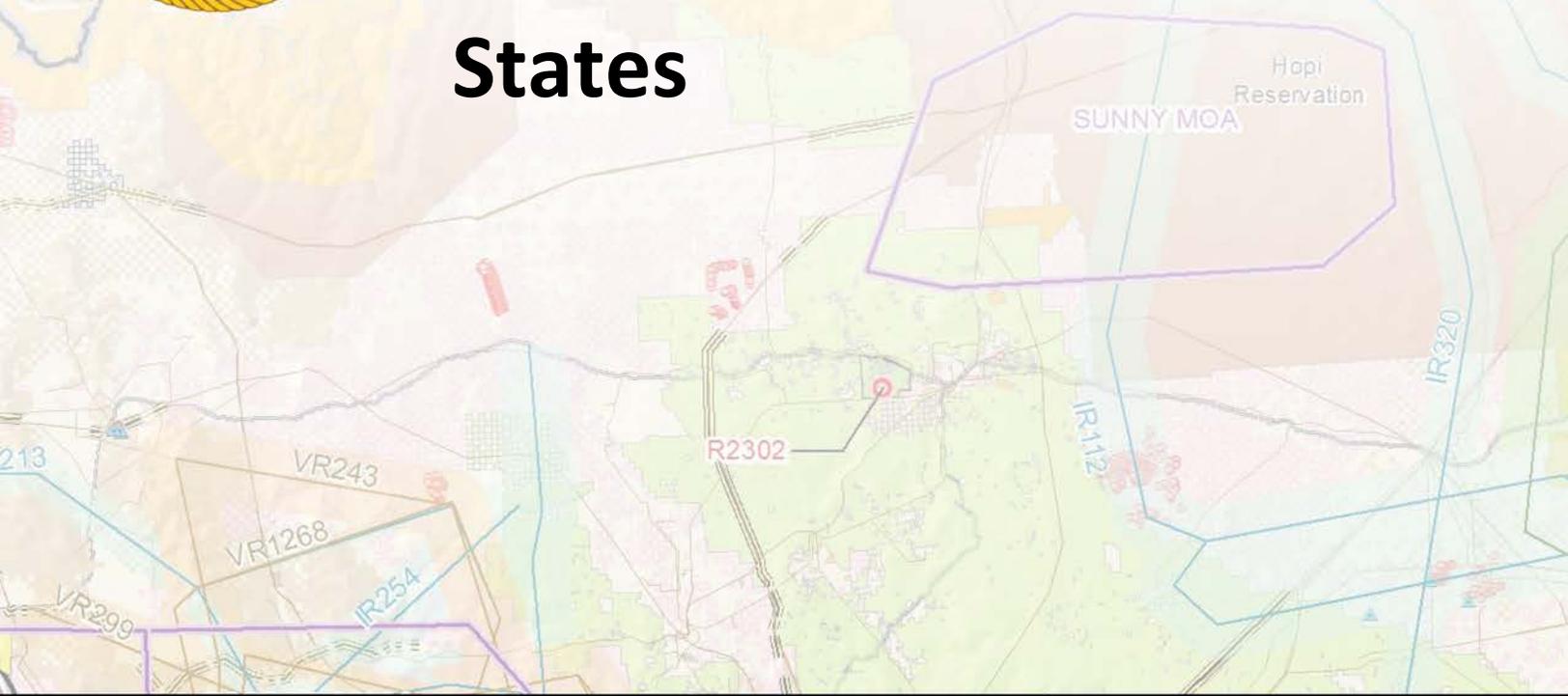




# Marine Corps Ranges of the Western United States



June 2013



# Marine Corps Ranges of the Western United States



Training ranges at Marine Corps installations in the Western United States account for a vast majority of the ranges in the Marine Corps' entire inventory. Marine Corps ranges in the Western United States are either under the command of *Marine Corps Installation West-Marine Corps Base Camp Pendleton* or *Marine Corps Training and Education Command*, as depicted above and to the right.

## Foreword

The core mission of Marine Corps Installations West-Marine Corps Base (MCIWEST-MCB) Camp Pendleton is to provide the ranges, training areas, airspace, and sea space required to train Marines and Marine Air Ground Task Forces (MAGTFs) across the spectrum of conflict. Our range complexes are truly strategic assets. Since 2001, nearly every Marine and Marine Corps unit deployed to a theater of combat operations has executed training on installations within the MCIWEST-MCB Camp Pendleton Area of Operations (AO). Throughout this long period of conflict, we have met the challenges of supporting the training demands of the deploying warfighter with increasingly capable ranges.



As we look to the future, our task is to prepare now for tomorrow's challenges. Foremost among these is the requirement to ensure that our range complexes support the readiness of the MAGTF to engage in multiple operational environments, against a wide range of potential adversaries, using the full capabilities of new generations of weapons and platforms. The correlation between realistic training and combat readiness is absolute; however, the capability of our ranges to provide required training environments is continuously challenged by external encroachment as well as internal resource limitations.

To meet the task of preparing for tomorrow's challenges, a plan has been established that provides MCIWEST-MCB Camp Pendleton leaders direction for the management of the Marine Corps' robust range capabilities in the Western United States, while continuously coordinating with other Department of Defense (DoD) Services and government agencies that are responsible for the management of lands that provide opportunities for military training. The product of this framework is the MCIWEST-MCB Camp Pendleton Regional Range Complex Management Plan (RCMP).

The purpose of this brochure is to address three major points about the vast training capabilities the Marine Corps possesses in the West and their importance. First, the breadth of Marine Corps ranges and training capabilities within the MCIWEST-MCB Camp Pendleton AO are summarized. Second, the strategic vision is conveyed along with

commander's intent and commander's planning guidance for ranges and range capabilities. And third, the primary elements of the MCIWEST-MCB Camp Pendleton Regional RCMP are summarized for informational purposes.

The end state of the MCIWEST-MCB Camp Pendleton Regional RCMP is a framework to accomplish the following objectives of regional range management:

- Optimize the efficient functioning of MCIWEST-MCB Camp Pendleton as an integrated system of ranges;
- Maximize the capabilities of the MCIWEST-MCB Camp Pendleton system of ranges through investments in range sustainment, modernization, management, and control that address regionally significant training requirements;
- Support installation-level encroachment control initiatives, and execute encroachment control measures on issues of regional concern;
- Identify future requirements for ranges and airspace, and determine land, sea space and airspace shortfalls of the existing range inventory in the MCIWEST-MCB Camp Pendleton AO;
- Increase cross-Service utilization of ranges and airspace located within the MCIWEST-MCB Camp Pendleton AO, focused primarily on opportunities for Marine Corps training on other-Service bases in California, Nevada, and Arizona; and
- Engage other federal, and state and tribal, land management agencies regarding access to their lands for use in Marine Corps training.

These are critical tasks. The application of a Regional RCMP will guide all leaders, managers, and planners throughout MCIWEST-MCB Camp Pendleton and must make certain that we remain focused on ensuring that our range facilities are continuously ready to support the full spectrum of training as our Marines prepare to fight and win the next battle.

