. 2008).

Table 3.5-1. Special Status Species Known to Occur at the CMAGR and in the Vicinity[a] of the Proposed R-2507W

Species Name	Common Name	Status[b] (Federal /State)	Habitat	Probability of Occurrence in the Project Area
REPTILES				
Gopherus agassizii	Agassiz's desert tortoise	T/T	desert scrub	high
MAMMALS				
Antrozous pallidus	pallid bat	-/SC	desert wash, desert scrub, riparian woodland	high
Eumops perotis californicus	western mastiff bat	-/SC	various habitats	known to occur
Lasiurus xanthinus	western yellow bat	-/SC	desert wash	moderate
Macrotus californicus	California leaf-nosed bat	-/SC	riparian scrub, desert scrub	moderate
Nyctinomops femorosaccus	pocketed free-tailed bat	-/SC	riparian scrub, desert scrub	high
Sigmodon hispidus eremicus	Yuma hispid cotton rat	-/SC	riparian thickets and moist, grassy habitats	low
BIRDS				
Aquila chrysaetos	golden eagle	BCC/FP	grasslands and desert scrub; nests on cliffs and large trees	moderate
Athene cunicularia	burrowing owl	BCC/SC	desert scrub, grasslands, agricultural and disturbed areas	low
Empidonax traillii extimus	southwestern willow flycatcher	E/E	riparian woodland, desert wash	moderate (migratory)
Falco columbarius	merlin	-/WL	grasslands, desert scrub, woodlands, and agricultural areas	moderate (migratory)
Falco mexicanus	prairie falcon	BCC/WL	grasslands and desert scrub; nests on cliffs	high
Lanius ludovicianus	loggerhead shrike	BCC/SC	variety of open habitats	moderate
Laterallus jamaicensis coturniculus	California black rail	BCC/FP	freshwater marsh	known to occur
Rallus longirostris yumanensis	Yuma clapper rail	E/T	freshwater marsh	high

Notes: [a] Vicinity = within 3 miles of the proposed R-2507W.
[b] Status: Federal (determined by USFWS): E = Endangered, T = Threatened, BCC = Bird of Conservation Concern
State (determined by CDFW): E = Endangered, T = Threatened, FP = Fully Protected, SC = Species of Special Concern, WL = Watch List.
Source: CNDDB 2013.

3.6 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

3.6.1 Definition of Resource and Regulatory Setting

Socioeconomics considers the attributes of human social and economic interactions within an area. As discussed in previous sections, the Proposed Action would not involve the construction of physical improvements, or any increase in personnel or training activities. Therefore, the socioeconomic analysis in this EA focuses on the action alternatives' effect on commercial air travel, and the extent to which other environmental impacts (i.e., noise) may be disproportionately experienced by low-income or minority communities and by children.

With respect to environmental justice, EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires federal agencies to consider human health and environmental conditions in minority and low-income communities. EO 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, helps ensure that federal agencies' policies, programs, activities, and standards address environmental health and safety risks to children.

3.6.2 Affected Environment

The ROI for socioeconomic and environmental justice impacts includes the proposed R-2507W and portions of census tracts extending westward from SWATs 4 and 5 to the Salton Sea (Figure 3.6-1).

On average, between three and four aircraft pass through the proposed R-2507W on a daily basis (ATAC 2013). As discussed in Section 3.2, *Airspace*, civilian aircraft are routed through the existing R-2507 complex when the Restricted Areas are released to nonparticipating aircraft pursuant to the joint-use policy. This joint-use of existing Restricted Areas provides a more direct flight path for some commercial routes, reducing travel distance, travel time, and fuel costs[6].

Compared to state and county data, the ROI has a higher percentage of people who are minorities, who are of Hispanic/Latino origin, and/or who have an income below the poverty level, as defined by the U.S. Census Bureau (Table 3.6-1).

Table 3.6-1. Selected Socioeconomic and Demographic Characteristics

Geographic Area	Minority Population Percentage[a]	Hispanic/Latino Origin Percentage[b]	Percentage of Population below Poverty Level	Percentage (%) of Population below Age of 18
State of California	26.3%	38.2%	14.4%	25.2%
Imperial County	10.5%	81.2%	23.3%	29.3%
Riverside County	19.2%	38.2%	14.2%	28.6%
ROI	88.9%	77.6%	72.3%	10.5%

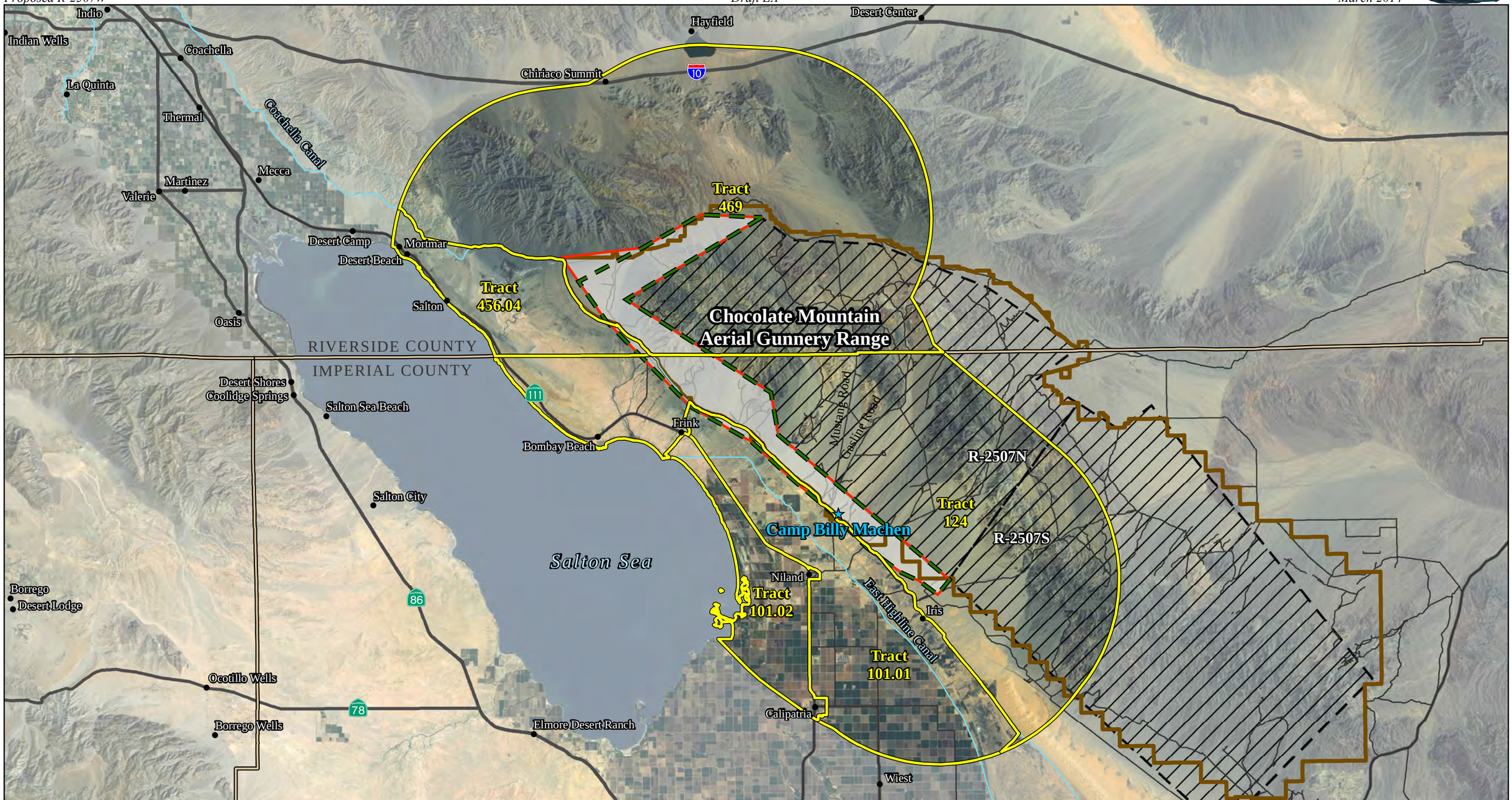
Notes: [a] The races that the Census tallies as "Other than White alone" are "Black or African American alone," "American Indian and Alaska Native alone," "Asian alone," "Native Hawaiian and Other Pacific Islander alone," and "Two or More Races."

[b] The federal government considers race and Hispanic/Latino origin (ethnicity) to be two separate and distinct concepts. People identified as Hispanic or Latino origin may be of any race. The data summarized in this right column present Hispanic/Latino as a separate category to determine the percent ethnic minority.

Source: U.S. Census Bureau 2011.

[6] The Air Traffic Impact Analysis estimated that joint-use of the existing R-2507 complex reduces travel distance by an average of 3 nautical miles (5.56 kilometers), resulting in an estimated savings of $4,500 per day, assuming 129 flights are affected.

While no children reside within the boundaries of SWATs 4 and 5 as access is restricted, children are anticipated to be associated with several of the identified noise-sensitive receptors (refer to Section 3.4.2, *Affected Environment*). As presented in Table 3.6-1, the ROI has a lower percentage of population below the age of 18 as compared to other geographic reference areas.



Legend

- Alternative 1
- Alternative 2
- Region of Influence Partial Census Tracts
- CMAGR Boundary
- Existing R-2507N/S
- Community
- County Boundary
- Canal
- Highway
- Road

Figure 3.6-1
Region of Influence, Socioeconomics and Environmental Justice

0 5 10 Miles
0 10 20 Kilometers

Sources: U.S. Census Bureau 2011, MCAS Yuma 2012

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CHAPTER 4
ENVIRONMENTAL CONSEQUENCES

This chapter presents the potential environmental consequences from implementation of the alternatives on the following resource areas analyzed in detail: airspace, safety, noise, biological resources, and socioeconomics and environmental justice. Implementation of the Proposed Action would create the R-2507W Chocolate Mountains West, CA SUA Restricted Area with a designated altitude from the surface to approximately 40,000 feet above MSL and be charted for continuous use in support of on-going military training. The proposed R-2507W would generally coincide with the existing Niland and Bombay CFA boundaries. The existing Niland and Bombay CFAs would cease to exist. The Proposed Action is entirely airspace-based; no changes to existing ground-based training within the CMAGR are included as part of the Proposed Action.

4.1 AIRSPACE

The following analysis assesses the potential impacts of the alternatives on the management and use of the proposed R-2507W to both military airspace management and civilian flights. Impacts would occur if implementation of an alternative would affect military training exercises at the CMAGR, or the transit of civilian air traffic through the proposed R-2507W.

4.1.1 Alternative 1

Under Alternative 1, the Niland and Bombay CFAs would cease to exist, and the proposed R-2507W would be established and charted from the surface to approximately 40,000 feet above MSL above SWATs 4 and 5. Nonparticipating aircraft would not be allowed to enter the airspace without prior clearance from the FAA and/or MCAS Yuma. Although Alternative 1 would not result in an increase in overall sorties, Alternative 1 would allow for aircraft operations currently operating within the existing R-2507 complex to maneuver within the proposed R-2507W. Approximately 2,400 sorties per year (or an average of approximately 7 per day) would occur in the proposed R-2507W under Alternative 1 (NAVFAC SW 2013a).

As discussed in Section 2.2.3, *Other Elements*, air traffic control oversight for the proposed R-2507W would be provided by MCAS Yuma CERAP, and use of R-2507W would be controlled by the MCAS Yuma Range Control Facility per published range control regulations (i.e., MCAS Yuma Range and Training Area Standard Operating Procedures, StaO 3710.6). These regulations include detailed procedures that accommodate the cease fire of activities in response to inadvertent aircraft over flight of surface-to-surface and surface-to-air activities. Real-time communications currently in place between on-site range safety personnel, actual range users, and MCAS Yuma Range Controllers would continue to be followed during range usage.

