

United States Air Force and National Park Service

Western Pacific Regional Sourcebook





An F-16CJ based at Shaw AFB, S.C. (U.S. Air Force photo by Senior Airman Greg L. Davis)

United States Air Force and National Park Service

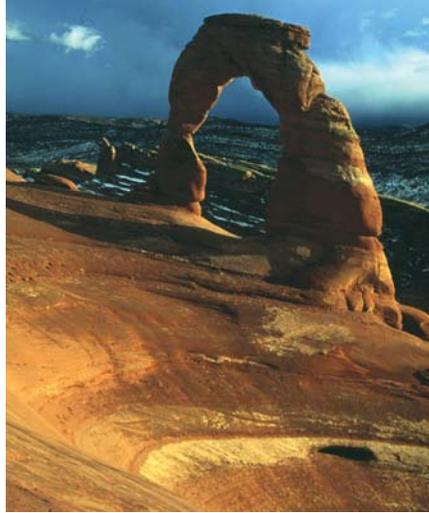
Western Pacific Regional Sourcebook

National Park Service
United States Air Force
October 2002



Grand Canyon National Park, Arizona

Preface



Delicate Arch,
Arches National Park, Utah

The United States Air Force and the National Park Service share one fundamental mission: to defend, protect and preserve the United States. Both agencies work to ensure that the America we know today is the same nation we pass on to our children and grandchildren. National parks are the crown jewels set aside to look and sound today and tomorrow as they did generations ago. General Thomas D. White, Air Force Chief of Staff (1957-1961), expressed the relationship between defense of nation and preservation of resources most eloquently:



The mission of the Department of Defense is more than aircraft, guns and missiles. Part of the defense job is protecting the lands, waters, timber and wildlife the priceless natural resources that make this great nation of ours worth defending.

Accomplishing the objectives of the two agencies in the same space is a complex and challenging task. The Air Force must test its equipment and train its people to defend our nation; the National Park Service must continually serve, satisfy, and educate today's visitors while safeguarding the wildlife, natural, cultural, and historic assets for future generations. With 387 park units, an estimated 150 of which underlie training routes and other military airspace, some conflict between the two agencies is inevitable.

Population growth and development around installations threatens to diminish the amount of airspace available for training. Similarly, many NPS soundscapes are being degraded by a

variety of noise intrusions. Though a critical park resource, natural sound cannot be safeguarded in all places at all times. But where the potential for conflict can be identified, it can be managed, minimized, or entirely avoided.

The USAF and NPS Regional Sourcebook builds on the progress made by the USAF Airspace and Range Council's regional conferences, which bring together all types of airspace users for discussion and have resulted in numerous agreements between the two agencies. Nonetheless, the Air Force and National Park Service recognize that we have undoubtedly missed opportunities to work together. Improved communication will lead to fewer conflicts and more opportunities for cooperation. We have not altered the processes for either organization; rather we have sought to make sense of them for each other.

This sourcebook is designed to facilitate better communication and local interaction, so you will be prepared to work with your colleagues to solve problems. Both agencies will benefit from an increased understanding of each other's organizations and priorities. While this sourcebook contains a great deal of information, you the user remain the most critical element in fostering a better working relationship in pursuit of your goals.

The National Parks Conservation Association has assisted the Air Force and the National Park Service in building a bridge of communication. It is in everyone's interest to ensure that, as a nation, we are adequately trained to safeguard our people, our land, and our heritage.

As John Reynolds, National Park Service Regional Director (1997-2002) stated:

The National Park Service protects our nation's heritage through the preservation of our country's special places treasured natural and cultural resources for the enjoyment of this and future generations. The U.S. military protects our heritage through a strong national defense to ensure that this and future generations have the freedom to continue to preserve and enjoy these special places. There must be constructive engagement between these government agencies to honor these missions.



A 58th Special Operations Wing, 551st Special Operations Squadron, MH 53J Pave Low IIIE flies a training mission near Kirtland Air Force Base, NM. (U.S. Air Force Photo by Master Sgt. Dave Nolan)

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F-16 Fighting Falcons from the 21st Fighter Squadron at Luke AFB, fly in formation over southern Arizona. (Photo by Staff Sgt. Jeffrey Allen.)

Regional Sourcebook Organization

Who would I call if I had a flight profile that might affect the National Park Service?

Who do I call to request a flight schedule modification for a special park event?

Who can I contact for information about park resources and visitor activities?

Where can I find the person in charge of conservation and pollution prevention?

What do you do when you have questions like the four to the left? In the past, you may have tried any number of different sources and paths to handle these issues. Both the Air Force and the National Park Service recognize the benefits of increased cooperation and have worked together to build a tool to help you solve such problems.

The USAF and NPS Regional Sourcebook is designed to encourage communication among people with a wide variety of airspace knowledge. Too often, issues are escalated through our national organizations that could be resolved with a local phone call. This book will provide you with information about the people with whom you share airspace and the most efficient means to work with them. You will also find descriptions of your peers in each service and their contact information.

The two agencies intend to publish six regional sourcebooks (refer to Air Force Airspace and Range Council Regions map on page 10). Each edition will contain general information applicable to all regions, plus a chapter containing specific information about the USAF installations and NPS units in that region. The sourcebook is comprised of five chapters:

Chapter One: Overview of the United States Air Force and the National Park Service

Chapter Two: Types of Airspace and National Park System Units

Chapter Three: Air Force Airspace and National Park Service Soundscape Decision Making

Chapter Four: Developing Relationships and Collaborative Problem Solving

Chapter Five: Air Force Installations and National Park Units in the Region

We have provided some technical information for those with airspace experience. For users with limited experience, there are explanations and suggestions.

Do you have questions or suggestions that should be included in the next regional sourcebook? If so, please share them with us at Sourcebook@SimSupport.com and we'll contact you.



Blue Ridge Parkway, North Carolina & Virginia

Chapter 1. Overview of the United States Air Force and the National Park Service

NATIONAL PARK MILESTONES

- 1872 Inspired by the images created by Henry Jackson and Edward Moran, Congress designates a vast region of the Yellowstone area as a national park, setting an international precedent for the preservation of national treasures.
- 1906 The Antiquities Act provides for the protection of antiquities on federal lands and authorizes the President to declare national monuments for that purpose.
- 1916 The National Park Service Organic Act establishes the agency to conserve the resources and values of federal parks, monuments, and reservations and to provide for their enjoyment by present and future generations.
- 1935 The Historic Sites Act results in the National Park Service assuming responsibility for national leadership in the field of historic preservation.
- 1936 The Park, Parkways, and Recreational Programs Act results in the National Park Service assuming responsibility for park, parkway, and recreational area programs.
- 1955-1966 The Mission 66 program authorizes and provides funds for extensive improvements in parks to rehabilitate aging facilities and to accommodate the increased use following World War II.
- 1970 The General Authorities Act recognizes that the National Park System has grown to include a great variety of natural, historic, and recreation areas and declares that all units will be protected equally in accordance with the NPS Organic Act.
- 1978 The Redwoods National Park Act strengthens NPS authorities to preserve and protect National Park System resources.
- 1980 The Alaska National Interest Lands Conservation Act doubles the acreage of the National Park System.