Semper Fidelis,



Vincent A. Coglianesse  
Brigadier General  
Commanding General

# I. Marine Corps Ranges and Training Areas in the Western United States

A majority of the Marine Corps' ranges and training areas are located within the Western United States. In California and Arizona there are seven Marine Corps installations that support the readiness of operating forces with extensive ranges and training areas. Five of the seven Marine Corps installations within the Western United States are managed and operate under the Commanding General of Marine Corps Installations West-Marine Corps Camp Pendleton. These installations are:

- MCIWEST-MCB Camp Pendleton
- Marine Corps Air Station (MCAS) Camp Pendleton
- MCAS Miramar
- MCAS Yuma
- Marine Corps Logistics Base (MCLB) Barstow

Two additional Marine Corps installations in California are managed and operated under

the Commanding General of the Marine Corps Training and Education Command (TECOM) are:

- Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms
- Marine Corps Mountain Warfare Training Center (MCMWTC) Bridgeport

Also located in California is Marine Corps Recruit Depot (MCRD) San Diego. It is not included in this brochure or discussed because all field training is conducted at Camp Pendleton and no training requirements external to Camp Pendleton are generated from the Recruit Depot.

Although these ranges are administratively divided between separate Marine Corps commands, MCIWEST-MCB Camp Pendleton and TECOM, operationally they seamlessly support the training requirements of the Marine Corps' total force.

Installation	Area for Training (acres)	Special Use Airspace (nm <sup>2</sup> ) <sup>1</sup>
<u>Installations that are part of Marine Corps Installations West:</u>		
Marine Corps Installations West-Marine Corps Base Camp Pendleton	96,027 <sup>2</sup>	180
Marine Corps Air Station Camp Pendleton	0	0
Marine Corps Air Station Miramar	14,311	0
Marine Corps Logistics Base Barstow	2,438	0
Marine Corps Air Station Yuma	1,216,000	7,085
<u>Installations that are part of Training and Education Command:</u>		
Marine Corps Air Ground Combat Center Twentynine Palms	601,151	1,268
Marine Corps Mountain Warfare Training Center Bridgeport	62,000	0
<b>Combined Total of All Installations</b>	<b>1,991,927</b>	<b>8,533</b>

Notes:

<sup>1</sup> - nm<sup>2</sup>=square nautical miles

<sup>2</sup> - Approximately 23,000 of the 96,027 acres for ranges is dedicated impact areas and therefore not suitable for training. Of the remaining 73,000 acres for ranges, an additional approximately 23,000 acres is encumbered with environmental restrictions that limit land-use for training.

Source: 2012 Department of Defense Report to Congress on Sustainable Ranges

Combined, these ranges possess an immense amount of land area and airspace to support military training at nearly 2 million acres and 8,500 square nautical miles, respectively. Across these 2 million acres are nearly 200 weapons live-fire ranges and numerous simulated urban facilities, to include a military operations on urban terrain (MOUT) range with over 1,600 structures at MCAGCC Twentynine Palms. During the last decade significant investments in infrastructure development, environmental compliance, and remediation has ensured that these installations maintain the capabilities to train Marines properly for future missions and contingencies.

While Marine Corps installations in California and Arizona amount to nearly 2 million acres of land area, it is important to note that key training capabilities can only be conducted on a relatively limited amount of real estate either due to immitigable constraints, proximity, and suitability of the land. For example, after accounting for cantonment areas, impact areas, and environmental restrictions, approximately 50,000 of Camp Pendleton's 125,000 acres are available for training. While over a million acres at MCAS Yuma comes across as a vast number, it is important to realize that much of the land associated with MCAS Yuma is the impact area for the Chocolate Mountains Aerial Gunnery Range (CMAGR), one of the most heavily used aerial gunnery ranges in the west, or is located in areas that are prohibitively far from where Marine units are permanently stationed at Camp Pendleton or Twentynine Palms to regularly use for training.



**With over 1,600 structures, the Combined Arms Military Operations on Urban Terrain (CAMOUT) range at MCAGCC, is the largest urban training complex in the entire Department of Defense.**

Sprawling development in the West has had a significant and lasting impact on Marine Corps installations in the west. The combination of, suburban development, oftentimes, to the fence-line of an installation with the limited development and low impact, dispersed, training on each base, has resulted in Marine Corps installations becoming islands of biodiversity in the remaining open space on each base. While diversity and abundance of plant and wildlife on each base provides ecological, aesthetic, and recreational value, it creates new and unique challenges that range and training area managers must regularly synchronize with local, state, and federal organizations on.

The following summaries provide an overview of primary range users, location, and size of Marine Corps installations in the West.

### ***Camp Pendleton***

Camp Pendleton is first and foremost a training base. It is home to the First Marine Expeditionary Force (I MEF) and supports the day-to-day training requirements of over 42,000 Marines as they prepare for regular deployments with specialized units such as the



**Light Armored Vehicles offload from a Landing Craft Air Cushion at Camp Pendleton's Red Beach. Camp Pendleton shoreline is a critical requirement for Marine units that need to conduct amphibious training.**

11th, 13th, and 15th Marine Expeditionary Units. Other major commands headquartered at Camp Pendleton include 1st Marine Division and 1st Marine Logistics Group. Furthermore, a critical mission of Camp Pendleton is its ability to provide formal schooling to Marines. Additionally, each year at Camp Pendleton, recruits from Marine Corps Recruit Depot San Diego conduct field training and rifle marksmanship, recent boot camp graduates are educated in basic warfighting techniques at the School of Infantry (West), Fleet Marine Force Navy Corpsmen are trained at the Field Medical Service School, and thousands of enlisted Marines attend Camp Pendleton's Professional Military Education Academies.

As indicated by the name, the staff that serves over Camp Pendleton also oversees MCIWEST requirements, thus the combined name of MCIWEST-MCB Camp Pendleton.

**Location:** Camp Pendleton is located in southern California, 82 miles south of Los Angeles and 38 miles north of San Diego.

**Size:** Camp Pendleton occupies more than 125,704 acres of varied terrain, of which 96,027 acres support training, including 17.1 miles of shoreline and 180 square nautical miles of Special Use Airspace.

### ***Marine Corps Air Station Camp Pendleton***

Located within Camp Pendleton is MCAS Camp Pendleton, which is a stand-alone installation which houses the rotary wing aircraft from Marine Air Group 39 that are so instrumental to I

MEF's littoral readiness. All ranges, training areas, and airspace that are utilized by aircraft from MCAS Camp Pendleton are accounted for as capabilities that reside with MCIWEST-MCB Camp Pendleton.

### ***Marine Corps Air Station Miramar***

MCAS Miramar maintains and operates facilities and provides services and material to support operations of the Third Marine Aircraft Wing, Marine Aircraft Group 46, and other activities and units. MCAS Miramar manages required known distance ranges, other individual and unit level non-live-fire ranges, and a ground maneuver training area.