With the establishment of the proposed R-2507W, nonparticipating pilots (both DoD and civilian) would be responsible for avoiding the Restricted Area. The necessity for military personnel to verify airspace clearance before and during training would be precluded by the charting of the proposed R-2507W and the exclusion requirements of the SUA (FAA 2013). Because the airspace would no longer be subject to regulations governing CFAs, the potential disruption to training activities caused by the approach of nonparticipating aircraft would be eliminated.

Under Alternative 1, an average of four aircraft per day would be impacted by having to route around the proposed R-2507W (ATAC 2013). The travel time, delay and fuel costs associated with re-routing four aircraft on a given day would be relatively minor. Refer to Section 4.5, *Socioeconomics and Environmental Justice,* for a discussion of these impacts. Furthermore, such re-routing would not be required in instances where the proposed R-2507W would be released to the controlling agency for nonparticipating aircraft pursuant to the joint-use policy (i.e., Section 21-1-8, Joint-Use Policy, in JO 7400.2J [FAA 2012]).

Implementation of Alternative 1 may also require altitude adjustments for commercial aircraft that currently overfly the existing R-2507 complex. For example, eastbound traffic approaching the CMAGR may have to gain altitude sooner than is currently the case to pass over the proposed R-2507W. Although civilian aircraft would be required to adjust their course and altitude as a result of Alternative 1, such adjustments would be relatively minor, and would not be necessitated when R-2507W is available for joint-use. There would be no change to existing low-altitude flight corridors. In addition, use of R-2507W would continue to be coordinated with the Los Angeles Air Route Traffic Control Center as is currently the case. Therefore, implementation of Alternative 1 would result in less than significant impacts to airspace.

4.1.2 Alternative 2

Under Alternative 2, the impact to airspace would be similar as presented for Alternative 1. The sole difference is that Alternative 2 would affect a smaller number of civilian aircraft. Specifically, an average of up to three aircraft per day would have to route around the proposed R-2507W, a reduction of one flight per day (25 percent) as compared to Alternative 1. As is the case for Alternative 1, Alternative 2 would result in a beneficial impact relative to military airspace management. Civilian aircraft course and altitude adjustments would be relatively minor and would result in a less than significant impact with respect to civilian airspace use. Therefore, implementation of Alternative 2 would result in less than significant impacts to airspace.

4.1.3 No-Action Alternative

Under the No-Action Alternative, the Niland and Bombay CFAs would be retained, and a Restricted Area would not be established above SWATs 4 and 5. As is currently the case, nonparticipating aircraft would continue to fly in the CFAs during training exercises, and training would continue to be suspended when approaching nonparticipating aircraft are detected. Because civilian air traffic would continue to traverse the ROI without adjusting course or altitude, the No-Action Alternative would have no impact with respect to civilian use of airspace. Therefore, implementation of the No-Action Alternative would result in no change to existing conditions.

4.2 SAFETY

The following analysis assesses the potential impacts to safety associated with implementation of the alternatives. Potential impacts to safety are focused on aircraft operations. A potential impact would occur if an alternative would decrease safety within the project area.

4.2.1 Alternative 1

The establishment of the proposed R-2507W would require commercial and civil aircraft activities to circumvent R-2507W, increasing military and non-military aircraft safety by minimizing airspace interactions. Air traffic control oversight would continue to be administered by MCAS Yuma CERAP and the more stringent requirements of the Restricted Area versus a CFA (refer to Section 1.3.1, *Special Use Airspace*) would lessen the potential for aircraft mishaps to occur within the CMAGR. Training operations would continue to abide by the regulations and procedures defined by MCAS Yuma StaO 3710.6I to maximize safety. Chaff and flare use would not occur within the proposed R-2507W. Implementation of Alternative 1 would result in an overall increase in safety in the project area by clearly designating airspace for its intended use (i.e., military training). Therefore, implementation of Alternative 1 would improve safety, resulting in a beneficial effect.

4.2.2 Alternative 2

Alternative 2 is largely similar to Alternative 1 except for a slight alteration in the Restricted Area boundary. The impact analysis provided for Alternative 1 is valid for Alternative 2. Therefore, implementation of Alternative 2 would improve safety, resulting in a beneficial effect.

4.2.3 No-Action Alternative

Under the No-Action Alternative, the Niland and Bombay CFAs would be retained, and a Restricted Area would not be established above SWATs 4 and 5. Nonparticipating aircraft would continue to fly over the Niland and Bombay CFAs. Observers and firing range safety officers would continue to continuously monitor the Niland and Bombay CFAs to ensure that nonparticipating aircraft are not present during ground-based training firing activity. Training would continue to be immediately halted when nonparticipating aircraft approach the CFA to minimize potential safety issues. Therefore, implementation of the No-Action Alternative would result in no change to existing conditions.

4.3 NOISE

The analysis of noise impacts in this EA considers the effects of the Proposed Action relative to noise-sensitive areas[7] located near the proposed R-2507W. Because the proposed R-2507W would accommodate military aircraft already operating in the SUA overlying the CMAGR, potential noise impacts would be caused solely by the redistribution of existing sorties into the proposed R-2507W. Sortie data, including aircraft type, altitude distribution, air speed, and other information was provided by the USMC for use in the noise study (NAVFAC SW 2013a). The noise impact was estimated using industry standard noise modeling software and methods, and the inputs, assumptions, and conclusions of the noise analysis are documented in the noise report (see Appendix B). Based on FAA Order 1050.1E, Change 1, dated 20 March 2006, *Environmental Impacts: Policies and Procedures* (FAA 2006), a significant noise impact would occur if the Proposed Action were to cause noise-sensitive areas to experience an increase in noise of 1.5 dB CNEL or more at or above a noise exposure of 65 dB CNEL, when compared to the No-Action Alternative for the same timeframe.

[7] A noise-sensitive area is an area in which noise may interfere with activities normally associated with its use. Noise-sensitive areas include residential, educational, health, and religious structures and sites, and parks, recreational areas (including areas with wilderness characteristics), wildlife refuges, and cultural and historical sites.

4.3.1 Alternative 1

The noise report prepared in support of this EA (NAVFAC SW 2013a) analyzed Alternative 2 because Alternative 2 was identified as the alternative that would have the potential to generate the greatest amount of noise (due to the smaller overall area of the proposed airspace). From a noise perspective, Alternative 1 is not expected to have impacts that are distinguishably different from Alternative 2. For example, the relatively minor difference between Alternative 1 and Alternative 2 near the northwestern corner of SWAT 5 is not expected to substantially alter military or civilian air traffic patterns with respect to noise-sensitive areas. Refer to Section 4.3.2 below for a discussion of the noise impacts associated with Alternative 2. Given that Alternative 2 would not result in a significant noise impact, and because Alternative 1 would have the same noise impacts as Alternative 2, implementation of Alternative 1 would result in less than significant noise impacts.

4.3.2 Alternative 2

The establishment of R-2507W would allow for aircraft sorties currently occurring within the existing CMAGR airspace (i.e., the R-2507 complex) to maneuver within a larger block of airspace. Approximately 2,400 annual sorties currently occurring within existing CMAGR Restricted Areas would be expected to use the proposed R-2507W (Table 4.3-1).

Table 4.3-1. Aircraft Types and Sorties in the Proposed R-2507W

Aircraft Type	Number of Proposed Annual Sorties[a]
Fixed-Wing Aircraft	
F-35B[b,e]	647
A-10[b]	14
F-35C[b,e]	216
F-5E[b]	91
F-16[b]	18
KC-130[b]	31
T-34[b]	105
T-45[b]	18
B-52[b]	6
F-15[b]	6
Rotary-Wing and Tilt-Rotor Aircraft	
AH-1W/Z[c]	330
CH-53E[c]	146
MV-22[c]	28
CH-46[c]	175
UH-1N/Y[c]	147
H-60[c]	392
Unmanned Aerial Systems	
RQ-7[d]	17
Puma AE[f]	44
Total	**2,431**

Notes: [a] Annual aircraft operations are expressed in terms of a sortie, which is defined as one flight training mission conducted by a single aircraft in one airspace unit.
[b] Operations would occur only when R-2507W/N/S are activated together and used as one airspace unit.
[c] Rotary and tilt-rotor aircraft operations would take place primarily in R-2507W.
[d] The RQ-7 is a small UAS powered by a rotary engine developing 21 horsepower (28.3 kilowatts) and driving a two-bladed pusher propeller; no noise data are available for this UAS.
[e] Only 10 percent of current F-35B/C sorties in the CMAGR would take place in R-2507W.
[f] AE = all environment.
Source: NAVFAC SW 2013a.

Figure 4.3-1 presents predicted noise contours relative to noise-sensitive areas and Table 4.3-2 presents the incremental noise impact of these sorties at noise-sensitive receptors. Baseline data are included in Table 4.3-2 to provide context for how Alternative 2 would change the noise landscape at the CMAGR. As discussed above in Section 4.3 (Noise impact introduction), a significant noise impact would occur if the Proposed Action were to cause noise-sensitive areas to experience an increase in noise of 1.5 dB CNEL or more at or above the 65 dB CNEL noise exposure. As shown in Table 4.3-2, the predicted noise levels at all noise-sensitive areas would remain well below the FAA Order 1050.1E (FAA 2006) impact significance threshold. While the overall noise exposure level at two locations (Residential 1 and 2) experienced changes of greater than 1.5 dB CNEL, their exposure levels would remain substantially below the 65 dB CNEL threshold identified in FAA Order 105.1E (FAA 2006) and as presented in Section 4.3. Therefore, the impact would be less than significant.

Table 4.3-2. Baseline and Alternative 2 Predicted Noise Levels at Noise-sensitive Areas

Noise-sensitive Area[a]	CNEL Noise Levels (dB)		Change[b]
	Baseline	Alternative 2	
Clinic	41.8	42.2	0.4
Elementary School	41.9	42.3	0.4
Health Spa	48.7	49.8	1.1
House of Worship 1	42.3	42.7	0.4
House of Worship 2	36.9	37.7	0.8
Informal Community	49.5	50.3	0.8
Library	41.4	41.8	0.4
Residential 1	45.8	47.9	2.1
Residential 2	46.8	48.6	1.8
Residential 3	45.2	46.6	1.4
Residential 4	49.9	49.9	0.0
Residential 5	45.4	46.7	1.3
Residential 6	47.3	48.9	1.6
Salton Sea National Wildlife Refuge	41.4	41.8	0.4
Salton Sea State Park	< 35.0	< 35.0	--

Notes: [a] Refer to Figure 3.4-1 for the locations of the noise-sensitive areas.
[b] Increase in dB, as compared to baseline.
-- Indicates that both the baseline and Proposed Action scenarios are below the minimum reporting level of the noise modeling software (i.e., 35.0 dB) at this location.
Source: NAVFAC SW 2013a.

Existing civilian aircraft crossing the proposed R-2507W would have their routes adjusted. Given that many of the radar tracks cross the proposed R-2507W along a southwest to northeast axis, course adjustments could cause aircraft flying along this axis to be shifted to the north and west to minimize the additional minor increase in flight time and distance. This course adjustment would shift air traffic away from most noise-sensitive areas. Moreover, as discussed in Section 3.2, *Airspace*, 85 percent of civilian aircraft are flying at an altitude between approximately 27,000 and 40,000 feet above MSL in the project area. At this altitude, aircraft would have a negligible effect on noise levels at noise-sensitive areas (NAVFAC SW 2013a). The re-routing of civilian aircraft would not be expected to increase ambient noise levels at noise-sensitive areas. Therefore, implementation of Alternative 2 would result in less than significant noise impacts.