EARLY AMERICAN AVIATION MILESTONES

- 1903 At Kitty Hawk, NC, the Wright brothers, Orville and Wilbur, achieve the world's first manned flight.
- 1907 The Aeronautical Division of the U.S. Army Signal Corps, forerunner of the U.S. Air Force, is established.
- 1909 Land for the first Signal Corps airfield is leased at College Park, MD.
- 1914 The Aviation Section of the Signal Corps is created by Congress as the nation enters World War I.
- 1918 The U.S. Army Air Service is organized in recognition of the importance of air power in any future war.
- 1918 Dr. Robert H. Goddard demonstrates tube-launched solid-propellant rockets at Aberdeen Proving Ground, MD.
- 1926 The U.S. Army Air Corps is organized.
- 1941 The U.S. Army Air Forces is established as an equal to the Army Ground Forces as the nation enters World War II.
- 1941 The Civil Air Patrol is established.
- 1944 Allied pilots fly approximately 15,000 sorties on D-Day, providing a preview of the decisive and effective use of air power in the ultimate resolution of the war.
- 1945 VJ Day signifies the end of World War II.
- 1947 The U.S. Air Force is established as a service equal to the Army and Navy.

National Security Act of 1947.

In the National Security Act Congress declares its intent to provide:

a comprehensive program for the future security of the United States; to provide for the establishment of integrated policies and procedures for the departments, agencies and functions of the government relating to the national security; to provide three military departments for the operation and administration of the Army, the Navy, and the Air Force, with their assigned combat and service components; to provide for their authoritative coordination and unified direction under civilian control but not to merge them; and to provide for the effective strategic direction and operation of the armed forces and for their operation under unified control and for their integration into an efficient team of land, naval and air forces.

Comprehensive information about the U.S. Air Force is available on the Internet at www.af.mil.

UNITED STATES AIR FORCE

■ Mission

The National Security Act of 1947 established the United States Air Force (USAF) with the mission to defend the United States and to protect its interests through aerospace power. The new service joined the Army and Navy with the larger mission to

- Preserve and defend national peace and security
- Support national policies
- Implement national objectives
- Overcome any nation responsible for acts aggressive to the United States

Title 10. As chartered by Congress in Title 10, the USAF mission is subject to constant oversight. Title 10 states that the Air Force “shall be organized, trained and equipped primarily for prompt and sustained offensive and defensive air operations.” Any change in overall readiness must be reported within twenty-four hours. The Secretary of Defense is required to maintain a Readiness Reporting System to inform Congress of the status of monthly and annual goals.

With this level of oversight, the Air Force must focus much of its resources on organizing, training, and equipping itself for action. Even in peacetime, the Air Force conducts “wartime” training. In order to provide the land and air-space necessary to conduct the training, Congress periodically sets aside space for military use. The procedures for establishment of special use airspace were derived from the Federal Aviation Act of 1958.

■ History

The evolution of the Air Force began with the formation of the Aeronautical Division of the Army Signal Corps, before World War I. While it was clear that air power had potential, its ability to affect the outcome of war had not been proven. During the early 1900s, technological development of the airplane progressed slowly in the United States. Meanwhile, European nations were arming themselves for war and exploring advancements in observation and pursuit aircraft.

When America became involved in World War I, its air role was initially very small, but by war’s end, 11,000 Americans were flying. One USAF officer, Lieutenant Colonel Billy Mitchell, emerged as one of the founding fathers of an independent air arm. He had honed his aviation skills and learned strategy and tactics from Britain’s independent air force. In 1918, he translated his knowledge into action as he took command as Air Marshall of the American Expeditionary Forces.

Mitchell became an intense proponent for air power. He predicted in his book, *Our Air Force*,

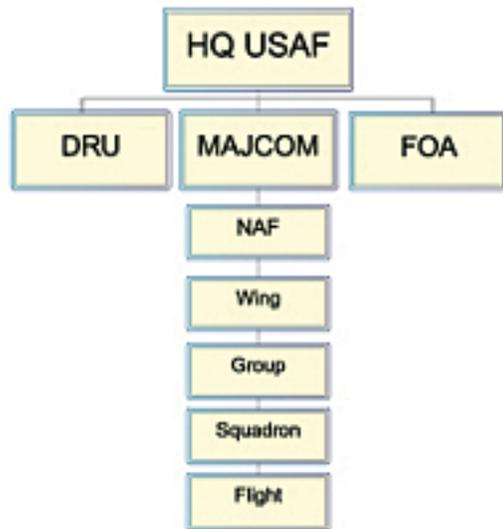
The first battles of any future war will be air battles. The nation winning them is practically certain to win the whole war because the victorious air service will be able to operate and increase without hindrance.

American air power came of age during World War II, when it proved decisive and effective. On June 20, 1941, the Department of War created the Army Air Forces (AAF) as its aviation element and shortly thereafter made it equal to the Army Ground Forces. The Air Corps remained as one of the Army’s combat arms, like the infantry. AAF units conducted a wide range of air operations over every theater of battle.

Based on its achievements in air superiority, the Air Force would become the first line of defense in a post-war world. General Henry “Hap” Arnold, in his capacity as the commanding General of the Army Air Forces, made a separate Air Force his highest priority.

On September 18, 1947, the National Security Act established the Air Force as a separate service, equal to the Army and Navy. Shortly after taking office as the first Secretary of the Air Force, W. Stuart Symington, summarized the importance of the event:

In this day when a powerful counterattack is America’s only real answer to aggression, there can be no question that we need the world’s first Air Force. It is only through the global, flashing mobility of the Air Force that we can hold our counterattack poised . . . we feel, with deep conviction, that the destiny of the United States rests on the continued development of our Air Force.



Lineage of the United States Air Force

Aeronautical Division,
U.S. Army Signal Corps
1 August 1907 – 18 July 1914

Aviation Section,
U.S. Army Signal Corps
18 July 1914 – 20 May 1918

Division of Military
Aeronautics
20 May 1918 – 24 May 1918

U.S. Army Air Service
24 May 1918 – 2 July 1926

U.S. Army Air Corps
2 July 1926 – 20 June 1941

U.S. Army Air Forces
20 June 1941 – 18 Sept. 1947

U.S. Air Force
18 September 1947 –

■ Organization

Headquarters United States Air Force (HQ USAF). The senior headquarters of the Air Force consists of two major entities: the Secretariat (including the Secretary of the Air Force and the Secretary's principal staff), and the Air Staff, headed by the Air Force Chief of Staff (CSAF).

Direct Reporting Unit (DRU). DRUs are directly subordinate to the CSAF and perform a mission that does not fit into any of the MAJCOMs. A DRU has many of the same administrative and organizational responsibilities as a MAJCOM.

Field Operating Agency (FOA). FOAs are directly subordinate to an HQ USAF functional manager. A FOA performs field activities beyond the scope of any of the major commands. The activities are specialized or associated with an Air Force-wide mission and do not include functions performed in management headquarters, unless specifically directed by a DOD authority.

Major Command (MAJCOM). A major subdivision of the Air Force, directly subordinate to Headquarters, MAJCOMs are organized on a functional basis in the United States and on a geographical basis overseas. The MAJCOMs organize, administer, train, and equip subordinate elements for assigned missions. The subordinate elements in descending order are numbered air forces, wings, groups, squadrons, and flights.

Numbered Air Force (NAF). A level of command directly under a MAJCOM, NAFs are tactical echelons that provide operational leadership

and supervision. NAFs are not management headquarters and do not have complete functional staffs. Many NAFs are responsible for MAJCOM operations in a specific geographic region or theater of operations. A NAF is assigned subordinate units, such as wings, groups, and squadrons.

Wing. A level of command below the NAF or higher HQ USAF, a wing has a distinct mission with significant scope. It is responsible for maintaining the installation or has several squadrons in more than one dependent group. A wing consists of 1,000 to 5,000 airmen.

Group. A level of command below the wing (like the NAF) is a tactical echelon without significant staff support. A group usually has two or more subordinate units. A group has approximately 500 to 2,000 airmen.

Squadron. The basic unit in the Air Force, a squadron may be either a mission unit, such as an operational flying squadron, or a functional unit, such as a civil engineer, security forces, or transportation squadron. Squadrons vary in size according to responsibility. A squadron has approximately 50 to 750 airmen.