**Location:** MCAS Miramar is located in Southern California, approximately 13 miles north of downtown San Diego, California and 4 miles east of the Pacific Ocean.

**Size:** The MCAS Miramar property is about 12 miles long from east to west and about 4 miles from north to south encompassing

23,116 acres. The Air Station is comprised of three general geographic and functional sectors: Main Station, South/West Miramar, and East Miramar. The ranges and training areas are located in East Miramar accounting for 14,311 acres.

### ***Marine Corps Air Station Yuma***

MCAS Yuma is the busiest air station in the Marine Corps and the third busiest in the Naval service. The air station's primary mission is to support aerial weapons training for Marine and Navy operating forces, and to serve as a base of operations for Marine Aviation Weapons and Tactics Squadron-1 (MAWTS-1) and Third MAW units, to include Marine Aircraft Group 13. Twice annually, MAWTS-1 conducts the Weapons and Tactics Instructor Course, which trains aircrew and support personnel in advanced aviation warfighting techniques.

**Location:** MCAS Yuma is located in the southwestern corner of Arizona, bordering California to the west and Mexico to the south. The Yuma Training Range Complex (YTRC) is a military aviation facility managed by MCAS Yuma and it extends 100 miles west and 130 miles east of the air station. The YTRC includes the Barry M. Goldwater Range-West (BMGR-W) in Arizona and the CMAGR in California.

**Size:** MCAS Yuma proper occupies 4,345 acres. The YTRC accounts for a majority of the area and airspace encompasses: approximately 1900 square miles of land area reserved as aerial bombing and gunnery ranges (BMGR and CMAGR); managed by the air station and is the largest tactical

aviation training range utilized by the Marine Corps and 10,000 square nm of special-use airspace; 5,000 California (CMAGR); 5,000 in Arizona (BMGR).

### ***Marine Corps Logistics Base Barstow***

MCLB Barstow provides infrastructure, services, and support to Marine Corps forces, tenant activities, and other customers. These services are generally provided to Marine Corps forces west of the Mississippi River and to the Far East. The highly technical nature of the work done at MCLB Barstow is achieved by 225 active duty Marines and Sailors, over 200 active duty Soldiers, and 2,500 civilians work aboard MCLB Barstow. MCLB Barstow manages individual training ranges. Ranges are limited to a known distance rifle and pistol range.

**Location:** MCLB Barstow is located in the San Bernardino County High Desert of Southern California, 134 miles east of Los Angeles and 152 miles southwest of Las Vegas, Nevada.

**Size:** The ranges at MCLB Barstow occupy 2,438 acres.



An F-35B Lightning II conducts a landing at MCAS Yuma during a demonstration test flight. MCAS Yuma and the extensive aviation training ranges associated with the base make it the busiest air station in the Marine Corps.

### ***Marine Corps Air Ground Combat Center Twentynine Palms***

The mission of the MCAGCC is to conduct relevant live-fire combined arms training, urban operations and Joint/Coalition level integration training that promotes operational forces' readiness as well as provide the facilities, services and support responsiveness to the needs of resident organizations, Marines, sailors and their facilities today and tomorrow. MCAGCC supports the Marine Air Ground Task Force Training Program including the Integrated Training Exercise (ITX) and the Marine Corps Large Scale Exercise (LSE). MCAGCC also is home to the 7th Marine Regiment, 1st Tank Battalion, 3rd Light Armored Reconnaissance Battalion, and 3rd Battalion, 11th Marine Regiment and hosts the Marine Corps Communication and Electronics School.

**Location:** MCAGCC is located in southern California, 65 miles east of Los Angeles, 160 miles northeast of San Diego, and 165 miles west of Las Vegas, Nevada.

**Size:** MCAGCC occupies approximately 600,000 acres of the southern Mojave Desert, and includes 1,268 square nm of airspace.

### ***Marine Corps Mountain Warfare Training Center Bridgeport***

Located in the Sierra-Nevada Mountains on United States Forest Service (USFS) land used by the Marine Corps under inter-agency agreements with the USFS, MCMWTC conducts individual, small unit, and battalion level training in summer and winter mountain operations. The training emphasizes individual and unit mountain skills that enhance overall combat capability. Summer mountain operations include mountain safety, military rock climbing, fixed



**MCMWTC Bridgeport offers some of the most extreme high altitude cold weather training of any Department of Defense installation. Located within National Forest lands, MCMWTC epitomizes the type of interagency coordination needed to successfully train.**

rope installations, mountain navigation, rappelling, and planning/coordinating unit movements along rugged terrain. Winter mountain operations include cold weather safety, individual survival, cold weather bivouacs, route selection, over-the-snow mobility techniques, and avalanche safety.

**Location:** MCMWTC is located at Pickle Meadows, 24 miles northwest of Bridgeport, California.

**Size:** The Training Center occupies approximately 60,000 acres of Toiyabe National Forest.

## II. Strategic Vision for Marine Corps Installations West- Marine Corps Base Camp Pendleton Ranges Program

The ranges and airspace provided by MCIWEST-MCB Camp Pendleton together with the MCAGCC Twentynine Palms and MCMWTC Bridgeport are strategic assets, critical to the training and readiness of the 21st century force. These ranges support the great majority of Service-level training conducted by the Marine Corps. MCAGCC Twentynine Palms and ranges of MCAS Yuma are focal points for pre-deployment training. In addition to its Service-level training mission, MCAGCC provides the home-station ranges for approximately 40 percent of the 1st Marine Division. Likewise, the YTRC, including CMAGR and BMGR-West, is a principal training venue for units of the 3d Marine Aircraft Wing stationed at nearby MCAS Miramar and MCAS Camp Pendleton. Camp Pendleton, home to I MEF and portions of each of its major subordinate commands, as well as the School of Infantry (West) and other formal military schools, is one of the most heavily utilized training bases in the nation. Camp Pendleton is the only installation in the United States with beaches capable of supporting robust amphibious training. In addition to these major range complexes, MCIWEST-MCB Camp Pendleton supports the DoD's most significant mountain training range at the MCMWTC Bridgeport.

Taken together, these range complexes—MCAGCC, MCAS Yuma, MCAS Miramar, Camp Pendleton, and MCMWTC—comprise a system of ranges that are increasingly inter-related. In addition to

having the longest shoreline in the Marine Corps that can support amphibious landings, these range complexes account for nearly 90 percent of maneuver training areas and 75 percent of the Special Use Airspace in the Marine Corps' entire range inventory. The purpose of the RCMP is to establish a regional planning framework that will ensure these ranges continue to support Marine Corps training demands across the entire training continuum for the foreseeable future.

### Commander's Vision

This is the current situation: an expanding mission and training footprint that increases the demand for training space and, on the other hand, intensifying encroachment pressures that threaten the capabilities of training ranges. The commanders of the installations that comprise MCIWEST-MCB Camp Pendleton continue to address these challenges effectively, on a daily basis.