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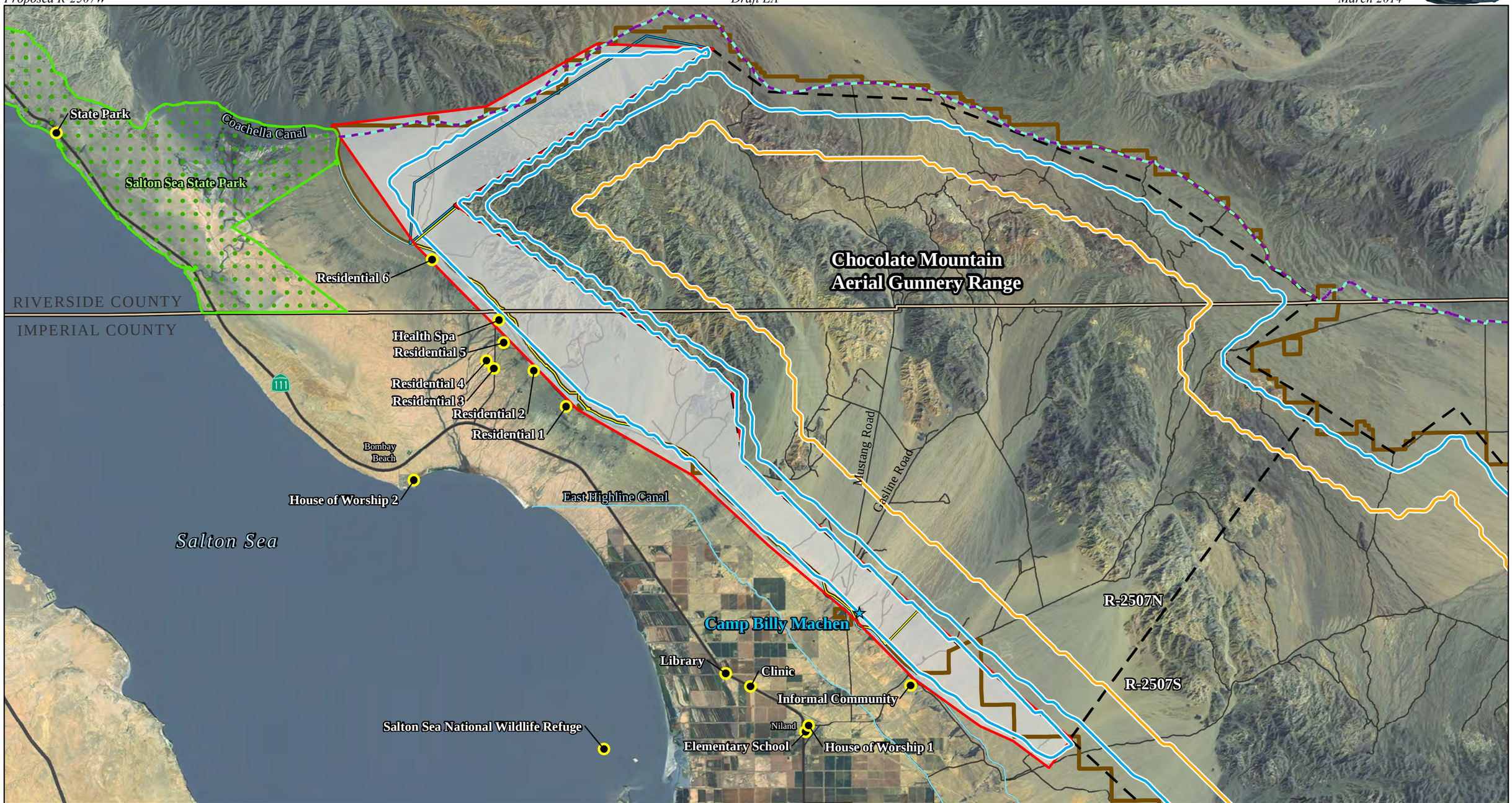

Legend

- Proposed R-2507W
- Existing R-2507N/S
- SWAT 5
- SWAT 4
- Salton Sea State Park
- CMAGR Boundary
- County Boundary
- Canal
- Highway
- Road
- Bradshaw Trail
- Noise-Sensitive Area

Projected Noise Levels

- 55 dBA
- 60 dBA

Figure 4.3-1
Projected Noise Levels within the Project Area under Alternative 2

0 2 4 Miles
0 2 4 Kilometers

Source: MCAS Yuma 2012

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4.3.3 No-Action Alternative

Under the No-Action Alternative, the Niland and Bombay CFAs would be retained, and a Restricted Area would not be established above SWATs 4 and 5. Military operations would continue to occur in the existing SUAs, and civilian aircraft would continue to fly through the CFAs without restriction. Aircraft-generated noise levels under the No-Action Alternative would continue to be consistent with baseline levels. Therefore, implementation of the No-Action Alternative would result in no change to existing conditions.

4.4 BIOLOGICAL RESOURCES

The significance of potential impacts to biological resources is based on: (1) the importance (i.e., legal, commercial, recreational, ecological, or scientific) of the resource; (2) the proportion of the resource that would be affected relative to its occurrence in the region; (3) the sensitivity of the resource to proposed activities; and (4) the duration or ecological ramifications of the impact(s). Impacts to biological resources would be significant if species or habitats of concern were adversely affected over relatively large areas or if disturbances caused reductions in population size or distribution of a special status species. However, the Proposed Action would be consistent with those activities addressed and analyzed in the 1996 BO prepared by the USFWS (USFWS 1996) and the 2003 amendment to the BO; as such, consultation with the USFWS is not anticipated for this action. This section analyzes the potential for direct and indirect impacts to biological resources from implementation of the Proposed Action.

Direct impacts to wildlife species from the Proposed Action would potentially occur in two ways: by direct mortality from aircraft strike and by disruption of behavior caused by noise from aircraft overflights.

Indirect impacts are caused by or result from project-related activities, but occur later in time and can extend beyond the immediate project footprint. This EA analyzes the establishment and use of an airspace that is currently used by aircraft. Indirect impacts associated with establishment of a Restricted Area would be diffuse and unquantifiable beyond current conditions. Therefore, indirect impacts to biological resources are not addressed further.

4.4.1 Alternative 1

4.4.1.1 Wildlife

All proposed aircraft activities in the proposed R-2507W would be consistent with activities that currently occur in the existing CFA airspace. Given the on-going aircraft operations in the CFAs, wildlife in the proposed R-2507W are already habituated, to some extent, to aircraft noise levels associated with on-going aircraft operations. As shown in Table 4.3-1, many of the existing annual sorties that would maneuver within the proposed R-2507W would be made by the F-35B/C. Approximately 95% of the F-35B/C sorties would be higher than 10,000 feet above MSL. Low-level rotary-wing and tilt-rotor aircraft operations would be consistent with existing operations. No supersonic aircraft activity would occur.

The potential exists for bird/bat-aircraft strikes within the proposed R-2507W. Bats would be less likely to strike aircraft, as they typically do not occur at altitudes that most aircraft would be using in the airspace (>10,000 feet [3,048 meters] above MSL). Because fixed-wing aircraft typically fly above the airspace (and altitudes) typically used by birds and bats during normal flight activity patterns, bird/bat-aircraft strikes are more likely to occur with rotary-wing and tilt-rotor aircraft than fixed-wing aircraft

(Washburn et al. 2012). However, low-level rotary-wing and tilt-rotor aircraft operations in the proposed R-2507W would be consistent with existing operations. Therefore, there would be no substantial increase in the potential for bird/bat-aircraft strikes under Alternative 1 and impacts to wildlife are expected to be less than significant.

4.4.1.2 Special Status Species

Desert Tortoise

Under Alternative 1, Agassiz's desert tortoises would continue to be exposed to noise generated by aircraft operations. However, there is no evidence that noise from overflights by military aircraft has a negative effect on desert tortoises. Under the Proposed Action, military use activities within the project area would be consistent with those addressed and analyzed in the YTRC EIS (USMC 1997) and associated BO (USFWS 1996). Therefore, implementation of Alternative 1 would have no effect on the desert tortoise above or beyond the actions previously analyzed (USFWS 1996). Additional consultation with the USFWS is not anticipated for this action.

Other Special Status Species

All other special status species would be affected in the same manner as previously discussed for wildlife. There would be no anticipated impact to CDFW's ability to manage state-listed species. All species would be subjected to a minor increase in aircraft noise in the project area. However, the project area is regularly used for training, and any special status species in the area have likely been habituated to aircraft noise. Impacts to special status species under Alternative 1 would be less than significant.

4.4.2 Alternative 2

Alternative 2 would not be substantially different from Alternative 1. Thus, impacts to biological resources under Alternative 2 are expected to be the same as those presented under Alternative 1. Therefore, implementation of Alternative 2 would result in less than significant impacts to biological resources.

4.4.3 No-Action Alternative

Under the No-Action Alternative, the Niland and Bombay CFAs would be retained, and a Restricted Area would not be established above SWATs 4 and 5. There would be no change from existing conditions as described in Section 3.5.2, *Affected Environment*. Therefore, implementation of the No-Action Alternative would result in no change to existing conditions.

4.5 SOCIOECONOMICS AND ENVIRONMENTAL JUSTICE

The analysis in this section assesses the potential economic impacts stemming from implementation of the alternatives to determine if a substantial financial impact to commercial airlines would occur. Also included in this section is an analysis of the alternatives potential impact to environmental justice and the protection of children.

4.5.1 Alternative 1

Implementation of Alternative 1 would necessitate course adjustments for aircraft that are currently routed through the Niland and Bombay CFAs airspace. On average, up to four aircraft per day may be affected. Using data presented in the Air Traffic Impact Analysis (ATAC 2013), the total cost of diverting

aircraft around proposed R-2507W would be approximately $141 per day[8], or $35.25 per aircraft per day. When the proposed R-2507W would be released to the controlling agency for nonparticipating aircraft pursuant to the joint-use policy (i.e., Section 21-1-8, Joint-Use Policy, in JO 7400.2J [FAA 2012]), aircraft could pass through the area, saving time and money. Therefore, implementation of Alternative 1 would result in less than significant socioeconomic impacts.

As discussed in previous sections, Alternative 1 would not involve any physical improvements or any increase in personnel or training activities. Moreover, the proposed R-2507W would be located above an active and access-restricted military installation. However, some impacts (i.e., air quality, safety, and noise) may have the potential to extend beyond the boundary of the proposed R-2507W and affect populations, and thus need to be considered. Because there would be no increase in sorties, there would be no net increase in criteria pollutant emissions. While potential impacts to safety could likewise extend beyond the limits of the proposed R-2507W, such impacts would be beneficial (see Section 4.2, *Safety*). As noted in Section 4.3, *Noise*, Alternative 1 would result in a less than significant noise impact to identified noise-sensitive receptors. Although the ROI has a higher percentage of people who are minorities, who are of Hispanic/Latino origin, and/or who have an income below the poverty level, the identified communities and noise-sensitive receptors would not be significantly, or disproportionately, affected by training-related noise. Therefore, implementation of Alternative 1 would result in no disproportionate impact to low income or minority populations, or the health and safety of children.

4.5.2 Alternative 2

Alternative 2 would not be substantially different from Alternative 1. The only difference is that Alternative 2 would potentially affect a smaller number of civilian aircraft (i.e., up to an average of three per day, instead of four per day for Alternative 1). The cost associated with diversion would be reduced (i.e., from $141 per day to $106 per day [i.e., $35.25 per aircraft per day x 3 aircraft = $105.75]). Therefore, implementation of Alternative 2 would result in less than significant socioeconomic impacts. In addition, Alternative 2 would result in no disproportionate impact to low income or minority populations, or the health and safety of children.

4.5.3 No-Action Alternative

Under the No-Action Alternative, the Niland and Bombay CFAs would be retained, and a Restricted Area would not be established above SWATs 4 and 5. Because there would be no change in civilian air traffic patterns, continuation of the No-Action Alternative would not result in any impact relative to socioeconomics. Likewise, under the No-Action Alternative, existing population ethnicity and age distributions are expected to generally remain the same. Therefore, implementation of the No-Action Alternative would result in less than significant socioeconomic impacts. In addition, the No-Action Alternative would result in no change to existing conditions.