Flight. If internal subdivision is required, squadrons may be divided into flights.

■ Air Force Reserve, National Guard, and Civilians

Today's Air Force is a total force of approximately 700,000 active duty, reserve, guard, and civilian personnel. Approximately 355,000 active duty members serve side by side with 160,000 civilian personnel. Approximately 75,000 reservists and 110,000 Air National Guardsmen serve part-time and are ready to be called to active duty.

Air Force Reserve (AFR). The Air Force Reserve contributes daily to the USAF mission and is actively involved in operations around the world. Its primary charge is readiness, achieved by providing the nation's leaders with trained units ready for duty at all times. The Reserve provides roughly 10 percent of the Air Force's available manpower, yet more than 30 percent of all USAF missions are accomplished through the efforts of reservists.

Headquartered at Robins Air Force Base in Warner Robins, Georgia, the Air Force Reserve is charged with monitoring and overseeing the day-to-day activities of more than 300 flying and support units. Each of the Reserve's 36 wings is

For information about a particular Western Pacific USAF installation, please see chapter 5 and/or refer to the Air Force's website at www.af.mil.

charged with a core mission that is accomplished through the collaboration of a variety of specifically tasked squadrons.

Air National Guard (ANG). The Air National Guard has total responsibility for air defense of the entire United States. Made up of more than 110,000 officers and enlisted people serving in 88 flying units and 280 independent support units, the ANG provides almost half of the active duty Air Force's tactical airlift support, combat communications functions, aeromedical evacuations, and aerial refueling. The ANG has both federal and state missions, and every guardsman holds membership in the National Guard of his or her state as well as the National Guard of the United States.

The federal mission of the ANG is to maintain well-trained, well-equipped units available for prompt mobilization during war and to provide assistance during national emergencies. During peacetime, the combat-ready units and support units are assigned to most USAF MAJCOMs to carry out missions compatible with training, mobilization readiness, and contingency operations such as Operation Joint Endeavor Guard in Bosnia and Operation Southern Watch in Kuwait.

When ANG units are not mobilized or under federal control, they report to the governor of their respective state or territory (Puerto Rico, Guam, Virgin Islands) or to the commanding general of the District of Columbia National Guard. Each of the 54 ANG organizations is supervised by the adjutant general of the state or territory. Under state laws, the ANG provides for the protection of life and property and preserves the peace, order, and public safety. Many of these missions are accomplished through emergency relief support during natural disasters such as floods, earthquakes, and forest fires.

Civilians. The Air Force employs more than 160,000 civilians throughout the Pentagon and every installation in the country. These civilians work alongside their uniformed colleagues at every level of the Air Force. Many positions can be held by either a military or a civilian employee, so it is not unusual to find a "Mr." or "Ms." at an installation instead of a rank designation.

Individual Installations. A USAF base may house one or more wings with several groups and squadrons assigned. The standard operational wing structure is four dependent groups (operations, support, logistics, and medical), with related functions and disciplines aligned under the appropriate group. Bases will normally have one wing as the host unit and they will have the following points of contact (POCs):

Wing Commander. The wing commander has authority and responsibility over every aspect of the wing. In order to ensure combat capability the wing commander delegates responsibilities for carrying out specific parts of the wing mission to the wing staff.

Public Affairs (PA): A key function of the wing staff, public affairs builds and maintains support for the Air Force through effective communication. The PA office at the wing directs all public affairs and internal information activities, acts as a representative of the commander to news media and the public, and provides public affairs counsel and services to the commander. The PA staff are the focal point for interaction with the public and are a key POC for questions.

Operations Group. The operations group operates and maintains primary mission equipment.

Airspace Management: The airspace manager resides in the operations group. The duty of the airspace manager is outlined in the "Air Force Airspace Representatives" section.

Support Group. The support group provides base support and services.

Civil Engineering (CE): The CE office maintains a healthy and safe environment on the base. Included in their responsibilities of general base maintenance and engineering of base facilities is an office or representative that deals with environmental management and related issues on base. The POC for environmental management is in the CE office.

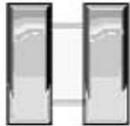
Logistics Group. The logistics group supports the primary mission with materiel, resources, and data.

Medical Group. The medical group provides medical support and service to the wing.



An airman from the Pennsylvania National Guard stands in front of an EC-130. (USAF photo)

U.S. Air Force Rank Insignia

Officer		Enlisted	
		(No Insignia)	
Second Lieutenant (O-1)	Colonel (O-6)	Airman Basic (E-1)	Master Sergeant (E-7)
			
First Lieutenant (O-2)	Brigadier General (O-7)	Airman (E-2)	Senior Master Sergeant (E-8)
			
Captain (O-3)	Major General (O-8)	Airman First Class (E-3)	Chief Master Sergeant (E-9)
			
Major (O-4)	Lieutenant General (O-9)	Senior Airman (E-4)	Chief Master Sergeant of the Air Force
			
Lieutenant Colonel (O-5)	General (O-10)	Technical Sergeant (E-6)	

The Federal Land- and Water-Managing Agencies

The National Park Service is one of several federal land- and water-managing agencies, which are spread across several departments:

U.S. Department of Agriculture
• U.S. Forest Service

U.S. Department of Commerce
• National Oceanic and Atmospheric Administration,
National Marine Fisheries Service

U.S. Department of the Interior
• Bureau of Land Management
• Bureau of Reclamation
• National Park Service
• U.S. Fish and Wildlife Service

Comprehensive information about the National Park Service is available on the Internet at www.nps.gov.

NATIONAL PARK SERVICE

■ Mission

The mission of the National Park Service is to preserve unimpaired the natural and cultural resources and values of the National Park System for the enjoyment, education, and inspiration of this and future generations. The National Park Service also cooperates with partners to extend the benefits of natural and cultural resource conservation and outdoor recreation throughout this country and the world.

In carrying out this mission, the Park Service manages a system that currently contains 387 units and encompasses more than 83 million acres. These national parks represent America's great scenic and natural places, physical remnants of the nation's cultural heritage, and repositories of outstanding recreation opportunities. In 2001, about 286 million visitors from 50 states, the District of Columbia, U.S. territories, and nearly every nation of the world passed through national park gates, a figure that has grown steadily since World War II.

■ The Role of Parks in American Society

Facts and figures about acreage, visitation, and the growth of the Park System do not tell the whole story of the special role that parks have played in American society since Yellowstone, the first park, was established in 1872.

Wallace Stegner said it simply and directly in 1983: "National Parks are the best idea we ever had. Absolutely American, absolutely democratic, they reflect our best rather than our worst." Parklands are the source of inspiration for artists, authors, songwriters, and millions of campfire storytellers, and they have played a central role in the development of the American conservation ethic. Politicians, following public opinion, have added parks to the National Park System in every Congress and every administration for the past 50 years to recognize and honor the nation's history and cultural heritage and to

set aside lands with the highest levels of managed protection. Industry has embraced the national parks in product marketing and in direct park support as a demonstration of good corporate citizenship. Hollywood and Madison Avenue reinforce the images of national parks in print and on film, billboards, buses, and banners. Every year, the National Park Service processes more than 4,000 requests for permits to film in national parks.

Photographs from national parks are included in nearly every family photo album. Like all great ideas, national parks and what they represent have taken hold in American society and are reflected in virtually every corner of American life.

The unique place parks hold in the national conscience weighs heavily on the National Park Service and guides the sense of mission felt deeply by the Service's employees. As the nation has come to recognize the importance of air, land, water, and species protection, the agency's own focus and expression of its mission has evolved. Parks are increasingly being observed and managed as places of refuge for animals, plants, and visitors as urban pressures increase, and as reservoirs of opportunity for scientific research.