At the same time, Marine Corps installations are facing significant pressures that constrain training on existing ranges. Some of these pressures arise from internal development of infrastructure required for military facilities, military and family housing, and quality-of-life needs. The most significant concern, however, is encroachment; that is, off-base development or activities that are incompatible with military training, or regulatory constraints on the use of military land, sea, or airspace for training. Encroachment imposes documented impacts on readiness and poses a significant threat to

installations' capability to accomplish their missions.

Effective range planning entails significant challenges. Today, the Marine Corps is called upon to execute an unprecedented range of military operations, from humanitarian assistance and stability support to sustained high-intensity conflict, often simultaneously within the same theater. As an innovative warfighting force, the Marine Corps is developing new doctrine, tactics, and techniques for Marine Air Ground Task Force (MAGTF) employment, in order to meet the challenges of 21st century conflict.

**MCIWEST-MCB Camp Pendleton will execute focused regional planning to ensure its capability to support the dynamic training requirements required to execute Marine Corps operations successfully in the 21st century.**

In conjunction, new weapons and systems are being planned and fielded, focused on providing extended range and operational flexibility to the fire and maneuver capabilities of the MAGTF. As a result of these developments, the training footprint of the operational forces is expanding significantly. New missions, tactics, and weapons systems require more land, sea, and airspace for training than did their predecessors.

The ranges, training areas, and airspace of Marine Corps installations and range complexes in California and Arizona are vital to the readiness of Marines, Sailors, units, and MAGTFs. To support the training requirements of the operational forces, MCIWEST-MCB Camp Pendleton must

continue to develop regionally integrated range capabilities that optimize the training value of ranges, training areas, and airspace. The RCMP will lay the foundation for further development of those capabilities. The end state is an executable RCMP that will guide range management, range development, encroachment control, and funding initiatives at the regional level for the foreseeable future.

### **Commander's Intent**

MCIWEST-MCB Camp Pendleton will execute focused regional planning to ensure its capability to support the dynamic training requirements required to execute Marine Corps operations successfully in the 21st century.

The MCIWEST-MCB Camp Pendleton Regional RCMP is focused on supporting the range modernization and encroachment control initiatives of its Bases and Stations, by providing a regional perspective that integrates planning on issues that affect multiple installations.

### **Commander's Planning Guidance**

As an overarching planning document, the RCMP covers a broad spectrum of requirements, processes, and information. In doing so, the effort must remain focused on requirements and concerns that are regional in scope. In particular, the RCMP focuses on the following priorities:

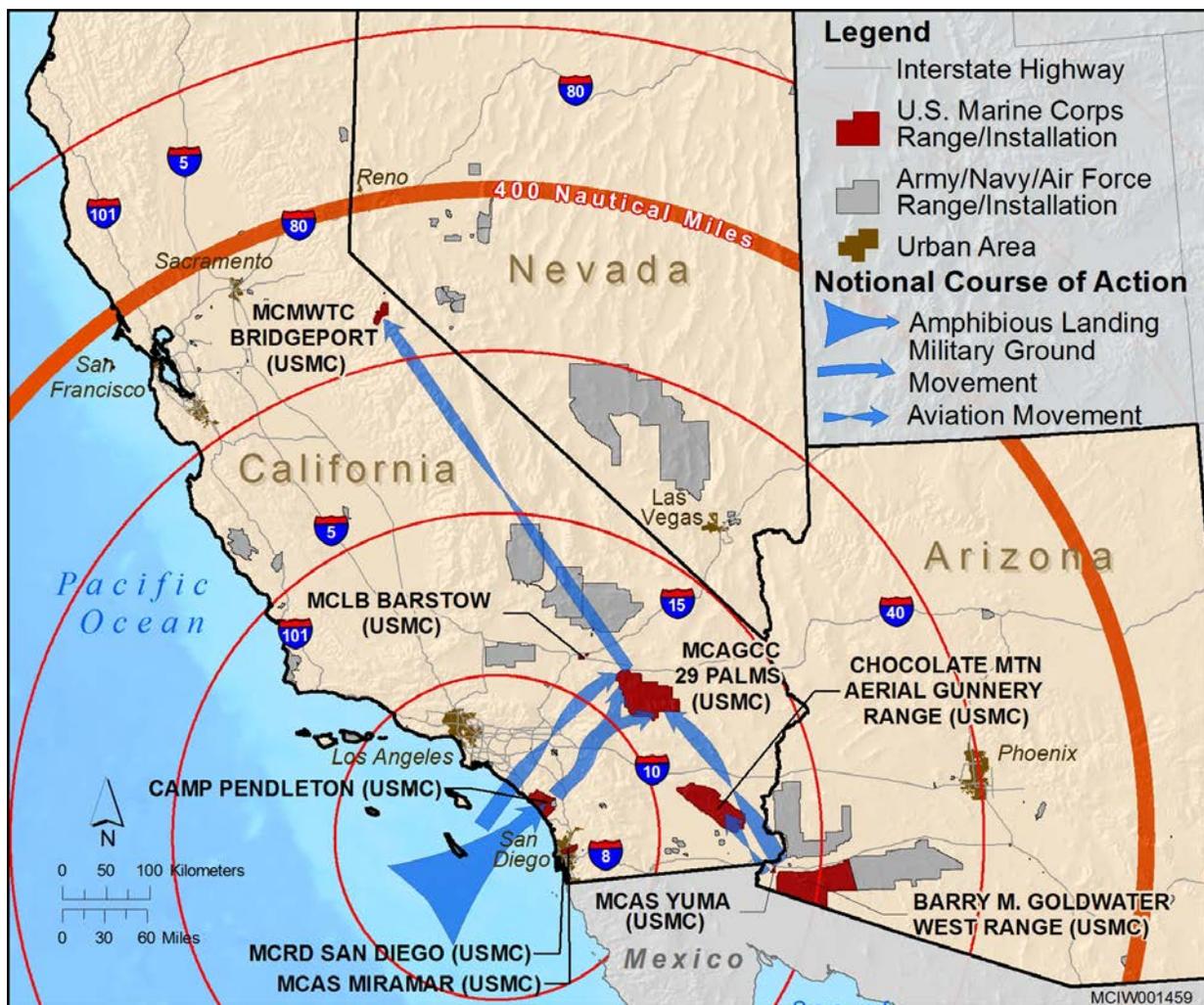
- MAGTF training on a regional scale
- Regional range shortfalls affecting unit training requirements
- Training in the Chocolate Mountains
- Amphibious and littoral training capability

- Airspace access and encroachment
- Consistency of range management data
- Marine Corps use of other-Service ranges

### **Marine Air Ground Task Force Training on a Regional Scale**

As the Marine Corps' primary venue for MAGTF training, MCAGCC provides unique range capabilities and resources for live-fire training exercises. Substantial investments in MCAGCC's ranges over the last decade, and ongoing and planned improvements in its capabilities, ensure that this installation will remain the cornerstone of MAGTF training. However, training the

MAGTF to the full extent of its capabilities and range of operations, particularly at the Marine Expeditionary Brigade (MEB) level in a joint context, requires use of regional airspace, sea space, and training land areas in addition to MCAGCC. MCIWEST-MCB Camp Pendleton, in coordination with the MAGTF Training Command (MAGTFTC), must coordinate engagement at the regional level on an intra-Service, inter-Service, and intra-agency basis to facilitate coordinated use of regional training areas and airspace for MAGTF training. An overarching objective of the RCMP is to develop a planning framework for a regional range capability that effectively



Large-scale and long range training originating from the sea and other key nodes makes the MCIWEST-MCB Camp Pendleton Area of Operations an ideal location for the Marine units to exercise enduring requirements.

utilizes multiple installations and associated airspace to support training of MAGTFs up to the MEB, operating from the sea over doctrinally appropriate distances, employing the full capabilities of organic weapons systems and platforms.