[8] That is, 25 seconds per aircraft in time savings from a flight distance diversion of 3 nautical miles (5.56 kilometers) x (1 hour/3,600 seconds) x 4 aircraft per day x $5,064 cost per airborne hour (ATAC 2013) = $140.67, which is rounded to $141.

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CHAPTER 5
CUMULATIVE EFFECTS

5.1 REGULATORY SETTING

Cumulative impacts are those that result from "the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such other actions" (40 CFR § 1508.7 of the CEQ Regulations). Cumulative impacts can also result from individually minor but collectively significant actions taking place over a period of time.

Cumulative impacts may occur when there is a relationship between a proposed action and other actions expected to occur in a similar location. This relationship may or may not be obvious. Actions overlapping, or in close proximity to, a proposed action can have more potential for cumulative impacts on "shared resources" than actions that may be geographically separated. Similarly, actions that coincide temporally would tend to offer a higher potential for cumulative impacts.

5.2 AFFECTED ENVIRONMENT

Information on past, present, and reasonably foreseeable future projects and their associated anticipated impacts was gathered through a review of available environmental documentation (conducted in August 2013) and in coordination with the USMC. Cumulative project locations are depicted on Figure 5-1 and a summary of cumulative project information and their associated impacts are presented in Table 5-1.

5.2.1 Methodology

5.2.1.1 Geographic Scope of the Cumulative Effects Analysis

For this analysis, a geographic scope, or ROI for each cumulative effects issue was established. The ROI is generally based on the natural boundaries of the resource affected, rather than jurisdictional boundaries. The geographic scope may be different for each cumulative effects issue. The geographic scope of cumulative effects often extends beyond the scope of the direct effects, but not beyond the scope of the direct and indirect effects of the proposed project and alternatives. However, if the proposed project and alternatives are determined to have no direct or indirect effects on a resource, no further cumulative effects analysis is necessary. ROIs are defined in Section 5.3.2 for each resource listed below. Because ROIs vary for different resources, not all of the projects listed in Table 5-1 would be located within the ROIs defined for a particular resource.

5.2.1.2 Time Frame of the Cumulative Effects Analysis

A time frame for each issue related to cumulative effects has been determined. The time frame is defined as the long-term and short-term duration of the effects anticipated. Long-term can be as long as the longest lasting effect. Time frames, like geographic scope, can vary by resource. Each project in a region has its own implementation schedule, which may or may not coincide or overlap with the schedule for implementing the Proposed Action. This is a consideration for short-term impacts from the Proposed Action. However, to be conservative, the cumulative analysis assumes that all projects in the cumulative scenario are built and operating during the operating lifetime of the Proposed Action.

Table 5-1. Cumulative Projects and Associated Anticipated Impacts

Project Number[a] and Name	Project Location	Project Description	Project Status	Notable Potential Project Impacts[b]	Cumulatively Considerable Impact?
(1) CDFW Big Game Guzzlers	CMAGR	Installation of eight wildlife guzzlers.	Implemented in 2009	• Beneficial impacts to big horn sheep and desert mule deer.	No
(2) Chocolate Mountain Solar Farm Extension	Northwest of Niland	Construction of a 49.9-megawatt photovoltaic solar power plant.	Conditional use permit obtained (2013)	• Impacts to burrowing owls and air quality. • Beneficial socioeconomic impacts via increased local employment.	No
(3) SunPeak Solar Park	Northeast of Niland	Construction of a 23-megawatt fixed solar photovoltaic system and substation on a 123-acre (50-hectare) property.	Construction complete (July 2012)	• Impacts to burrowing owls and air quality. • Beneficial socioeconomic impacts via increased local employment. • Beneficial impacts to greenhouse gases (GHG).	No
(4) Infrastructure Improvements at Camp Billy Machen	Near Niland	Utility upgrades, construction of instructional spaces, materials handling and material preparation facilities, and berthing.	Construction planned for 2014	• Impacts to desert tortoise and air quality.	No
(5) West Chocolate Mountains Renewable Energy Project	Near Niland	Evaluated the suitability of geothermal and solar energy development within the West Chocolate Mountains Renewable Energy Evaluation Area.	Project complete (2010)	• Impacts to geological resources, recreation, air quality, and desert tortoise critical habitat. • Beneficial impacts to socioeconomics and GHGs.	No
(6) Desert Renewable Energy Conservation Plan	Mojave and Colorado deserts, CA	Provide binding, long-term endangered species permit assurances while facilitating review and approval of renewable energy projects.	Draft Environmental Impact Report/EIS currently in preparation	• Impacts to desert tortoise critical habitat and cultural resources. • Beneficial impact to socioeconomics and GHGs.	No

Project Number[a] and Name	Project Location	Project Description	Project Status	Notable Potential Project Impacts[b]	Cumulatively Considerable Impact?
(7) CMAGR Geothermal Well Drilling	CMAGR, northwest of Camp Billy Machen	Drill geophysical test holes to investigate hydrothermal potential at three sites.	Project complete (2011)	• Impacts to desert tortoise, ground water, and geologic resources.	No
(8) CMAGR Land Withdrawal Renewal	CMAGR	Bureau of Land Management withdrawn lands within the CMAGR would continue to be withdrawn and reserved for continued military use.	Final Legislative EIS, published in January 2014. Legislation included in the Fiscal Year 2014 National Defense Authorization Act to transfer administrative jurisdiction of BLM-withdrawn lands to the DoN, and realign the CMAGR boundary to exclude the Bradshaw Trail from the CMAGR.	• Military activities would continue to impact desert tortoise critical habitat, water resources, air quality, and cultural resources. • Beneficial impacts to socioeconomics.	No
(9) Range Redesign of SWATs 4 and 5	SWATs 4 & 5	Increase in training and redesign of existing ground training ranges.	Draft EA currently in preparation	• Impacts to desert tortoise critical habitat, airspace, noise, cultural resources, air quality, geological resources, and water resources.	Yes

Notes: [a] Project numbers correspond to project locations presented on Figure 5-1.
[b] See Section 5.3 for a discussion of which resource areas are analyzed at a cumulative level and why.

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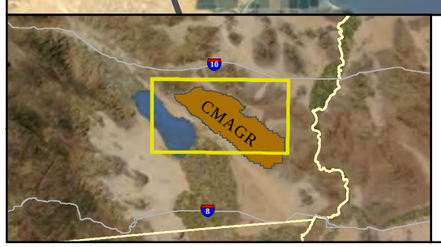

Legend

- # Cumulative Project
- SWAT 4
- SWAT 5
- Bombay Controlled Firing Area
- Niland Controlled Firing Area
- R-2507N/S
- CMAGR Boundary
- Overlapping SWAT 4 and CMAGR Boundaries
- Overlapping SWAT 4 and R-2507N Boundaries
- Overlapping SWAT 5 and R-2507N Boundaries
- County Boundary
- Canal
- Highway
- Road
- Bradshaw Trail

Note: Depicted project locations are approximate.

Figure 5-1
General Location of Cumulative Projects within the Vicinity of the Project Area

0 2 4 Miles
0 2 4 Kilometers

Sources: MCAS Yuma 2012, Navy 2012

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Past actions are projects that have been approved and/or permitted, and that have either very recently completed construction/implementation or have yet to complete construction/be implemented. Present actions are actions that are ongoing at the time of the analysis. Reasonably foreseeable future actions are those for which there are existing decisions, funding, or formal proposals, or which are highly probable based on known opportunities or trends; however, these are limited to within the designated geographic scope and time frame. Reasonably foreseeable future actions are not limited to those that are approved or funded. However, this analysis does not speculate about future actions that are merely possible but not highly probable based on information available at the time of this analysis.

For this cumulative effects analysis, the time frame considered for cumulatively-considerable projects includes projects recently approved or completed that are not yet addressed as part of the existing conditions of the area, projects under construction, and projects that are in the environmental review or planning process and for which enough information is available to discern their potential impacts. Projects for which no or insufficient information is known, or for which substantial uncertainty exists regarding the project are considered speculative and are not evaluated as part of this analysis.

5.3 ENVIRONMENTAL CONSEQUENCES

This section addresses the potential cumulative impacts of the Proposed Action in conjunction with the aforementioned cumulative projects. If a project would not result in direct or indirect impacts on a resource, no further evaluation from a cumulative impact perspective is warranted. CEQ guidance states, "*A cumulative effects analysis should 'count what counts,' not produce superficial analyses or a long laundry list of issues that have little relevance to the effect of the proposed action or the eventual decisions*" (CEQ 1997). Therefore, the cumulative impact analysis focuses on: (1) those resource areas that may be significantly impacted by the project; and/or (2) those resource areas currently in poor or declining health or at risk even if project impacts would be relatively small. Therefore, the resources that meet these criteria are: airspace (Section 4.1), noise (Section 4.3), biological resources (Section 4.4), and environmental justice (Section 4.5).

The resource areas that do not meet these criteria are safety (Section 4.2) and socioeconomics (Section 4.5). Because the Proposed Action would provide a safety benefit, it would not cumulatively contribute to a decrease in safety in the project area. The Proposed Action would also not cumulatively contribute to a decrease in socioeconomic conditions in the project area because any increase in costs associated with the diversions of commercial aircraft would be very minor, and would only likely affect aircraft customers from outside of the ROI, if at all. Therefore, the Proposed Action would not cumulatively contribute to impacts to these resource areas, and are not evaluated further in this section.

5.3.1 Proposed Action

As presented in this EA, implementation of the Proposed Action would result in less than significant impacts to those resource areas analyzed in detail. In addition, there are no resources in poor or declining health impacted by the Proposed Action. Furthermore, there would be no discernible difference in potential impacts between the two action alternatives with respect to the cumulative impact analysis.

Implementation of the Proposed Action would re-route civilian flights around the proposed R-2507W. Any additional costs associated with the re-routing could potentially be passed on to all civilian aircraft passengers using the affected routes. Given the relatively low additional cost associated with re-routing civilian aircraft and the absence of other projects that would result in aircraft re-routing, no significant

cumulative effect would occur. Therefore, the Proposed Action would not contribute to cumulative socioeconomic effects within the project area.

Implementation of the Proposed Action would result in an overall increase in safety in the project area by clearly designating the airspace for military training. Therefore, the Proposed Action would not contribute to a cumulative decrease in safety within the project area. The identified cumulative projects would not result in conditions that may cumulatively increase air-based safety risks to civilians.

As discussed above, the Proposed Action would not result in significant impacts or impact those resources currently in poor or declining health. As presented in Table 5-1, only one identified cumulative project (the proposed SWATs 4 and 5 Range Redesign) has a relationship with Proposed Action, and thus the potential to contribute to the impacts of the Proposed Action on the following resource areas considered: airspace, noise, biological resources, and environmental justice.

5.3.2 Cumulative Impacts

5.3.2.1 Airspace

The ROI for airspace consists of the existing R-2507 complex, the proposed R-2507W, and the surrounding airspace that supports regional military and civilian aviation activities. As presented in the Draft Legislative EIS prepared for the CMAGR Land Withdrawal Renewal, the development of the National Airspace System in the CMAGR operating region began in the 1920s and until the outbreak of World War II was driven principally by the needs of civil aviation. Before the close of the war, military airfields had been constructed throughout the region and the CMAGR had been established (refer to Figure 3.2-1) (Navy 2013).

The close of World War II prompted a sharp reversal in military aviation priorities as most military airfields and ranges in the region were closed and most SUA was cancelled. Beginning in 1951, SUA at the CMAGR was re-established and ranges were reactivated and have remained in effect ever since. The regional airspace system has continued to change, but was developed in response to the legitimate needs of both military and civil airspace users. Although requirements to modify the airspace system continue to emerge, the overall structure of civil and SUA in the CMAGR operating area closely approximated the structure that is currently in effect today (Navy 2013).

The majority of past, present, and reasonably foreseeable future projects in the cumulative effects region would involve improvements at or near the ground surface, and therefore would not contribute toward any cumulative impact to military or civilian airspace management. None of the alternatives considered in the CMAGR Land Withdrawal Renewal EIS would substantially alter the location or function of existing airspace in the ROI.