■ History

In 1872, Congress set aside more than two million acres of spectacular and valuable land as Yellowstone National Park and directed the Secretary of the Interior to "provide for the preservation, from injury or spoliation, of all timber, mineral deposits, natural curiosities or wonders . . . in their natural condition." The idea of a national park was an American invention of historic consequences, marking the beginning of a worldwide movement that has subsequently spread to more than 100 countries and resulted in the protection of 1,200 national parks and conservation preserves. However, when Yellowstone National Park was established, no concept or plan existed upon which to build a system of such parks. The concept of a National Park System embracing a wide variety of natural and cultural resources evolved slowly over the years, often through the consolidation of federal land management responsibilities.

Following the precedent set by the creation of Yellowstone, by 1900, five additional national parks or monuments had been created (Casa Grande in Arizona; Sequoia, Yosemite, and General Grant in California; and Mount Rainier in Washington). As interest grew in preserving

Paint Pot at
Yellowstone
National Park



the great scenic wonders of the American West, efforts were also under way to protect the sites and structures associated with early Native American culture, particularly in the Southwest. The Antiquities Act of 1906 authorized the President “to declare by public proclamation (as national monuments) historic landmarks, historic and prehistoric structures, and other objects of historic or scientific interest.” Devils Tower in Wyoming was the first national monument established under the Antiquities Act. Other monuments established shortly thereafter were Montezuma Castle and Petrified Forest in Arizona and El Morro in New Mexico.

In 1916, Congress created the National Park Service in the Department of the Interior to “promote and regulate the use of the federal areas known as national parks, monuments and reservations.” Parks and other such units that had previously been administered and operated by the U. S. Army were transferred to the National Park Service.

The number and diversity of parks within the National Park System grew significantly in 1933, when nearly 50 historical sites were transferred by executive order to the National Park Service from the several previous administering agencies, most of them in the Departments of War and Agriculture. At one stroke of the President’s pen, the number of areas in the National Park System was almost doubled. Included were 11 national military parks, 10 battlefield sites, 12 national cemeteries, and 10 national monuments.

Further major expansions of the National Park System resulted from the Historic Sites Act of 1935, the Park, Parkway and Recreation Study Act of 1936, the National Parks and Recreation Act of 1978, and the Alaska National Interest Lands Conservation Act of 1980.

■ Organization

The National Park Service is organized in a tiered fashion with overall management and guidance coming from its central Washington Office through seven regional offices to park superintendents. Superintendents are granted broad discretionary power for independent management of the parks, and they are generally in charge of all staff and all aspects of operations, planning, and funding. However, major political, policy, or regulatory decisions or decisions that have implications beyond the unit boundary are frequently made at the regional or Washington Office level.

The National Park Service employs about 21,000 permanent and seasonal employees and numerous volunteers.

Washington Office (WASO). The Director of the National Park Service is selected by the President and confirmed by Congress. The Director has two deputy directors, one who supervises the overall operations of the National Park System and the other who supervises the NPS partnership programs and external affairs, including coordination with the military and other agencies, such as the FAA.

Five associate directors report to the Director and deputies. The associate directors supervise functional programs (currently grouped under the headings of administration, park operations and education, professional services, cultural resource stewardship and partnerships, and natural resource stewardship and science). However, the Washington Office is in the process of being reorganized, and some of these functional programs will be modified and supplemented. The reorganization should be completed in the fall of 2002. The associate directors and their staffs support the parks and regions within their respective areas of responsibility.

Technical expertise and products are available to the parks from several national support offices, including the Soundscapes Program Center (advice, guidance, and technical support to parks for purposes of characterizing and preserving park soundscapes), the Harpers Ferry Center (interpretive planning, publications, and audiovisual media to support visitor programs), the Denver Service Center (major planning, design, engineering, and construction contracting services), the National Center for Recreation and Conservation (national rivers and trails programs), the Natural Resources Program Center (assistance in natural resource information and management), and the National Center for Preservation, Technology, and Training (National Historic Register programs and assistance for cultural resource preservation).

Regional Offices. The seven regions of the National Park Service are Alaska, Pacific West, Intermountain, Midwest, Southeast, Northeast, and National Capital (see map on page 10). The regional offices are supervised by regional directors, who have line authority from the Director of the National Park Service to direct the operation of the parks within their purview. The regional offices are organized to meet the particular needs of the parks within their regions. One to three support offices (SOs) associated with

For more information about a particular National Park System unit, please see chapter 5 and/or refer to the National Park Service website at www.nps.gov.

each regional office provide technical assistance to the parks in support of their planning/compliance, resource management, visitor services, and administrative activities.

Park Units. The units of the National Park System have various designations that include, but are not limited to, national parks, historical parks, monuments, historic sites, military parks, battlefields, recreation areas, lakeshores, seashores, and memorials. They vary in size from more than 13 million acres at Wrangell-St. Elias National Park in Alaska to memorials and other sites of an acre or less. Each of these units represents some nationally significant aspect of

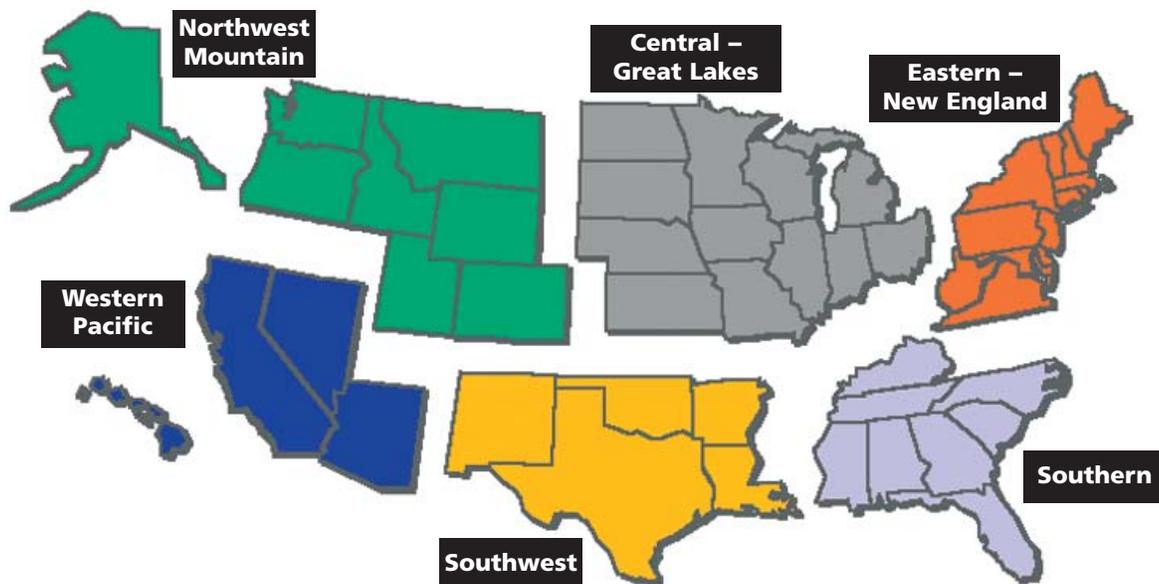
our country's natural or cultural heritage. In 1970, Congress elaborated on the 1916 National Park Service Organic Act to declare that all units of the system have equal legal standing. All of the units are generically referred to as parks.

Each unit is managed by a superintendent. At the larger parks, an assistant superintendent and several division chiefs assist the superintendent. Park staffs usually include protection/law enforcement rangers, natural and cultural resource management specialists, maintenance personnel, visitor services and interpretive specialists, and administrative staff.