### ***Regional Range Shortfalls and Unit Training Requirements***

Because of its superb training ranges, MCAGCC has evolved into a truly Service-level range complex, tasked primarily with executing pre-deployment capstone training events. Simultaneously, a significant portion of the Marine Corps' combat power that is stationed on the West Coast relies on MCAGCC to accomplish the full spectrum of individual and unit-level training. In particular, Division units such as artillery units based at Camp Pendleton require access to MCAGCC ranges and training areas to support their training requirements. MCIWEST-MCB Camp Pendleton is



**Conducting integrated training across multiple installations includes significant virtual and simulated components in addition to utilization of actual ranges and training areas. As ranges are developed to support large scale training, the capability for command and control of virtual training must also be developed.**

concerned that Service-level training requirements have created range scheduling and range access challenges for tenant units at MCAGCC.

The challenge is not limited to MCAGCC; each training base experiences shortfalls in capability to support training, whether due to scheduling constraints, lack of capacity, or regional deficiencies in some types of ranges. This RCMP examines this issue from a regional perspective. In particular, the RCMP develops:

- Information necessary to quantify patterns and trends in regional “training migration” by units to venues other than their home station
- An assessment of regionally significant shortfalls in range and airspace resources

### ***Training in the Chocolate Mountains***

With increasing regularity, proposals are advanced to utilize the CMAGR for ground training in addition to the aviation training that it was established to support. Such initiatives are inevitable, given the scarcity of large, relatively un-encroached live-fire ranges, and the expanding training and weapons footprints of the 21st century force. Future use of the CMAGR needs to be addressed in a deliberative manner in the context of the RCMP. The RCMP assesses whether opportunities can be created for enhanced training access to CMAGR by Marine Corps units, without detriment to the primary aviation training mission of the CMAGR.

## ***Amphibious and Littoral Training Capability***

While the operational demands of the past few years have reduced opportunities for training and deployments that sustain the Marine Corps' amphibious capability, core competency has always been, and will remain, amphibious in nature. MCIWEST-MCB Camp Pendleton must sustain and further develop the capability to support training for amphibious operations, including operations in the urban littorals, and forcible entry from the sea. The critical components of this capability, from a regional range perspective, are access to sea space, access to littoral and inland airspace corridors for aviation training, and range capabilities that support combined-arms, live-fire training utilizing naval surface fires. These training resources are shared with and in many cases managed by other Services, primarily the U.S. Navy. The RCMP must therefore be closely coordinated with Navy and other-Service range planning, to ensure Marine Corps requirements are defined and incorporated by their processes. In particular, the RCMP assesses:

- Future training requirements of the Marine Corps in offshore and littoral areas of Southern and Central California, for both sea space and airspace usage
- Opportunities for enhanced use of the San Clemente Island Range Complex for Marine Corps amphibious training
- Opportunities for additional mutually supporting regional range planning by the Marine Corps and other Services with installations in the MCIWEST-MCB Camp Pendleton AO



**Cobra attack helicopters launch rockets at the Chocolate Mountain Aerial Gunnery Range. Integrating more ground training at the Chocolate Mountains would expand training capabilities of the range significantly.**

## ***Airspace Access and Encroachment***

Encroachment remains a vital concern for Bases and Stations. The ability of installations to support required training is impacted by a variety of factors, including urbanization, natural resources conservation mandates, energy and transportation corridor proposals, noise constraints, and other environmental issues. MCIWEST-MCB Camp Pendleton installations continue to execute effective encroachment control programs, and the RCMP supplements these with particular attention to issues susceptible to regional solutions.

Intensive competition for airspace presents the most significant encroachment threat to an integrated regional training capability. Commercial and general aviation use of airspace in the vicinity of MCIWEST-MCB Camp Pendleton's installations is projected to escalate substantially over the next decade. At the same time, military requirements for airspace in the region will continue to increase as a result of new platforms and weapons systems, and evolution

of operational doctrine for their use. The RCMP provides a basis for long-term engagement on airspace issues in the region, by specifically addressing:

- Regional training requirements for access to airspace, focused on demand for routes between range complexes
- Projected conflicts with commercial and general aviation requirements

### ***Consistency of Range Management Data***

Range data supports analysis of requirements for new or additional ranges, facilitates fiscal planning for range maintenance and sustainment, informs environmental planning requirements, and otherwise is critical to effective range management. Preparing the RCMP involves a major data collection effort, and it is important that sources of data be carefully documented. More importantly, the RCMP identifies:

- Shortfalls in range data availability
- Differences between installations in range data collection processes



**Fort Hunter Liggett, a US Army Reserve base in central California provides extensive live-fire and maneuver capability, training areas, a multipurpose range complex, and is readily accessible.**

- Recommendations for improving the quality and consistency of data relevant to range management across MCIWEST-MCB Camp Pendleton

### ***Marine Corps Use of Other-Service Ranges***

Marine Corps operating forces stationed within the MCIWEST-MCB Camp Pendleton AO regularly utilize ranges and training areas of other military Services in California, Arizona, and Nevada (and occasionally in Washington and New Mexico). In some cases, use of other-Service ranges is established through formal arrangements, while in other cases arrangements and scheduling are local, informal, or ad hoc. To a limited extent, the Marine Corps has invested in range facilities on other Service's bases for use by Marine Corps units. The full extent of Marine Corps reliance on other-Service ranges within the MCIWEST-MCB Camp Pendleton AO, while clearly important to the training mission, has not been quantified. The RCMP addresses this information gap, by examining the extent to which Marine Corps forces use other-Service ranges in the MCIWEST-MCB Camp Pendleton AO to meet their training requirements. As part of the assessment, the RCMP analyzes the reasons that operational forces access non-Marine Corps ranges, examine inter-Service range scheduling processes, assess opportunities for mutual inter-Service support including the potential for Marine Corps investment on other-Service ranges, and make recommendations for process improvements and other appropriate initiatives.