The only cumulatively considerable project involving an aircraft-related component would be the proposed SWATs 4 and 5 Range Redesign, a separate and distinct project. This proposed distinct action would result in an increase of approximately 1,130 annual sorties above SWATs 4 and 5. In terms of civilian airspace, the proposed increase in SWATs 4 and 5 sorties may result in an incremental increase in the number of civilian aircraft that are re-routed around the proposed R-2507W. However, as discussed in Section 4.1, *Airspace*, such re-routing would not be necessary when the airspace is made available to nonparticipating aircraft pursuant to the joint-use policy. Given this consideration, and the relatively minor course adjustments necessary for civilian aircraft to bypass the proposed R-2507W, no significant cumulative effect would occur.

5.3.2.2 Noise

The ROI for noise consists of the proposed R-2507W and adjacent communities. Several of the cumulatively considerable projects are located near noise-sensitive areas potentially affected by the Proposed Action (e.g., the Chocolate Mountains Solar Farm Extension, Utility Construction and Maintenance, and SunPeak Solar Park). However, these projects would not involve industrial or commercial activities or land uses that would introduce new stationary or mobile sources of operational noise. Although ambient noise levels at noise-sensitive areas may temporarily increase during the construction of these projects, such impacts would be short-term and would likely be minimized through application of Avoidance, Minimization, and Mitigation Measures (e.g., scheduling construction to avoid night or early morning hours) that would be identified in required environmental documentation (i.e., NEPA and/or the California Environmental Quality Act[9] analyses).

One project, the proposed SWATs 4 and 5 Range Redesign, would result in an increase of approximately 1,130 annual sorties above SWATs 4 and 5. As shown in Table 5-3, the cumulative increase in sorties resulting from the proposed SWATs 4 and 5 project, in conjunction with the Proposed Action would not result in a noticeable change to the noise environment at noise-sensitive areas. The greatest change is predicted to be at the Health Spa, where the CNEL would increase by 0.7 dB - a change in sound level below the threshold of human hearing. Moreover, as demonstrated in Table 5-2, the combined noise level at all locations would be below the FAA significance threshold of a 1.5 dB CNEL increase, at or above a noise exposure level of 65 dB CNEL (FAA 2006). Therefore, the Proposed Action is not anticipated to contribute to a cumulative noise impact.

Table 5-2. Baseline, Proposed Action, and Cumulative Predicted CNEL at Noise-sensitive Areas

Noise Sensitive Area[a]	Predicted Noise Levels (dB)				
	Baseline	Proposed Action	Cumulative		
			With SWATs 4 and 5 Range Redesign	Change From Proposed Action	Change From Baseline[b]
Clinic	41.8	42.2	42.2	0	0.4
Elementary School	41.9	42.3	42.3	0	0.4
Health Spa	48.7	49.8	50.5	0.7	1.8
House of Worship 1	42.3	42.7	42.7	0	0.4
House of Worship 2	36.9	37.7	37.7	0	0.8
Informal Community	49.5	50.3	50.3	0	0.8
Library	41.4	41.8	41.8	0	0.4
Residential 1	45.8	47.9	47.9	0	2.1
Residential 2	46.8	48.6	48.6	0	1.8
Residential 3	45.2	46.6	46.6	0	1.4
Residential 4	49.9	49.9	50.0	0.2	0.0
Residential 5	45.4	46.7	46.8	0.1	1.4
Residential 6	47.3	48.9	48.9	0.0	1.6
Salton Sea National Wildlife Refuge	41.4	41.8	41.8	0.0	0.4
Salton Sea State Park	< 35.0	35.0	< 35.0	0.0	0.0

Notes: [a] Refer to Figure 3.4-1 for the locations of the noise-sensitive areas.
[b] Increase in dB, as compared to baseline.

[9] Codified at California Public Resources Code §§ 21000 et seq., the California Environmental Quality Act requires planning analyses to disclose and minimize environmental damage.

5.3.2.3 Biological Resources

The ROI for biological resources includes the combined lands, and associated airspace above those lands, bounded by the contiguous perimeter of the aforementioned past, present, and reasonably foreseeable actions, including the Proposed Action. No impact to terrestrial resources, including the federally-listed Agassiz's desert tortoise would occur with the implementation of the Proposed Action. Therefore, the Proposed Action is not anticipated to contribute to a cumulative impact to desert tortoise. Furthermore, the implementation of the revised desert tortoise recovery plan will resolve key uncertainties about threats and management, thereby improving recovery potential (USFWS 2011a). The cumulative impacts of the Proposed Action and the identified projects in Table 5-1 could affect individual wildlife, but these impacts are not likely to result in impacts to wildlife populations, including the desert tortoise.

The proposed SWATs 4 and 5 Range Redesign and associated increase in training activity would result in an increase of approximately 1,130 annual sorties above SWATs 4 and 5. While the proposed increase in training associated with the proposed SWATs 4 and 5 Range Redesign project would increase military flight operations, and thus the potential for bird/bat-aircraft strikes, this potential would continue to be low. Furthermore, standard bird/bat-strike avoidance measures would continue to be used by military aviators. Therefore, the Proposed Action is not anticipated to contribute to a cumulative impact to biological resources.

5.3.2.4 Environmental Justice

The ROI for environmental justice consists of the proposed R-2507W and portions of census tracts extending westward from SWATs 4 and 5 to the Salton Sea. This cumulative impact analysis focuses on the extent to which other noise impacts may be disproportionately experienced by low-income or minority communities. Only one cumulative project (the proposed SWATs 4 and 5 Range Redesign) would result in an enduring increase in the airspace-based noise environment. The other identified cumulative projects are not expected to result in noise level increases that would be heard disproportionately by low-income or minority communities. Any ground-based noise generated by construction activities would be short-term and localized to the associated project area(s). As depicted in Table 5-2, estimated cumulative aircraft-generated noise levels would be the FAA significance noise threshold of a 1.5 dB CNEL increase at or above a noise exposure level of 65 dB CNEL (FAA 2006). Therefore, no disproportionate impacts to low income or minority populations would occur.

CHAPTER 6
OTHER CONSIDERATIONS

6.1 POSSIBLE CONFLICTS BETWEEN THE PROPOSED ACTION AND THE OBJECTIVES OF FEDERAL, STATE, LOCAL, AND REGIONAL LAND USE PLANS, POLICIES, AND CONTROLS

Implementation of the Proposed Action would comply with all applicable federal, state, and local statutes and regulations (refer to Section 1.6, *Regulatory Setting*), as well as all applicable federal, state, regional, and local policies and programs.

6.2 CLIMATE CHANGE

The *Draft NEPA Guidance on Consideration of the Effects of Climate Change and Greenhouse Gas Emissions* issued by the CEQ on 18 February 2010 recommends incorporating impacts associated with climate change as part of the standard cumulative impact analysis of all NEPA documents. The draft guidance encourages agencies to determine which climate change impacts warrant consideration in their analyses based on both the Proposed Action's potential impact to climate changes and the potential impact a changing climate may have on implementation of the Proposed Action.

The U.S. Environmental Protection Agency (USEPA) developed a "State of Knowledge" website following the 2007 Intergovernmental Panel on Climate Change report. The USEPA affirms that while the contribution is uncertain, human activities are substantially increasing greenhouse gas (GHG) emissions, which, in turn, are contributing to a global warming trend (USEPA 2013). The U.S. Global Change Research Program (USGCRP) was established by President George H. Bush in 1989, and later mandated by Congress as part of the Global Change Research Act of 1990. The USGCRP is a working group coordinating the efforts of 13 different federal agencies, including the U.S. Department of Agriculture, the Department of the Interior, the DoD, and the Department of Energy. The USGCRP releases regular reports presenting the most current scientific consensus of predicted changes associated with global climate change. The 2009 report is the most recent complete report; in 2013, the USGCRP issued a draft update of the 2009 report, Global Climate Change Impacts in the U.S. These reports summarize the science of climate change and the impacts of climate change on the U.S., now and in the future, and is recommended by the CEQ 2010 draft guidance as the primary source for framing climate change discussions.

6.2.1 Predicted Future Conditions

The USGCRP looks to two potential future conditions as part of its predictive modeling process. Under conditions of lower GHG emissions, the average temperature in the southeastern California may increase as much as 2.5°F by 2050, 3.5°F by 2070, and 5.5°F by 2099. Under conditions of higher continuous GHG emissions, the potential increase is greater in the long-term, and may be as much as 7.5°F by 2090. Projected changes in long-term climate predict more frequent extreme events such as heat waves and droughts (USGCRP 2013).

Current simulations predict decreasing precipitation, snowpack, runoff, and soil moisture for the region into the future. Specifically, winter and spring precipitation may decrease between 10 and 20 percent

from currently observed levels. At the same time, extreme heat events are also expected to increase in frequency and magnitude. The temperatures observed during extreme events are projected to increase by 4°F to 10°F, depending on the emissions scenario used for predictive modeling (USGCRP 2013). This change in precipitation and heat would likely alter agricultural and ecosystem conditions.

As temperatures increase in the current century, optimal zones for growing crops will shift. Pests that were historically unable to survive in cooler areas may spread northward. Milder winters and earlier springs also may encourage greater numbers of pest species. Rising carbon dioxide (CO_2) levels in the atmosphere may increase growth of both crop and weeds species. In some areas, water scarcity may reduce or even eliminate certain types of agricultural production. Similarly, changes in temperature and precipitation affect the composition and diversity of native animals and plants through altering their breeding patterns, water and food supply, and habitat availability. In a changing climate, populations of some pests such as red fire ants and rodents, better adapted to a warmer climate, are projected to increase (USGCRP 2013).

6.2.2 Impact of the Proposed Action on Climate Change

6.2.2.1 Greenhouse Gas Contribution

GHGs are gases that trap heat in the atmosphere by absorbing infrared radiation. The most common GHGs emitted from natural processes and human activities include CO_2, methane (CH_4), and nitrous oxide (N_2O). Each GHG is assigned a global warming potential (GWP). The GWP is the ability of a gas or aerosol to trap heat in the atmosphere. The GWP rating system is standardized to CO_2, which has a value of one. For example, CH_4 has a GWP of 21, which means that CH_4 has a global warming effect 21 times greater than CO_2 on an equal-mass basis (Intergovernmental Panel on Climate Change 2007). To simplify GHG analyses, total GHG emissions from a source are often expressed as a CO_2 equivalent (CO_2e). The CO_2e is calculated by multiplying the emissions of each GHG by its GWP and adding the results together to produce a single, combined emission rate representing all GHGs. While CH_4 and N_2O have much higher GWPs than CO_2, because CO_2 is emitted in such higher quantities, CO_2 represents the overwhelming contributor to CO_2e from both natural processes and human activities.

With regard to GHGs, federal agencies on a national scale address emissions of GHGs by reporting and meeting reductions mandated in federal laws, EOs, and agency policies. The most recent of these are EOs 13423 and 13514 and the *USEPA Final Mandatory Reporting of Greenhouse Gases Rule*. Several states have promulgated laws as a means of reducing statewide levels of GHG emissions. In particular, the California Global Warming Solutions Act of 2006 (Assembly Bill 32) directs the State of California to reduce statewide GHG emissions to 1990 levels by the year 2020. Groups of states also have formed regionally based collectives (such as the Western Climate Initiative) to jointly address GHG pollutants.

For both Alternatives 1 and 2, nonparticipating aircraft would be required to avoid the proposed R-2507W. This would result in slightly longer flight times and therefore increased air emissions. However, an appreciable impact on global climate change would only occur when proposed GHG emissions combine with GHG emissions from other human-made activities on a global scale. The potential effects of proposed GHG emissions are by nature global and cumulative impacts, as individual sources of GHG emissions are not large enough to have an appreciable effect on climate change. Therefore, cumulative impacts to global climate change from implementation of either alternative would be less than significant.