National Park Service Regions



U.S. Air Force Airspace and Range Council Regions



Chapter 2. Types of Airspace and National Park System Units

Airspace Over Parks

All airspace in the country, including the airspace over parks, is controlled by the FAA. The FAA coordinates with the various branches of the military, general aviation, and commercial airlines for their use of designated airspace.

Commercial park air tour operations occurring over parks will be jointly addressed in FAA/NPS air tour management plans.

AIRSPACE

■ Introduction

Airspace at first glance appears to be an unquantifiable and endless resource. In reality, the airspace is a limited and closely supervised resource with defined quantities and attributes with strict rules of use. In order for USAF and NPS personnel to fulfill their respective missions, it is imperative that they have a working knowledge of the airspace structure, the operational requirements of each of the various types of airspace, and the applicable rules for operating in concert with other users of the system.

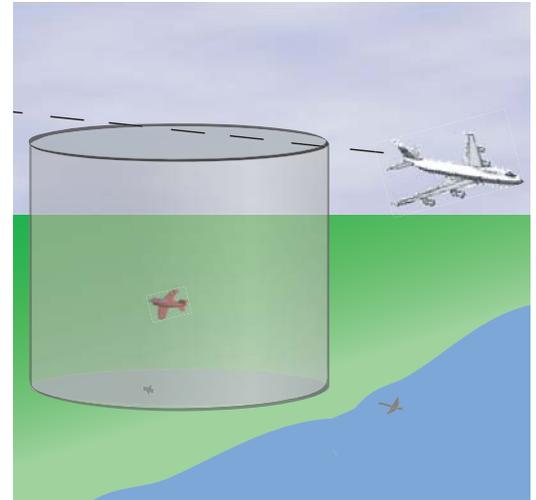
It is important that aircrews, airspace managers, and their counterparts in the National Park Service be familiar with the operational requirements of each of the various types of airspace. Such knowledge is needed in order to assess the impact on ground activity of an overlying airspace use, or to assess the potential for conflict with aircraft operations of an underlying land use.

■ Conceptualizing Airspace

When defining a section of airspace four criteria are considered.

Volume. Volume is a key concept to understanding the amount of airspace actually being used. The length and width of airspace are visible on a two-dimensional map, but the floor and ceiling of the area must also be included to see the complete picture, as airspace is always defined using three dimensions. Airspace used for flying operations could begin as low as the surface and extend upward over 50,000'. This unique characteristic of airspace enables numerous users to safely operate at the same geographical location, but at different altitudes.

Proximity. Airspace is often tied to an airfield or a military installation. The proximity affects the utility of a piece of airspace and its use. The military would like aircraft departing an installation to use the closest range and airspace possible in order to maximize training time and minimize transit time.



Time. Airspace is allotted for use for specific amounts of time. A designated block of airspace can be used to separate unusual flight maneuvers from other aircraft, and only minutes later that same block can be used to route aircraft to their final destinations. When not in use, airspace is often released back to the FAA for other users, an important aspect of the flexibility of airspace.

Attributes. Airspace attributes describe the physical characteristics of the underlying land that make certain pieces of airspace unique. Those attributes might be a range or a certain type of terrain needed to meet testing and training requirements, including open water, desert or mountains.

■ The Federal Aviation Administration (FAA) and Its Role

Congress has given the FAA the overall responsibility for managing the airspace of the United States and its territories to ensure the safety of aircraft and the efficient utilization of the airspace. The FAA constantly reviews civil and military airspace needs to ensure that all interests are served to the greatest extent possible.

The wide range of users who share the airspace above the country are generally grouped into three types: (1) general aviation, which includes commercial air tours and recreational flights, (2) commercial airlines, which use airspace to move

National Airspace Redesign (NAR)

NAR is an FAA initiative to review, redesign, and restructure the nation's airspace to meet the rapidly changing and increasing operational demands on the National Airspace System (NAS). The focus of the redesign is to have airspace that is safe, secure, and efficient. The FAA is working toward decreasing delay, while increasing flexibility, predictability, and user access. Senior members of the DOD Policy Board on Federal Aviation, along with representatives from the Department of Transportation and the FAA, are currently determining a plan for effective joint FAA/DOD interaction. A part of the user access is the DOD Special Use Airspace Program.

NAR's success is dependent on the involvement of many FAA organizations and programs, as well as external stakeholders. Internally, the Air Traffic Headquarters of the FAA is utilizing a collaborative approach, jointly engaging management and union leadership. Externally, they have reaffirmed their commitment to listen to and involve communities and governments regarding environmental and operational issues by using informal methods (e.g., briefings and informational meetings) and formal methods (e.g., working with advisory committees and public meetings).

people and cargo quickly from one location to another, and (3) the military services, which use airspace to conduct testing and training. When safe and separate airspace is required for military training and operations, the Air Force submits a request to the FAA and defines the amount of airspace and time needed to conduct training and operations, as well as the terrain requirements. The Air Force, local air traffic control (ATC) agencies, and the FAA work together to determine the best place to establish safe airspace. This process takes into account the needs of each type of airspace user and the environment and can often take years to complete.

■ The National Airspace System (NAS)

All aviation activities occur within the NAS, which consists of all airspace over the United States below 60,000' MSL. The FAA, as the controlling authority, promulgates numerous regulations that all parties, including the Air Force, must follow. These regulations divide the airspace into two broad categories, controlled airspace and uncontrolled airspace. Within these two categories, six classifications determine the flight rules, pilot qualifications, and aircraft capabilities required in order to operate within any section of the airspace.

Controlled Airspace. Controlled airspace is airspace of defined dimensions within which ATC service is provided. Controlled airspace is divided into five classes (A-E). ATC service is provided to aircraft in accordance with the instrument flight rules (IFR) and the visual flight rules (VFR) specified by the airspace classification.

Class A Airspace. Class A airspace encompasses all airspace from 18,000' above mean sea level (MSL) to 60,000' MSL, including the airspace overlying the waters within 12 nautical miles (nm) of the coast of the 48 contiguous states and Alaska. All operations within Class A airspace must be under IFR and are under direct control of FAA controllers. This airspace includes a significant portion of the enroute structures (free-ways), discussed below.

Class B Airspace. The airspace that surrounds the nation's busiest commercial airports is usually Class B airspace. These areas tend to be the most congested airspace and have the most complex mix of aircraft operations, with everything from single-engine trainers to high-speed jet transports. At its core, Class B extends from the surface up to 10,000' MSL. All operations within Class B require specific approval by ATC.

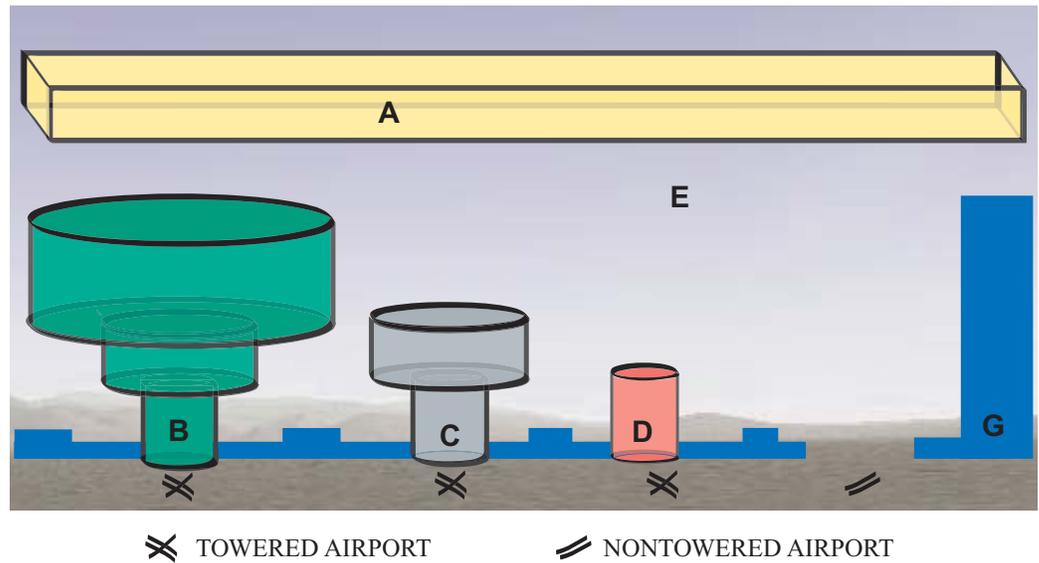
What are VFR and IFR?