### **III. Overview of the Marine Corps Installations West-Marine Corps Base Camp Pendleton Range Complex Management Plan**

The MCIWEST-MCB Camp Pendleton Regional RCMP was prepared under the oversight of the MCIWEST-MCB Camp Pendleton G-3/5 Range and Training Area Management (RTAM) Division with the support of Marine Corps Training and Education Command, Range and Training Area Management (TECOM RTAM). The RCMP addresses Marine Corps range complexes in the MCIWEST-MCB Camp Pendleton AO, as well as other-Service range complexes and non-military lands that comprise the “portfolio” of ranges and airspace utilized to support Marine Corps training. The intent of the RCMP is to provide regional perspectives and guidance for Marine Corps range planning within MCIWEST-MCB Camp Pendleton. The RCMP addresses the following functional areas of range complex management:

- Range Inventories
- Training Use of Non-DoD Lands and Airspace
- Other Service Range Complexes in the Region
- Regional Encroachment
- Range Maintenance and Sustainment
- Operational Range Clearance
- Environmental
- Regional Outreach and Engagement
- Range Communications Standardization
- Required Capabilities: Shortfalls and Gap Analysis
- Investment Strategy

#### **Range Inventories**

Marine Corps ranges and training areas (RTAs) consist of multiple components required for delivery of comprehensive training support. Training lands, real property, military airspace, training systems, and range facilities are maintained at each of the Marine Corps installations. Inventories of RTAs and associated infrastructure are a critical component of effective range management, as accurate inventories support range scheduling, maintenance, and utilization functions, planning, and funding. In conjunction with the RCMP, two categories of data, namely (1) RTA inventories and (2) Range Condition Assessments (RCAs) have been prepared for each RTA on each range complex in the MCIWEST-MCB Camp Pendleton AO.

RTA inventories provide a detailed report on all assets situated on ranges. Inventory data is captured in the form and format necessary to facilitate inclusion into the Internet Naval Facilities Assets Data Store (iNFADS) systems. RTA inventories data is provided in separate, interactive spreadsheets for each installation, which can be updated as appropriate to reflect changing composition of range facilities and infrastructure.

The RCAs summarize data contained in range regulations (e.g., location, size, and use constraints) and include detailed assessments and photographs of range features and facilities.



Lands managed by federal agencies, other than the Department of Defense, in the Western United States are extensive. The coordination of military training at other federally managed lands close to Marine Corps installations can significantly support the execution of large scale training exercise objectives.

RCAs provide a baseline assessment of current conditions that can be reconciled with Public Works’ facility management systems and updated based on recurring range facilities inspections at the individual range complex level.

Accurate and detailed RTA inventories and RCAs provided in conjunction with the RCMP are integral to planning and forecasting funding requirements to support MCIWEST-MCB Camp Pendleton’s focus on the modernization of RTAs through sustainment, recapitalization, and investment in new range resources.

## Training Use of Non-Department of Defense Lands and Airspace

The future postulated in Marine Corps Vision and Strategy (MCVS) 2025 emphasizes the changing nature of conflict across the spectrum of military operations. Operational environments are increasingly complex, and Marines and MAGTFs must be able to conduct operations on a dispersed and extended battlefield under decentralized command and control (C2).

Requirements to develop and sustain communication, land, and airspace linkages

between and among military ranges in the MCIWEST-MCB Camp Pendleton AO, using land and airspace that is not owned, managed, or controlled by DoD, thereby enabling training that simulates operations on an extended battlefield.

No military range complex in the DoD inventory, encompasses the extent of land area and airspace necessary to replicate the extended modern battlefield. The requirement that the principal Marine Corps ranges in the MCIWEST-MCB Camp Pendleton AO have the capability to support a distributed concept

**The Marine Corps makes extensive use of range areas in the Western United States that are owned or managed by the U.S. Army, U.S. Navy, and U.S. Air Force. Use of other-Service ranges has not, however, been well documented.**

of operations and an extended notional battlefield is shown on the opposite page, where following an amphibious landing at Camp Pendleton, forces will advance inland via ground and aviation movements to other Marine Corps ranges in the region. The capability to execute such training scenarios, or similarly long-range exercises, is required by the doctrinal

guidance set forth in MCVS 2025. The ability to access airspace and land areas between major range complexes in support of such exercises is a necessary capability.

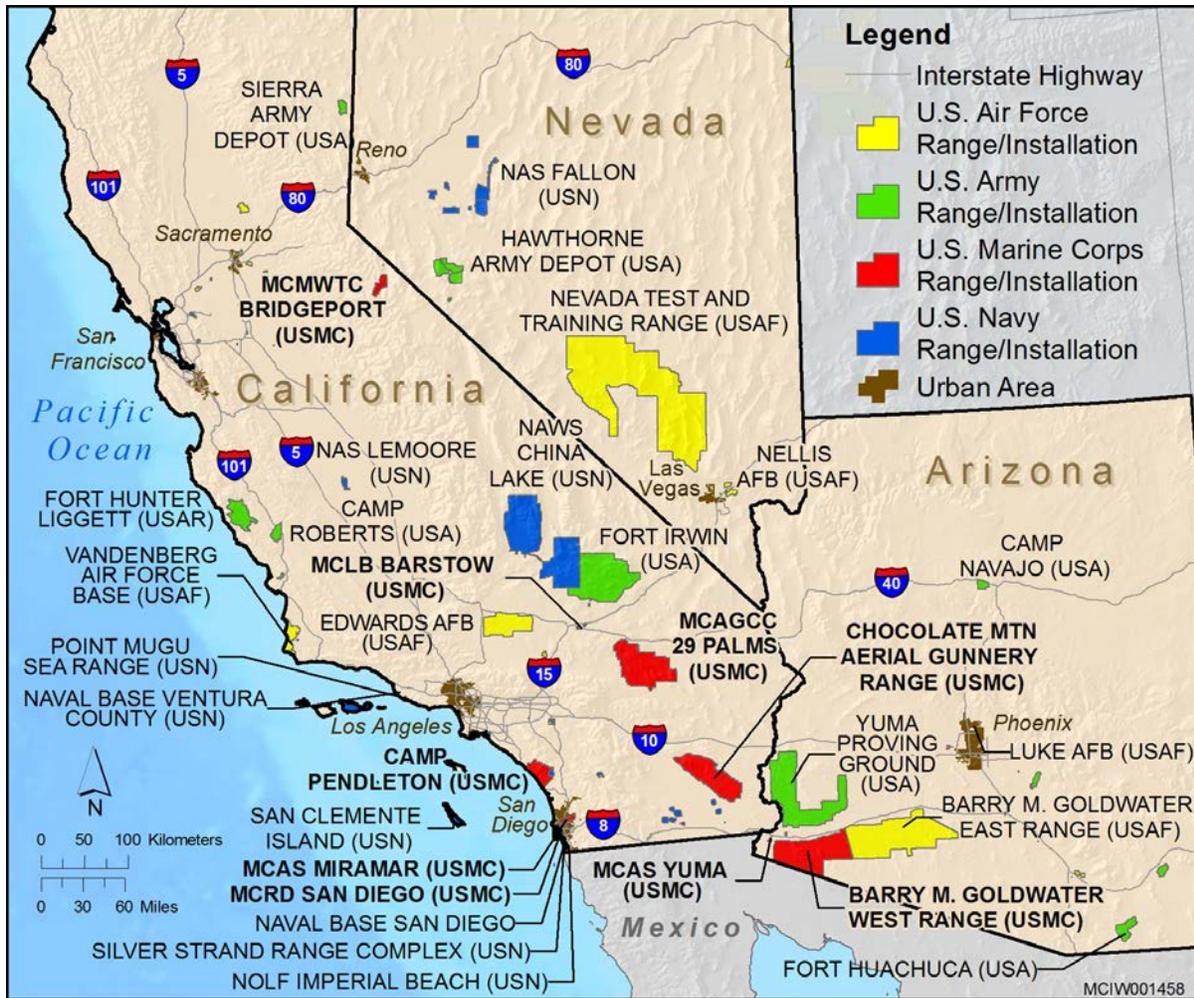
The MCIWEST-MCB Camp Pendleton Regional RCMP documents recent historical utilization of non-DoD lands and airspace in the MCIWEST-MCB Camp Pendleton AO, including large-scale exercises