6.3 ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL OF ALTERNATIVES INCLUDING THE PROPOSED ACTION AND ALL MITIGATION MEASURES BEING CONSIDERED

As explained in preceding sections, Alternative 2 would result in a lesser impact to civilian and commercial aircraft routes as compared to Alternative 1, thus realizing a greater energy conservation potential as compared to Alternative 1. As no construction would occur under Alternative 2, established Federal Energy Act compliance criteria for design, development, and construction would not apply.

6.4 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF NATURAL OR FINITE RESOURCES

Resources that are irreversibly or irretrievably committed to a project are those used on a long-term or permanent basis. This includes the use of non-renewable resources such as metal and fuel, and other natural or cultural resources. These resources are "irretrievable" when used for one project when another action could have used them for another purpose. Human labor is also an irretrievable resource. Another impact that falls under this category is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment.

As this Proposed Action is entirely airspace based with no increase to existing CMAGR ground- or aircraft-based training operations, there would be a negligible increase in the amount of irreversible or irretrievable resources used. No construction would occur, thus, there would be no consumption of materials typically associated with construction (e.g., metal, fuel, concrete) or irreversible loss of energy.

6.5 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF THE HUMAN ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM NATURAL RESOURCE PRODUCTIVITY

NEPA requires an analysis of the relationship between a project's short-term impacts on the environment and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. This refers to the possibility that choosing one development option reduces future flexibility in pursuing other options, or that designate a parcel of land or other resource to a certain use often eliminates the possibility of other uses at that site.

The Proposed Action is entirely airspace-based; no changes to existing ground-based training within the CMAGR would occur. In addition, there would be no change in existing training activities. Thus, the Proposed Action would not result in any impacts that would reduce environmental productivity, permanently narrow the range of beneficial uses of the environment, or pose long-term risks to health, safety, or the welfare of the public.

6.6 MEANS TO MITIGATE AND/OR MONITOR ADVERSE ENVIRONMENTAL IMPACTS

No measures have been identified to mitigate and/or monitor adverse environmental impacts as none are anticipated.

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CHAPTER 7
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CHAPTER 8
LIST OF PREPARERS

This EA was prepared under the direction of NAVFAC SW by Cardno TEC and Cardno TEC subcontractor ATAC. Members of the professional staff include:

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M.S., Environmental Science and Management

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B.S., M.S., Operations Research

CHAPTER 9
AGENCIES AND PERSONS CONTACTED

Appendix A contains relevant correspondence conducted as part of this EA. Agencies and personnel contacted in the course of preparing this EA are as follows:

State and Federal Agencies

FAA

Tribal Governments

Aqua Caliente Band of Cahuilla Indians

Ak-Chin Indian Community

Augustine Band of Cahuilla Mission Indians

Barona Band of Mission Indians

Cabazon Band of Mission Indians

Cahuilla Band of Mission Indians

Campo Kumeyaay Nation

Chemehuevi Indian Tribe

Cocopah Indian Tribe

Colorado River Indian Tribes

Ewiiaapaayp Tribal Office

Fort Mojave Indian Tribe

Gila River Indian Community

Inaja Band of Mission Indians

Jamul Band of Mission Indians

Kumeyaay Cultural Historic Committee

Kwaaymii Laguna Band of Mission Indians

La Posta Band of Mission Indians

Los Coyotes Band of Cahuilla and Cupeno Indians

Manzanita Band of Mission Indians

Mesa Grande Band of Mission Indians

Morongo Band of Mission Indians

Quechan Indian Tribe

Ramona Band of Cahuilla Mission Indians

Salt River Pima-Maricopa Indian Community

San Manuel Band of Mission Indians

San Pasqual Band of Mission Indians

Santa Rosa Band of Cahuilla Mission Indians

Santa Ysabel Band of Diegueno Indians

Sycuan Band of Mission Indians

Tohono O'Odham Nation

Torres-Martinez Desert Cahuilla Indians

Twenty Nine Palms Band of Mission Indians

Viejas Band of Mission Indians

APPENDIX A

Correspondence

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UNITED STATES MARINE CORPS
MARINE CORPS AIR STATION YUMA
BOX 99100
YUMA, ARIZONA 85369-9100

19 Jun 12

Ms. Elizabeth L. Ray
Federal Aviation Administration
800 Independence Avenue, SW
Washington, DC 20591

Dear Ms. Ray:

The U.S. Marine Corps (USMC) is initiating the preparation of an Environmental Assessment (EA) for the proposed establishment of Restricted Airspace near the western boundary of the R-2507N currently defined as the Niland and Bombay Controlled Firing Areas (CFAs). These CFA's are located in the Chocolate Mountain Aerial Gunnery Range, Imperial and Riverside Counties, California. This Special Use Airspace (SUA) proposal is designed to de-conflict Department of Defense and non-participating civilian air traffic from hazards associated with live fire military training.

The Marine Corps requests FAA's formal participation as a cooperating agency in the preparation of the R-2507W SUA EA, as prescribed in the Council on Environmental Quality regulations for implementing the National Environmental Policy Act (NEPA), Title 40 Code of Federal Regulations 1501.6, Cooperating Agencies. The USMC is requesting FAA participation in the NEPA process as required by law (FAA jurisdiction) and your special expertise applicable in this EA.

As the lead agency, USMC will prepare R-2507W EA, via the following tasks:

- Gathering all necessary background information supporting the EA
- Identifying the scope of the EA, including the alternatives evaluated
- Working with FAA to evaluate potential impacts of alternative means of managing the R-2507-W resources
- Circulating the EA to the general public and any other interested parties
- Scheduling and supervising meetings held in support of the NEPA process and compiling any comments received
- Maintaining an administrative record for the EA.

As a cooperating agency, the USMC requests the following FAA support:

- Providing timely comments throughout the EA process, to include making staff support available to enhance EA interdisciplinary analysis and review
- Providing timely response to USMC requests for information
- Participating, as necessary, in meetings hosted by the USMC
- Developing information and the analysis of subjects germane to FAA expertise

We look forward to forging a solid partnership with the FAA to produce a mutually beneficial EA. Should you or your staff have any questions regarding this request, please contact Lieutenant Colonel Richard Callahan 760-763-6403 or Major Michael McCoy 928-269-9472.

C. K. CARROLL
LtCol, U.S. Marine Corps
Commanding Officer
Acting

U.S. Department
of Transportation
**Federal Aviation
Administration**

AUG 2 0 2012

Lt. Col. C. K. Carroll
Commanding Officer, Acting
Marine Corps Air Station Yuma
Box 99100
Yuma, AZ 85368-9100

Dear Colonel Carroll:

Thank you for your letter requesting the Federal Aviation Administration (FAA) participate as a cooperating agency in the environmental assessment (EA) to study the environmental effects of expanding the restricted airspace of the Niland and Bombay Controlled Firing Areas.

Since the proposal involves special use airspace (SUA), the FAA will cooperate following the guidelines described in the Memorandum of Understanding (MOU) between the FAA and the Department of Defense Concerning SUA Environmental Actions, dated October 4, 2005, and in accordance with 40 CFR § 1501.6, NEPA regulations regarding cooperating agencies.

Modification of SUA resides under the jurisdiction of the Western Service Center, Operations Support Group, 1601 Lind Ave. SW, Renton, Washington. The Western Service Center will be the primary focal point for matters related to both airspace and environmental matters. Mr. John Warner is the Manager of the Operations Support Group. FAA Order 7400.2, Procedures for Handling Airspace Matters, Chapter 32, indicates the airspace and environmental processes should be conducted in tandem as much as possible; however, they are separate processes. Approval of either the aeronautical process or the environmental process does not automatically indicate approval of the entire proposal. I have enclosed Appendix 2, 3, and 4 of FAA Order 7400.2 for additional details.

A copy of the incoming correspondence and this response is being forwarded to Mr. Warner of the Western Service Center, Operations Support Group. Mr. Warner can be contacted at 425-203-4500 for further processing of your proposal.

Sincerely,

Dennis E. Roberts
Director, Airspace Services
Air Traffic Organization

3 Enclosures

UNITED STATES MARINE CORPS
MARINE CORPS AIR STATION YUMA
BOX 99100
YUMA, ARIZONA 85369-9100

5090
YRMD
May 16, 2013

Mr. Edward Smith
Chairman
Chemehuevi Indian Tribe
P.O. Box 1976
Havasu Lake, California 92363

SUBJECT: Initiation of Consultation for:
(A) Range Reconfiguration Project within Special Warfare Training Area (SWAT) Ranges 4 and 5 at the Chocolate Mountain Aerial Gunnery Range, Imperial and Riverside Counties, California and
(B) Establishment of Restricted Airspace in Support of Ground Training at the Chocolate Mountain Aerial Gunnery Range, Imperial and Riverside Counties, California

Dear Chairman Smith:

Under the National Historic Preservation Act (NHPA) Section 106, as codified in Title 36, Code of Federal Regulations Part 800 (36 CFR 800) Marine Corps Air Station (MCAS) Yuma is initiating consultation for a proposed undertaking, proposed action (A), located on lands within the Chocolate Mountain Aerial Gunnery Range (CMAGR) in Imperial and Riverside Counties, California. Marine Corps Air Station (MCAS) Yuma serves as the Federal manager for the CMAGR. In addition, MCAS Yuma would like to inform you of another proposed project, proposed action (B), which is not a Section 106 undertaking but might be of interest to our neighbors.

Proposed action (A) would involve the reconfiguration of range areas within SWAT Ranges 4 and 5 and include earth movement and construction of new range structures as well as the relocation of some range access roads. The project area is approximately 17,900 acres and is located in Township (T)8S/Range (R)13E/Sections 3-8,18,19, 28-34; T8S/R12E/Sections 1, 2, 9-16, 21-28, 34-36; T7S/R12E/Section 36; T7S/R13E/Sections 13,14, 21-29, 31-36; T7S/R14E/Sections 19, 30 of Riverside County and T9S/R12E/Sections 1,2,12; T9S/R13E/Sections 1-18, 20-27, 35, 36; T9S/R14E/Sections 7, 17-20, 28-34; T10S/R13E/Section 1; T10S/R14E/Sections 1-6, 8-16, 22-24, 25, 26; T10S/R15E/Sections 18,19 of Imperial County (Enclosures 1 and 2). The project lies entirely within the CMAGR.

Pursuant to 36 CFR § 800.4(b)(1), MCAS Yuma is in the process of making a reasonable and good faith effort to carry out appropriate identification efforts for historic properties in the vicinity of the proposed undertaking that may be affected by the proposed reconfiguration of existing ranges in SWAT Ranges 4 and 5 at CMAGR (Enclosures 1 and 2). The United States Marine Corps (USMC) requests your assistance in identifying places and/or practices that have traditional, religious, or cultural importance that you think could be affected by the proposed projects. We appreciate your input on this important matter and if you wish, arrangements can be made to visit the project area. As depicted in Enclosures 1 and 2, portions of the area of potential effect (APE) have been previously surveyed. Those areas of the APE that have not been surveyed within the last ten years, are within slopes less than 30 percent, and are located outside critical habitat for desert tortoise have been subjected to a recent 100 percent cultural resources survey. The results

of the survey may be mailed to your office when completed, upon your request. We anticipate this to be approximately mid-June, 2013.

Proposed action (B) would involve the establishment of Restricted Airspace above the western and northwestern portions of the CMAGR to support USMC and Naval Aviation and ground training requirements. The Federal Aviation Administration (FAA) is a Cooperating Agency on this proposal. The proposed Restricted Airspace, called R-2507W, would be located adjacent to the existing R-2507N and R-2507S, and would extend from the surface to 40,000 feet above ground level. R-2507W would encompass the majority of the existing Niland and Bombay Controlled Firing Areas (CFAs) (see Enclosure 3). Restricted Airspace is essentially an identified area in which the flight of aircraft, while not wholly prohibited, is subject to restrictions. No physical improvements, surface vehicle movement, or other ground-disturbing activity is proposed. If approved, the FAA would publish the Restricted Airspace area in the Federal Register and depict it on aeronautical charts.