Throughout this section, you will see the terms IFR (instrument flight rules) and VFR (visual flight rules). General aviation aircraft flying between local airports, sightseeing, etc., comprise the majority of flying completed under VFR. VFR generally allows pilots to fly off published routes using visual references such as highways, power lines, railroads, or other such cues. In order to fly under VFR, the weather must meet or exceed the minimum requirements, which generally means there must be at least 3 miles of visibility and the pilot must be able to remain clear of clouds by at least 500'. The minimum requirements change depending on the exact airspace classification. VFR flight is restricted to altitudes below 18,000' MSL and does not require flight clearances from ATC. VFR pilots exercise see and avoid clearance precautions, which means that they must be vigilant of their surroundings and alter their course or altitude, as necessary, to remain clear of other traffic, terrain, populated areas, cloud, etc.

IFR requires pilots to be trained and certified in navigational methodologies and to adhere to ATC clearances containing specific flight route and altitude directions. ATC clearances and use of elaborate radar and navigational aid systems keep IFR aircraft separated from each other. The safe use of all airspace depends on both VFR and IFR aircraft adhering to the rules that apply to their operations.

The overall shape of Class B airspace can be likened to an upside down wedding cake of several layers. The exact dimensions and shape of the layers are individually tailored to meet local traffic and safety needs. The outer limit is usually 30 nm from the primary airport. To increase safety, the airspace is designed to minimize the number of turns aircraft are required to perform as they descend to an airport and as they take off from an airport, while still enabling other aircraft to safely transition the area. Examples of airports that have Class B airspace surrounding them include Boston Logan, Chicago O'Hare International, Dallas/Fort Worth International, Los Angeles International, New York Kennedy, and Ronald Reagan Washington National Airports.

Class C Airspace. Class C airspace surrounds busy commercial airports of midsized cities with a large number of commercial flight operations, as well as some military airports. Operating



control towers at the primary airport and radar services are key components of Class C. The overall shape is also that of an upside down wedding cake, but there are only two layers. The inner ring has a radius of 5 nm and extends from the surface up to but not including 4,000' AGL. The outer ring has a radius of 10 nm and extends from 1,200' AGL up to but not including 4,000' AGL. Examples of airports that have Class C airspace include Greater Buffalo International, Portland International, Tulsa International, and San Antonio International Airports.

Class D Airspace. Class D airspace is applied to civilian and military airports with operating control towers but where the traffic volume does not meet Class C or B standards and where radar service often is unavailable. Traffic in this airspace usually lacks heavy jet transport activity but often includes a complex mix of general aviation, turboprop, and business jet traffic. The general shape of Class D airspace is a 5 nm ring from the surface up to but not including 2,500' AGL. The ring may have one or more extensions to accommodate IFR traffic. Examples of airports having Class D airspace include those at Wilmington, DE, Trenton, NJ, Muncie, IN, Fargo, ND, Grand Canyon, AZ, and Palm Springs, CA.

Class E Airspace. Class E airspace extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace. It includes all airspace from 14,500' MSL up to but not including 18,000' MSL. It also includes all other controlled airspace necessary for IFR operations at lower altitudes but not already classified as Class A-D.

Uncontrolled Airspace.

Class G Airspace. Class G airspace is uncontrolled airspace and includes all airspace not otherwise designated as Class A-E.

Enroute Structures

When people drive from one large city to the next, they leave their homes and wind their way through traffic and cross intersections until they get to a freeway and speed off toward their destination. When close to their destination city, they exit the freeway and wind their way through the traffic, crossing intersections, until they reach their end point. Commercial air travel follows similar procedures. Aircraft take off from an airport and climb through congested airspace to an enroute structure (freeway) that expedites their travel. Upon approaching their destination, they descend again through another congested airspace to land. The one key difference between airline travel and vehicle travel is that vehicles have the luxury of being able to stop at an intersection to allow crossing traffic, while aircraft cannot. Enroute structures consist of several routing corridors, which are essentially highways in the sky, utilized by both IFR and VFR traffic.

Low Altitude Airways (Victor Airways). Victor Airways are “highways” utilized by both IFR and VFR traffic. They are 8 nm wide and generally go from 1,200' AGL up to but not including 18,000' MSL. The airway floor varies to ensure that aircraft operating on the airway remain clear of ground obstructions and have the ability to receive the radio signals from the navigational facilities. These airways are depicted on aeronautical charts as blue shaded lines with a “V,” hence the term *victor*, followed by a number (e.g., V-820).

Jet Routes. Jet routes serve the same function as the low altitude airways except that they are found at 18,000' MSL and above, up to 45,000' MSL. The traffic on a jet route is always operating under IFR and is managed by ATC.

VFR Flyways. VFR flyways are general routes for VFR traffic wishing to fly near or through Class B airspace. The intent is to provide greater protection to IFR traffic by encouraging VFR traffic into preferred routes away from the critical IFR operations. Flyways may be charted on terminal area charts, but they may also be known and used locally only through word of mouth. The best way to determine if a flyway exists locally is to ask the controlling ATC facility.

VFR Corridors. VFR corridors are basically “holes” in Class B airspace with specific horizontal and vertical boundaries through which pilots may pass through the airspace without obtaining a clearance or maintaining communication with ATC. They are similar to VFR flyways except that they have specific dimensions, which must be followed by all participating aircraft.

VFR Transition Routes. VFR transition routes are similar to VFR corridors and are used to accommodate VFR traffic passing through certain Class B airspace. The difference from a VFR corridor is that a transition route requires clearance from ATC, and radar separation service is always provided.

■ Special Use Airspace (SUA)

SUA is an airspace designation that alerts users to areas of unusual flight hazards and separates that activity to enhance safety.

Military Operations Area (MOA). A MOA is airspace designated for military training activities including acrobatic or abrupt flight maneuvers. Activities conducted in MOAs include but are not limited to aerobatics, air combat tactics, and formation training. MOAs have a defined floor and ceiling, which can range from the surface up to the floor of Class A airspace (18,000' MSL). VFR aircraft are not restricted from transiting MOAs. However, transitioning IFR aircraft can only be

cleared through an activated MOA if ATC can safely keep them separated from the other activities in the MOA.

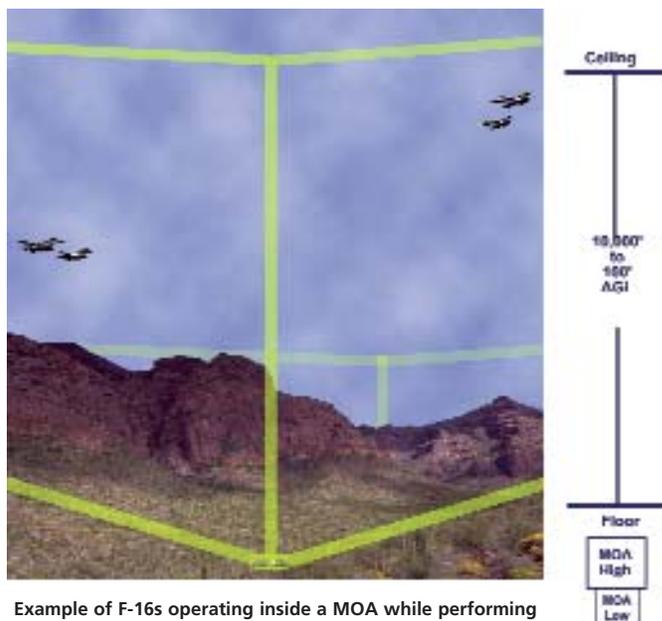
MOAs are depicted on maps in this publication with a solid blue line with an identifier followed by the word “MOA”, e.g., SALINE MOA or JACKAL MOA.