such as Desert Scimitar, Urban Warrior, and Javelin Thrust. Based on such historical uses, the RCMP identifies the requirement for ongoing and future use of non-DoD lands and airspace as a critical component of the portfolio of training resources supporting the operational forces that train in the MCIWEST-MCB Camp Pendleton AO. Planning and coordination requirements unique to the execution of training on non-DoD lands and airspace are addressed, and the RCMP includes recommendations for preserving and enhancing these capabilities.

## **Other Service Range Complexes in the Region**

In 2002, the U.S. Government Accountability Office (GAO) observed shortcomings in the extent to which the military Services developed inventories of ranges, and collaborated on use of range resources.

*"To the extent that inventories of training ranges do exist, they are not routinely shared with other services (or other organizations such as the Special Operations Command). . . [C]ommanders sometimes learn about capabilities available outside their own jurisdiction by chance. All this makes it extremely difficult for the services to leverage adequate assets that may be available nearby, increasing the risk of inefficiencies, lost time and opportunities, delays, added costs, and reduced training opportunities. Although there are examples of services sharing training ranges, these arrangements are generally made through individual initiatives, not through a formal or organized process that easily and quickly identifies all available infrastructure."*



As a result of observations such as this, the Services have focused on developing comprehensive range inventories, and on analyzing shortfalls in range capabilities to support required training. Data resulting from these efforts are catalogued in the annual Sustainable Ranges Report (SRR) provided by the DoD to Congress. The Marine Corps makes extensive use of range areas in the Western United States that are owned or managed by the U.S. Army, U.S. Navy, and U.S. Air Force, and has long recognized that access to these ranges is an important component of the Marine Corps' capability to train the force. Conversely, other Services

routinely utilize Marine Corps ranges. Use of other-Service ranges has not, however, been well-documented. The RCMP further advances the objectives identified in the GAO's comments; that is, to identify and enhance efficiencies and training opportunities for cross-utilization of ranges. In order to do the following detailed information is provided in the RCMP:

- The capabilities of Army, Navy, Air Force, and National Guard ranges in the MCIWEST-MCB Camp Pendleton AO
- The extent of Marine Corps training that is actually occurring on those other-Service ranges

- Processes that would increase efficient access to other-Service ranges by Marine Corps operational units, and conversely enhance the ability of other Services to utilize Marine Corps ranges in the MCIWEST-MCB Camp Pendleton AO

## Regional Encroachment

The RCMP reviews and assesses encroachment management initiatives and strategies within the MCIWEST-MCB Camp Pendleton AO by: (1) defining encroachment terminology and providing background on encroachment management, (2) describing the encroachment management structures in place at the regional and installation levels, (3) identifying regional encroachment issues, (4) summarizing installation-level encroachment issues and management strategies, and (5) identifying encroachment management strategies supporting the Marine Corps' goal of sustaining combat readiness.

The current encroachment context in



Utilizing just 32,000 square feet, the Infantry Immersion Trainer at Camp Pendleton provides a realistic battlefield simulation through extensive use of atmospheric and other advanced technologies. Facilities such as this make good use of space, but can be expensive to operate and maintain.

the MCIWEST-MCB Camp Pendleton AO results from a variety of converging and unsynchronized factors. These factors include: (1) an inventory of training ranges that has been relatively fixed for decades, in terms of land acreage and airspace available for training, (2) fluctuating but generally increasing end-strength levels that require additional infrastructure to be developed on installation lands while also increasing the demands on training space, and (3) fielding of new weapon systems accompanied by evolving warfighting doctrine and associated training requirements that necessitate substantially more training space than has been necessary in the past.

Recommended actions and initiatives to implement or continue executing at MCIWEST-MCB Camp Pendleton staff level include: (1) coordinating encroachment control within the region; (2) establishing a regional community plans and liaison office; (3) establishing, maintaining, and updating a regional Encroachment Control Plan; (4) monitoring political, environmental, social, economic, governmental, and administrative matters at the regional level; (5) engaging with regional and state elected officials; (6) coordinating encroachment control with regional partners; (7) analyzing and ranking installation-submitted encroachment partnering proposals; and (8) exchanging information with other Services.

## Range Maintenance and Sustainment

Range maintenance and sustainment is a significant part of ensuring that ranges continue to operate properly and safely in an enduring fashion for operating units. The RCMP's Regional Range Maintenance and Sustainment Plan identifies and documents current range maintenance processes, including regional and installation roles and responsibilities, identifies the different funding resources available for maintenance and sustainment, and makes process improvement recommendations for defining, developing, and prioritizing annual Program Objective Memorandum (POM) funding submissions and range maintenance requirements necessary to maintain and sustain the MCIWEST-MCB Camp Pendleton Regional RTA complexes. Other key discussion in this Plan addresses how varied the range maintenance capabilities are across each range complex in the MCIWEST-MCB Camp Pendleton AO and detailed diagrams that outline funding request processes.

Recommendations address short-term (1-2 years) and long-term (3-8 years) actions that can be taken to assist with the execution of a Regional Range Maintenance and Sustainment Plan. Short-term recommendations include integrating installation projects and funding requests at

MCIWEST-MCB Camp Pendleton for prioritization or informational purposes and assisting installation range complex managers in the MCIWEST-MCB Camp Pendleton AO with the development of Range Maintenance and Sustainment Plans. Long-term recommendations include organizational structure and staffing additions and an enterprise level recommendation to utilize elements of the U.S. Army's Sustainable Ranges Program.