As presented in Enclosure 3, the restricted airspace would cover approximately 48,000 acres in Township (T)7S/Range (R)12E/Sections 31-36; T7S/R13E/Sections 21-35; T7S/R14E/Section 19; T8S/R12E/Sections 1-6, 8-17, 21-27, 35-36; T8S/R13E/Sections 4-8, 19, 29-34; T9S/R12E/Sections 1-2, 12; T9S/R13E/Sections 2-18, 20-27, 35-36; T9S/R14E/Sections 18-19, 30-32; T10S/R14E/Sections 3-6, 8-11, 13-16, 22-26, 36; T10S/R15E/Sections 18-20; 28-34; T11S/R15E/Sections 2-5, 9-11 of Imperial and Riverside Counties.

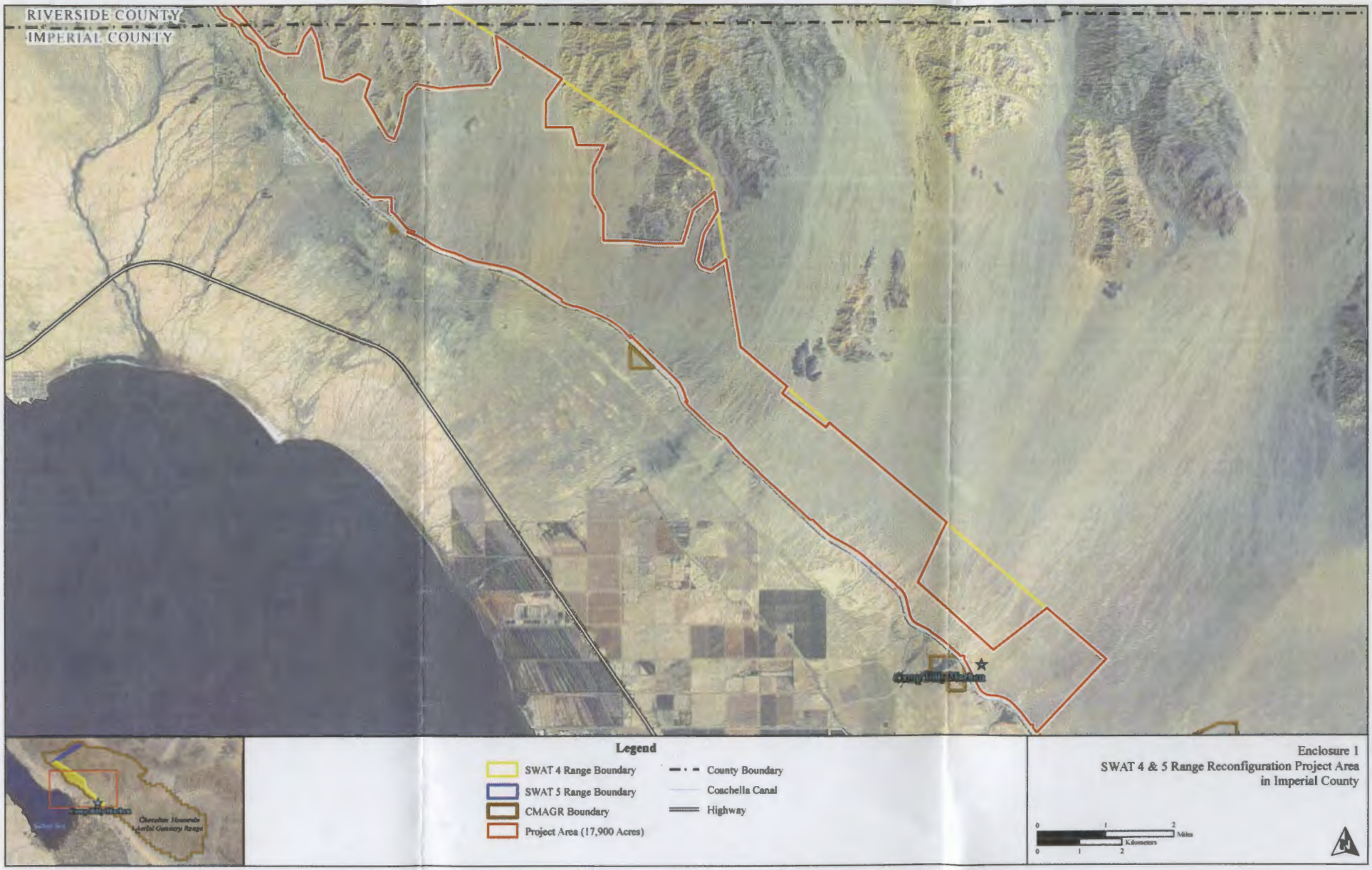
The USMC will be preparing Environmental Assessments for each proposed action, pursuant to the National Environmental Policy Act (NEPA), to assess the potential environmental effects of each project. The EA schedules have yet to be finalized; however, a draft EA for Proposed action (A) is anticipated to be available this fall. Meetings for discussing the alternatives and potential impacts for the Environmental Assessment will also be scheduled. Once the dates have been firmed up, an invitation will be sent to your office indicating the times and locations selected should you choose to participate in NEPA consultation. All comments received, and any specific issues expressed to the USMC, will be taken into consideration while planning for this undertaking.

The USMC respectfully requests your participation in the Section 106 and NEPA consultation for these proposed actions. Karla James, MCAS Yuma Archaeologist, will call you to follow up, answer any questions, and inquire if you would like a copy of the report. If you have any comments concerning properties of traditional, religious, and cultural significance in the vicinity of the APE or questions regarding consultation on this proposed project prior to her call, please contact Karla James, Archaeologist for MCAS Yuma, at (928) 269-2288; karla.james@usmc.mil.

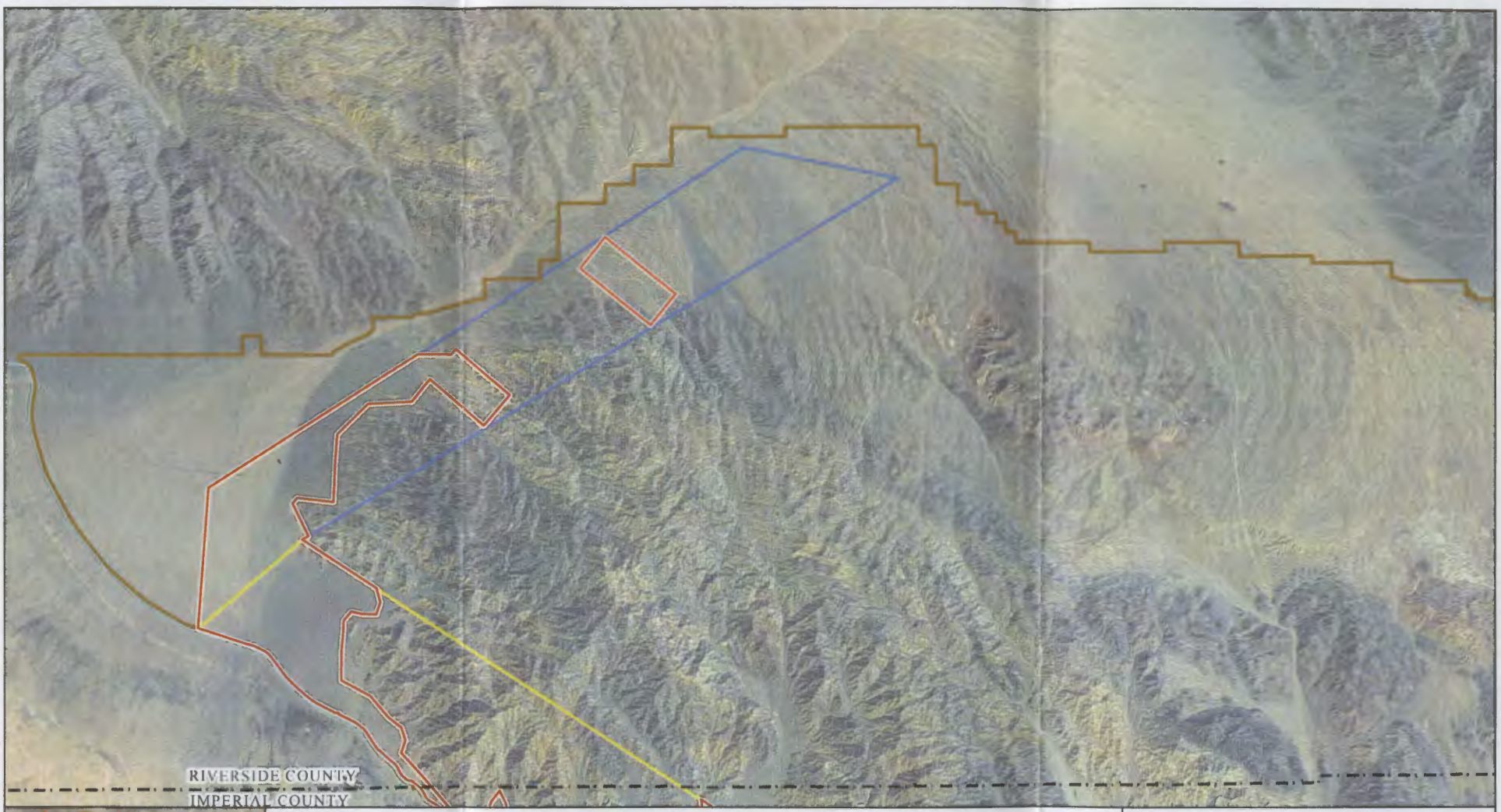
Respectfully,

R. L. PEARCE
MCAS Yuma Range Management Director
By direction of the Commanding Officer

Enclosures: 1. SWAT 4 & 5 Range Reconfiguration Project Area in Imperial County
2. SWAT 4 & 5 Range Reconfiguration Project Area in Riverside County
3. Proposed Restricted Airspace