Alert Area. Alert areas contain activities that present a hazard to other aircraft such as a high volume of pilot training or an unusual type of aerial activity. The types of flying involved in alert areas can be military training, aircraft manufacturer testing, or a high concentration of flights (e.g., helicopter activity near oil rigs).

Alert Areas are depicted on maps in this publication with a solid dark gray line with the letter “A” followed by an alphanumeric identifier, e.g., A231 or A682A.

Prohibited Area. Prohibited areas prohibit overflight of a surface area in the interest of national security or environmental protection. Aircraft are prohibited from flying within a prohibited area without permission of the using agency. Interestingly, there are no prohibited areas managed by the DOD. Examples of prohibited areas include the White House, the National Mall, and Camp David.

Prohibited areas are depicted on maps in this publication with a solid pink line with the letter “P” followed by an alphanumeric identifier, e.g., P40 or P56A.



Restricted Area. Restricted areas are established where ongoing or intermittent activities create unusual and often invisible hazards to aircraft, such as artillery firing, aerial gunnery, practice bomb dropping, and guided missile testing. Restricted areas differ from prohibited areas in that most have specific hours of operation and entry during these hours requires specific permission from the FAA or the agency that controls the area.

Restricted Areas are depicted on maps in this publication with a solid red line with the letter “R” followed by an alphanumeric identifier, e.g., R2508 or R2301W.

Warning Area. Warning areas contain the same kind of hazardous flight activity as restricted areas and MOAs, but are located offshore over domestic and international waters. Examples of likely hazards include artillery firing, aerial gunnery, guided missile exercises, and practice

aircraft interceptions. Warning areas generally begin 12nm off shore.

Warning Areas are depicted on maps in this publication with a solid light gray line with the letter “W” followed by an alphanumeric identifier, e.g., W289 or W285B.

Controlled Firing Area (CFA). CFAs contain civilian and military activities that could be hazardous to nonparticipating aircraft. These include rocket testing, ordnance disposal, and small arms fire. CFAs are differentiated from MOAs and restricted areas in that the hazardous activities are suspended to avoid a potential hazard to nonparticipating aircraft. Radar or a ground lookout is utilized to indicate when an aircraft might be approaching the area, and activities are then suspended.

■ **Airspace for Special Use (ASU)**

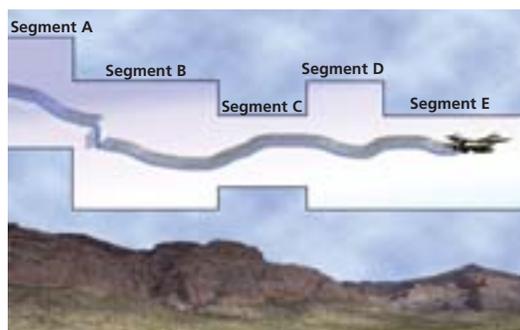
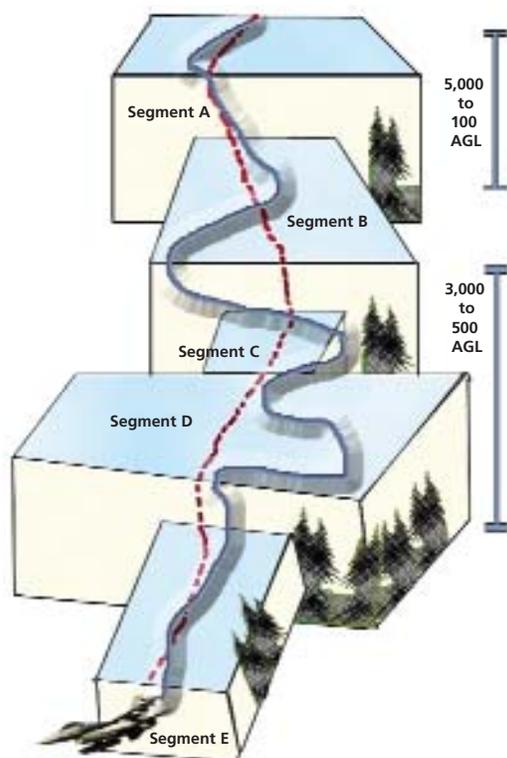
ASU is a term used collectively to identify other airspace established for military use that does not meet the criteria for SUA. ASU is airspace of defined dimensions wherein activities must be confined because of their nature, and/or wherein limitations may be imposed upon aircraft operations that are not part of the special activities.

Air Traffic Control Assigned Airspace (ATCAA). ATCAAs were established to permit the continuation of MOA activities above 18,000’ MSL. From the standpoint of the users, MOA and ATCAA are combined into one piece of airspace, with 18,000’ MSL acting as an administrative boundary. Usually, the ATCAA is activated concurrently with the MOA. VFR aircraft are permitted to enter a MOA, but are not permitted to enter most ATCAAs because they are not permitted to fly VFR above 18,000’ MSL. MOAs are depicted on aeronautical charts, but ATCAAs are not depicted.

Military Training Routes (MTRs). The Air Force trains in a wide range of tactics, one of which is low-level combat. The MTR program is a joint venture by the FAA and the DOD to develop MTRs for the purpose of conducting low-altitude, high-speed training. Generally MTRs are established below 10,000’ MSL for operations at speeds in excess of 250 knots. Each segment of an MTR route is allocated a floor and ceiling altitude and lateral boundaries. The floor may be at the earth’s surface or at any altitude above the surface. Lateral boundaries are described by nautical miles left and right of the route.

Elements of an MTR (top) and side view of an MTR (bottom):

MTRs could be viewed as a series of individual segments of airspace which may vary in size from one block to the next, and which are linked together by a common thread known as the centerline. The aircraft that fly the MTR are required to stay within the blocks of airspace, and generally fly along the centerline but are not required to. The blue line in these illustrations could represent an actual aircraft’s flight path along an MTR.



Navigational Aids / Range Instrumentation

To safely and effectively control their assigned airspace, the military and FAA maintain radars, sensors, and communication facilities, often in remote areas such as national parks and wilderness areas. The data gathered is shared to the maximum extent possible.



The F-16 Fighting Falcon is a compact, multi-role fighter. (USAF photo by Senior Airman Greg L. Davis.)

MTRs are subdivided into three types:

IFR Military Training Route (IR). Operations on IR routes are conducted in accordance with IFR regardless of weather conditions. IR routes are depicted on maps in this publication with a green dashed line.

VFR Military Training Route (VR). Operations on VR routes are conducted in accordance with VFR, except flight visibility must be at least 5 nm and the cloud ceiling must be at least 3,000' AGL. VR routes are depicted on maps in this publication with a blue dashed line.

Slow Speed Low Altitude Training Routes (SR). About 200 SRs in the United States are used for military air operations at or below 1,500' AGL and at air speeds of 250 kts or less. SR routes are depicted on maps in this publication with a red dashed line.

For identification purposes:

- Routes are one-way, so the same route flown in the opposite direction will have a separate distinct identifier.
- MTRs with no segment above 1,500' AGL are identified by four numbers, e.g., IR-1206 or VR-1207.
- MTRs that include one or more segments above 1,500' AGL are identified by three numbers, e.g., IR-207 or SR-207.
- Alternate IR/VR routes or route segments are identified by using the principal route designation followed by a letter suffix; e.g., IR-008A or VR-1007B.