## Operational Range Clearance

Operational Range Clearance (ORC) requirements have an important role in ensuring the sustainability and continued safe operation of ranges. The MCIWEST-MCB Camp Pendleton Regional RCMP develops the Regional ORC Program by identifying and documenting current operational range clearance processes and organizational roles



**Signs that limit access to certain training areas to protect threatened and endangered species are common at Camp Pendleton. Across Marine Corps bases, coordination between operations & training and environmental management is critically important.**

and responsibilities at multiple levels. Specific discussion regarding ORC addresses the DoD instructions that require the implementation of ORC programs and qualification standards for unexploded ordnance (UXO) technicians that perform ORC work. Significant discussion also addresses how effective ORC processes and responsibilities must involve an integrated planning process to ensure efficient employment of funds. The RCMP makes process improvement recommendations for defining, developing, and prioritizing annual POM funding submissions for ORC requirements in support of installation range complexes in the MCIWEST-MCB Camp Pendleton AO and also provides recommendations for long-term and short-term actions. Recommended short-term actions include developing a regional outreach program that addresses UXO hazards on ranges throughout the MCIWEST-MCB Camp Pendleton AO, and fully implementing the Marine Corps ORC Program Evaluation Board Process. Long-term ORC recommendations supplement recommendations developed in the Range Maintenance and Sustainment Plan, including organizational structure and staffing additions to address both range maintenance and ORC requirements.

## **Environmental**

Each Marine Corps installation in the MCIWEST-MCB Camp Pendleton AO manages environmental issues (including

natural and cultural resources programs) that are installation-specific. At the same time, some environmental matters may affect multiple installations, or may require regional engagement due to the nature or significance of the issues. For example, consistency

### **The MCIWEST-MCB Camp Pendleton region continues to experience intensive development and urbanization accompanied by application of environmental constraints on the training use of military installations.**

between Marine installations may arise to a significant regional consideration in connection with execution of regulatory compliance efforts requiring engagement with agencies that assert jurisdiction across the MCIWEST-MCB Camp Pendleton AO.

The RCMP describes specific departments, personnel, organizational structures, plans, programs, and agreements that integrate natural and cultural resources with active range operations in the MCIWEST-MCB Camp Pendleton AO. The RCMP provides an overview of the environmental regulations and statutes that are most pertinent to range operations, funding, and current and future environmental planning efforts taken to address training. Recommendations for actions that can be taken at a regional level to support or enhance coordinated installation-level planning are provided. Recommendations include implementation of regional review and oversight of Integrated Cultural Resources Management Plans and Integrated Natural Resources Management Plans that are prepared for each individual installation in the MCIWEST-MCB Camp Pendleton AO. The RCMP also recommends regionally-developed

creditation and mitigation strategies for the management of biological resources.

## Regional Outreach and Engagement

The MCIWEST-MCB Camp Pendleton region continues to experience intensive development and urbanization accompanied by application of environmental constraints on the training use of military installations. Urbanization trends that intensify competition for scarce land, sea and airspace also affect the training potential of non-DoD lands at a time when the need to access those areas for training is increasing. Policy trends, in particular those focused on development and transmission of alternative energy and the regulation of the frequency spectrum, are creating resource uses that may not be compatible with military training and testing. Increasingly, challenges such as these are being addressed in comprehensive, Service-wide or DoD-wide sustainability programs that are directive in nature.

Outreach to and engagement with multiple stakeholders across the region is fundamental to the success of the encroachment control strategy. The RCMP focuses on outreach to key stakeholders who can have an impact on encroachment and sustainability of the training resources within the MCIWEST-MCB Camp Pendleton AO, and whose decisions may positively or negatively affect access to or use of those



**The increased range of the tilt rotor MV-22 Osprey has elevated the importance of airspace corridors, landing zones, and Special Use Airspace.**

resources. The outreach strategies and approaches provide methods, messages, and tools to address future needs and challenges in the MCIWEST-MCB Camp Pendleton region and are designed to support the Commanding General's strategic vision and investments for the region. Specifically, the RCMP's purpose with regard to outreach and engagement is to:

- Provide an overview of policy and guidance that drives MCIWEST-MCB Camp Pendleton regional outreach for range sustainability
- Explain the structure and role of MCIWEST-MCB Camp Pendleton staff responsible for outreach efforts
- Delineate the roles of MCIWEST-MCB Camp Pendleton and installation staffs with respect to outreach
- Document the engagement activities conducted by the MCIWEST-MCB Camp Pendleton staff, the processes used to stay abreast of significant regional activities requiring community outreach, and the strategic communication objectives and messages employed by MCIWEST-MCB Camp Pendleton

- Provide recommendations for outreach activities and process changes in the future

## Range Communications Standardization

Range communications is a vital element of range management with regard to institutional, regional, and installation roles and responsibilities. It is important to understand the process involved with acquiring and fielding new equipment, as well as the roles and responsibilities of installation, command, and headquarters elements. With a combined understanding, the road to standardizing communications architectures and equipment can be achieved and efficiencies can be realized.

Range communications is broadly defined here as those information technology systems and their support infrastructure (architectures, frequencies, etc.) whose purpose is to operate in support of range operations. What merits the most attention is the work required to obtain a standardized architecture and toolset, backed by an official requirements development process further supported by consolidated funding, fielding, and sustainment processes. The RCMP focuses primarily on creating a shared regional vision, standardization guidelines, and advocacy as a way ahead.



**Tactical Vehicle Simulation Centers at multiple installations in the MCIWEST-MCB Camp Pendleton AO provide valuable constructive training without requiring extensive road networks through MOUT facilities or surface danger areas for employment of weapons.**

## Required Capabilities: Shortfalls and Gap Analysis

The Required Capabilities: Shortfalls and Gap Analysis of the MCIWEST-MCB Camp Pendleton Regional RCMP identifies shortfalls in the capabilities of the MCIWEST-MCB Camp Pendleton range program to support required operational and formal schools training. The analysis develops a top-level review of existing capabilities of the major training ranges in the MCIWEST-MCB Camp Pendleton AO and assesses the capabilities of each range complex and the region as a whole to support standardized training requirements for MAGTFs. From the analysis of shortfalls and gaps, requirements to support a regional range management concept fully are identified. Requirements and recommendations in the Shortfalls and Gap Analysis are presented as range capability shortfalls and range management and sustainment shortfalls. Regional range capability shortfalls include:

- Access to airspace corridors and landing zones
- Larger controlled/Special Use Airspace training areas
- Enhanced capabilities for training migration and home station training
- Improved inter-installation communication capabilities
- Integrated exercise control/range control capabilities
- Joint exercise C2 capability
- Improved processes and reduced access constraints to other-Service ranges
- Integration of Unmanned Aircraft Systems (UAS) into range and operating requirement planning

range requirements is an inherently dynamic process, in that range requirements depend on training needs determined by changing operational requirements and required Training and Readiness events. As such, developing and accurately determining investment and budget requirements can be equally as dynamic and just as challenging.

The Investment Strategy of the MCIWEST-MCB Camp Pendleton RCMP identifies the primary investment processes and priorities that will enable MCIWEST-MCB Camp Pendleton to establish and execute the development and sustainment of RTAs and other regional range and training capabilities. The Investment Strategy provides specific recommendations and assigned prioritization of each recommendation.

## Investment Strategy

Identifying Marine Corps operational