Enclosure 1
SWAT 4 & 5 Range Reconfiguration Project Area
in Imperial County

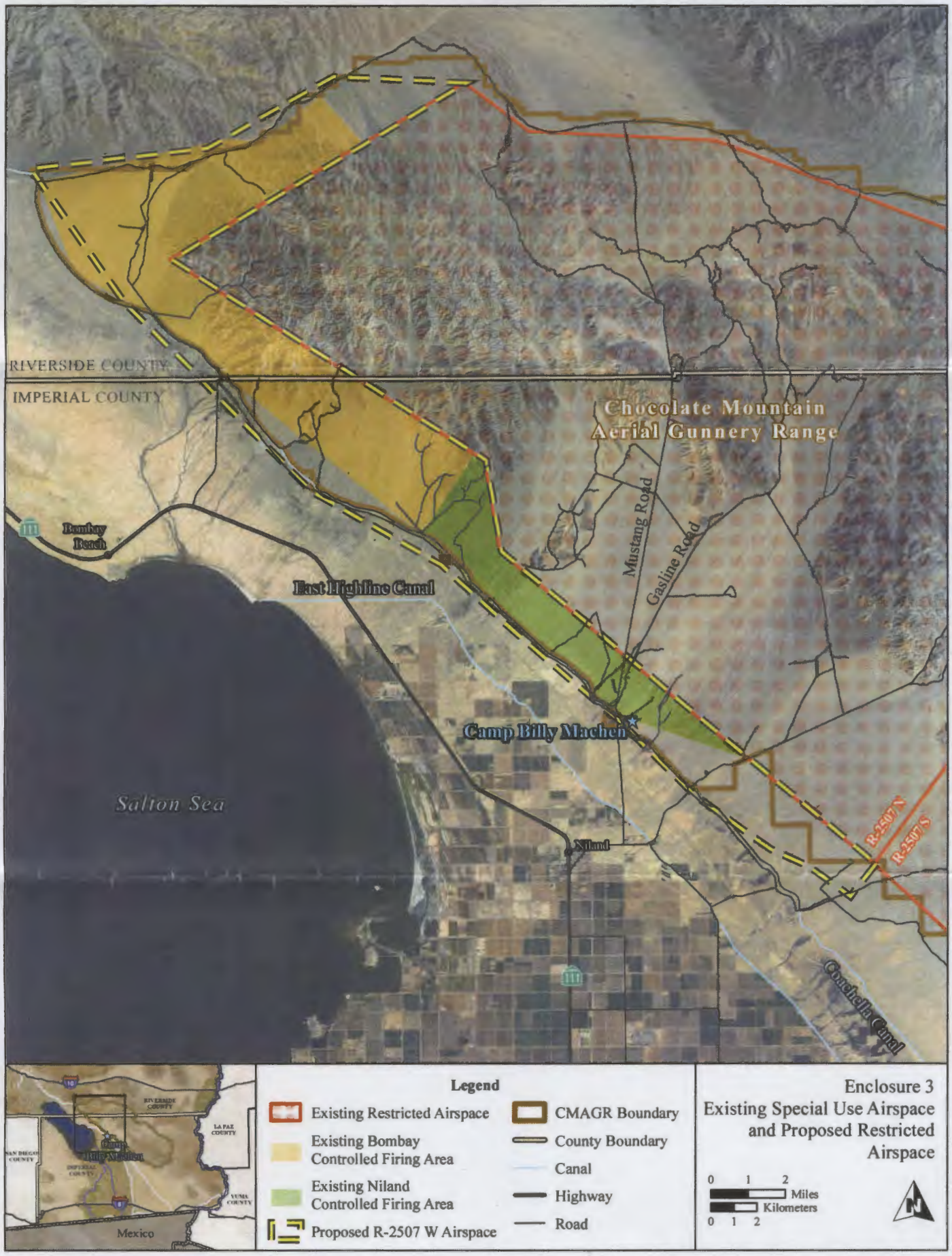


Legend

- SWAT 4 Range Boundary
- SWAT 5 Range Boundary
- CMAGR Boundary
- Project Area (17,900 Acres)
- County Boundary
- Coachella Canal
- Highway

Enclosure 2
SWAT 4 & 5 Range Reconfiguration Project Area
in Riverside County

0 1 2 Miles
0 1 2 Kilometers



Enclosure 3
Existing Special Use Airspace and Proposed Restricted Airspace

Title	First Name	Last Name	Suffix	Salutation	Job Title	Company	Address1	City	State	Postal Code
Mr.	Edward	Smith		Chairman	Chairman	Chemehuevi Indian Tribe	P.O. Box 1976	Havasu Lake	Californi	92363
Mr.	Ronald	Escobar		Mr.	Secretary Treasurer	Chemehuevi Indian Tribe	P.O. Box 1976	Havasu Lake	Californi	92363
Mr.	Wayne	Patch		Chairman	Chairman	Colorado River Indian Tribes	26600 Mohave Road	Parker	Arizona	85344
Ms.	Wilene	Fisher-Holt		Ms.	Director, Colorado River Indian Tribes	Colorado River Indian Tribes	26600 Mohave Road	Parker	Arizona	85344
Mr.	Darrell	Mike		Chairman	Chairman	Twenty Nine Palms Band of Mission Indians	46-200 Harrison Place	Coachella	California	92236
Mr.	William J.	Contreras		Mr.	Cultural Resources Coordinator	Torres-Martinez Desert Cahuilla Indians	P.O. Box 1160	Thermal	California	92274
Mr.	Richard	Milanovich		Chairman	Chairman	Agua Caliente Band of Cahuilla Indians	5401 Dinah Shore Drive	Palm Springs	California	92264
Mr.	Richard	Begay		Mr.	THPO	Agua Caliente Band of Cahuilla Indians	5401 Dinah Shore Drive	Palm Springs	California	92264
Mr.	Anthony	Madrigal		Chairman	Interim Chairman	Cahuilla Band of Mission Indians	P.O. Box 391760	Anza	California	92539
Ms.	Maryann	Martin		Chairwoman	Chairwoman	Augustine Band of Cahuilla Mission Indians	P.O. Box 846	Coachella	California	92236
Ms.	Karen	Kupcha		Ms.	Tribal Administrator	Augustine Band of Cahuilla Mission Indians	P.O. Box 846	Coachella	California	92236
Mr.	John	James		Chairman	Chairman	Cabazon Band of Mission Indians	84-245 Indio Springs Parkway	Indio	California	92203
Ms.	Judy	Stapp		Ms.	Director of Cultural Affairs	Cabazon Band of Mission Indians	84-245 Indio Springs Parkway	Indio	California	92203
Mr.	Robert	Martin		Chairman	Chairman	Morongo Band of Mission Indians	11581 Potrero Road	Banning	California	92220
Mr.	Joseph	Hamilton		Mr.	Representative	Ramona Band of Cahuilla Mission Indians	P.O. Box 39137	Anza	California	92539
Mr.	Anthony	Largo		Chairman	Chairman	Santa Rosa Band of Cahuilla Mission Indians	325 N. Western Avenue	Hemet	California	92543
Mr.	Paul	Cuero	, Jr.	Mr.	Vice-Chairman	Campo Kumeyaay Nation	36190 Church Road, Suite 5	Campo	California	91906
Mr.	Ron	Christman		Mr.		Kumeyaay Cultural Historic Committee	56 Viejas Grande Road	Alpine	California	92001
Ms.	Rhonda	Welch-Scalso		Chairwoman	Chairwoman	Barona Band of Mission Indians	1095 Barona Road	Lakeside	California	92040
Mr.	Harlan	Pinto	, Sr.	Chairman	Chairman	Ewiiaapaayp Tribal Office	P.O. Box 2250	Alpine	California	91903
Ms.	Rebecca	Osuna		Ms.	Spokesperson	Inaja Band of Mission Indians	309 S. Maple Street	Escondido	California	92025
Mr.	Leon	Acevedo		Chairman	Chairman	Jamul Band of Mission Indians	P.O. Box 612	Jamul	California	91935
Ms.	Carmen	Lucas		Ms.		Kwaaymii Laguna Band of Mission Indians	P.O. Box 775	Pine Valley	California	91962
Ms.	Gwendolyn	Parada		Chairwoman	Chairwoman	La Posta Band of Mission Indians	P.O. Box 1120	Boulevard	California	91905
Ms.	Catherine Siva	Saubel		Chairperson	Chairperson	Los Coyotes Band of Cahuilla and Cupeño Indians	P.O. Box 100	Warner Springs	California	92086
Mr.	Leroy J.	Elliott		Chairman	Chairman	Manzanita Band of Mission Indians	P.O. Box 1302	Boulevard	California	91905
Mr.	Mike	Linton		Chairman	Chairman	Mesa Grande Band of Mission Indians	P.O. Box 270	Santa Ysabel	California	92070
Mr.	Allen E.	Lawson		Chairman	Chairman	San Pasqual Band of Mission Indians	P.O. Box 365	Valley Center	California	92080
Mr.	Anthony R.	Pico		Chairperson	Chairperson	Viejas Band of Mission Indians	P.O. Box 908	Alpine	California	91903
Mr.	Johnny	Hernandez		Mr.	Spokesman	Santa Ysabel Band of Diegueno Indians	P.O. Box 130	Santa Ysabel	California	92070
Mr.	Danny	Tucker		Chairman	Chairman	Sycuan Band of Mission Indians	5459 Dehesa Road	El Cajon	California	92021
Mr.	Timothy	Williams		Chairman	Chairman	Fort Mojave Indian Tribe	500 Merriman Avenue	Needles	California	92363
Ms.	Linda	Otero		Ms.	Director, AhaMaKav Cultural Society	Fort Mojave Indian Tribe	P.O. Box 5990	Mohave Valley	Arizona	86440
Mr.	Keeny	Escalanti	, Sr.	President	President	Quechan Indian Tribe	P.O. Box 1899	Yuma	Arizona	85366
Ms.	Arlene	Kingery		Ms.	Historic Preservation Officer	Quechan Indian Tribe	P.O. Box 1899	Yuma	Arizona	85366
Ms.	Sherry	Cordova		Chairwoman	Chairwoman	Cocopah Indian Tribe	14515 S Veterans Dr.	Somerton	Arizona	85350
Ms.	Jill	McCormick		Ms.	Cultural Resources Manager	Cocopah Indian Tribe	14515 S Veterans Dr.	Somerton	Arizona	85350
Mr.	Deron	Marquez		Chairman	Chairman	San Manuel Band of Mission Indians	26569 Community Center Drive	Highland	California	92346
Mr.	Ned	Norris	, Jr.	Chairman	Chairman	Tohono O'Odham Nation	P.O. Box 837	Sells	Arizona	85634
Mr.	Peter	Steere		Mr.	Tribal Historic Preservation Officer	Tohono O'Odham Nation	P.O. Box 837	Sells	Arizona	85634
Mr.	Louis J.	Manuel	, Jr.	Chairman	Chairman	Ak-Chin Indian Community	42507 W. Peters and Nall Road	Maricopa	Arizona	85138
Ms.	Caroline	Antone		Ms.	Cultural Resources Manager	Ak-Chin Indian Community	42507 W. Peters and Nall Road	Maricopa	Arizona	85138
Mr.	Gregory	Mendoza		Governor	Governor	Gila River Indian Community	P.O. Box 97	Sacaton	Arizona	85247
Mr.	Barnaby V.	Lewis		Mr.	Tribal Historic Preservation Officer	Gila River Indian Community	P.O. Box 2140	Sacaton	Arizona	85247
Ms.	Diane	Enos		Chairwoman	Chairwoman	Salt River Pima-Maricopa Indian Community	10005 East Osborn Road	Scottsdale	Arizona	85256
Mr.	Kelly	Washington		Mr.	Cultural Resources Department Director	Salt River Pima-Maricopa Indian Community	10005 East Osborn Road	Scottsdale	Arizona	85256

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APPENDIX B

SUA Legal Description for Alternative 2

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SPECIAL USE AIRSPACE LEGAL DESCRIPTION

R-2507W Chocolate Mountains West, CA

Boundaries	Beginning at lat. 33°14'00"N., long. 115°22'33"W.; to lat. 33°13'14"N., long. 115°23'17"W.; to lat. 33°13'58"N., long. 115°24'26"W.; to lat. 33°14'22"N., long. 115°25'29"W.; to lat. 33°15'40"N., long. 115°27'36"W.; to lat. 33°17'28"N., long. 115°29'42"W.; to lat. 33°19'17"N., long. 115°32'13"W.; to lat. 33°21'11"N., long. 115°34'39"W.; to lat. 33°22'58"N., long. 115°38'19"W.; to lat. 33°27'26"N., long. 115°43'30"W.; to lat. 33°29'25.41"N., long. 115°45'08.48"W.; to lat. 33°31'09"N., long. 115°41'12"W.; to lat. 33°32'50"N., long. 115°37'37"W.; to lat. 33°32'40"N., long. 115°33'53"W.; to lat. 33°28'30"N., long. 115°42'13"W.; to lat. 33°23'40"N., long. 115°33'23"W.; to lat. 33°21'30"N., long. 115°32'58"W.; to the point of beginning.
Designated altitudes	Surface to Flight Level (FL) 400.
Time of designation	R-2507W will be activated on a continuous basis. Direct fire weapons will be used in this area no less than 300 days per year, 6-24 hours per day. All safety measures will be in place at all times during range use. Activation of proposed R-2507W Low Sector will be for those periods when live fire includes weapons with vertical hazard values that could be of danger to transiting aircraft. A minimum of forty percent use of the planned live fire ranges will occur during hours of darkness (2200 – 0700). UASs will be operated at altitudes up to 5000 feet Above Ground Level (AGL) in conjunction with both day and night training evolutions.
Controlling agency	FAA, Los Angeles ARTCC.
Using agency	U.S. Marine Corps, Commanding Officer, MCAS Yuma, AZ.

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