■ Other Military Airspace Structures

Due to the unique nature of military operations and training and testing requirements, other airspace for special military use has been developed outside of the SUA and ASU programs.

Low Altitude Tactical Navigation Areas (LATN). LATNs are large, clearly defined geographical areas where the Air Force practices random VFR tactical navigation that typically ranges from 500' to 1,500' AGL at or below 250 kts. The floor and ceiling altitudes may vary depending on the objective of the training mission and could be flown as low as 300' AGL. These areas are not charted; however, current information concerning LATNs is available from the local USAF facilities if questions arise.

Temporary Special Use Airspace (TSUA). The military and the FAA have the ability to create temporary MOAs or temporary restricted areas to accommodate the specific needs of a particular military exercise. This information is available via either the Notice to Airmen (NOTAM) system or by direct contact with the FAA regional headquarters.

Temporary Flight Restriction (TFR). A TFR can be established to protect people or property from a temporary hazard when the presence of low-flying aircraft would magnify, alter, spread, or compound the hazard. A TFR would provide a safe environment for the operation of disaster relief aircraft or prevent any unsafe congestion of sightseeing aircraft above an incident or event, which may generate a high degree of interest. TFRs are commonly used to increase the safety of aircraft performing aerial firefighting operations. This information is available via NOTAM, and to preclude misunderstanding, the implementing NOTAM will contain specific and formatted information (see the example at the bottom of the page).

Example NOTAM: The Olympics at Salt Lake City

2/0714 – UT.. TEMPORARY FLIGHT RESTRICTIONS SALT LAKE CITY, UT. (2002 WINTER OLYMPIC GAMES/E CENTER). EFFECTIVE 0701 UTC FEBRUARY 6, 2002 UNTIL 0700 UTC FEBRUARY 25, 2002. PURSANT TO CFR 14 SECTION 91.145 AIRCRAFT FLIGHT OPERATIONS ARE PROHIBITED WITH A 2 NM RADIUS OF 404208N/1115706W OR THE SALT LAKE CITY VORTAC /SLC / 155 DGREE RADIAL AT 9 NAUTICAL MILES BELOW FL180. THE UTAH OLYMPIC PUBLIC SAFETY COMMAND, 801-257-2700, IS THE POINT OF CONTACT. CEDAR CITY AFSS, 435-586-1412, IS THE FAA COORDINATING FACILITY. WIE UNTIL UFN.



An F-15C prepares for aerial refueling.

(Photo courtesy of U.S. Air Force by Master Sgt. Marvica Krause)

Aerial Refueling (AR) Tracks and Anchors. AR tracks and anchors exist where the Air Force refuels its aircraft involved in training. They occur almost exclusively within Class A airspace. The AR track is normally 50-100 nm long, and the width is normally 4 nm to either side of a centerline unless otherwise specified.

Cruise Missile Route. Cruise missile operations conducted in excess of 250 kts and below 10,000' MSL are conducted in restricted areas, MOAs, and/or along selected IR MTRs during daylight hours under VFR conditions. Cruise missiles will be accompanied by two chase aircraft escorts that at all times have the ability to maneuver the missile out of the flight path of conflicting traffic.

National Security Area (NSA). An NSA is designated where there is a requirement for increased security and safety of ground facilities. When it is necessary to provide a greater level of security and safety, flight in NSAs may be temporarily prohibited by regulation under the provisions of Federal Aviation Regulation (FAR) Part 99.7.

Local Flying Areas. Most military facilities develop local flying areas within which they can conduct routine, nonhazardous training activity. These areas are normally developed in conjunction with local FAA controllers and airspace managers and are planned to not conflict with other airspace, such as Class B, C, or D airspace, SUAs, or ASUs.

■ Air Force Ranges

The Air Force needs ranges to test its weapons systems and train its aircrews. The increasing sophistication of aircraft and weapons requires testing and training to be as demanding and realistic as possible. No matter how capable aircraft and weapons become, each aircrew member must train in the individual skills and tasks required to become proficient. If the training gained during range missions can safely sim-

ulate the experience of combat, the aircrew's effectiveness will increase. The Air Force considers ranges and range infrastructure as national assets without which the nation's combat readiness would suffer.

What is a Range? A range is any land mass or water body and the associated airspace overlying it. Operationally it is a designated area established to conduct operations, training, research and development, and test and evaluation of military systems, personnel, tactics, munitions, explosives, or electronic combat systems. Range capabilities and services vary and are dependent upon test and training requirements delineated by the MAJCOMs.

Training. The types of training on ranges differ in terms of complexity, goals, and number of participants, all of which influence the requirements for the ranges and training areas. Air-to-air training requires airspace sufficient for the intended training, while air-to-ground training requires both surface area and related airspace. Where some type of target representation is required, it is often enhanced by scoring/feedback systems and is often accompanied by electronic threat emitters. In cases where some type of ordnance is actually released from the aircraft, the surface area must provide a large enough buffer zone to ensure public safety.

Test and Evaluation (T&E). T&E is an integral part of the weapons acquisition process. T&E allows decisions to be made about systems and technical performance, effectiveness, and suitability. Ranges support the testing and evaluation of new systems, improvement of existing weapons, and verification of the reliability of weapons stockpiles. Testing of aircraft handling qualities and performance, tactics evaluation, and weapons effects testing all require ranges. Range land and airspace, infrastructure, instrumentation, targets, and communications capabilities all compose integral components of T&E systems.

Edwards Air Force Base range targets





Canyonlands National Park
Utah



White Sands National Monument
New Mexico



Mojave National Preserve
California



Bent's Old Fort National Historic Site
Colorado
(Photo courtesy of Bill Witmer.)



Jefferson National Memorial
Washington, DC

NATIONAL PARK SYSTEM

■ Overview

The National Park System includes a great variety of nationally significant sites that together represent many of the outstanding natural, cultural, and recreational resources of the country. Whenever lands and waters are considered for inclusion in this system, they must first meet specific criteria for possessing nationally significant natural or cultural resources. However, not all such resources are included in the National Park System. Potential national parks must also represent a type of resource that is not already adequately represented in the National Park System or comparably protected for public enjoyment as part of some other federal, tribal, state, local government, or private system. The National Park Service recognizes that the protection of the country's national heritage requires the cooperative efforts of a great variety of land managers, and it works to support these efforts by partnering with others as well as by managing the lands included in national parks.

The numerous designations given to the units of the National Park System (park, monument, historic site, battlefield, etc.) represent the great diversity of resources included in the system. The designations are specified in the congressional legislation or the executive orders authorizing each unit. The names generally indicate the kinds and extent of resources included in the unit, although many units contain a great diversity of resources that would fit into several categories. The names also generally indicate the types of use these units receive. For example, most of the cultural units (historic sites) and most of the smaller monuments and memorials receive only day use, while many of the national parks, recreation areas, larger monuments, seashores, and lakeshores receive a considerable amount of overnight use.

The characteristics that generally describe the various units of the National Park System are summarized below. Regardless of their specific designations, all units of the National Park System have met criteria for national significance and are protected equally under the authorities of the National Park Service. All of the units are generically referred to as parks.

■ Types of National Park System Units

National Park. These are generally large natural places having a wide variety of resources, at times including significant historic assets. National parks are often major visitor destinations, where people plan to stay for several days. Approximately 15 percent of all park visitors stay overnight inside the park, and in 2001 some 1.3 million visitors spent the night in a park backcountry area. Hunting, mining, and consumptive activities are not authorized. Examples: Yosemite (CA) and Grand Canyon (AZ)

National Monument. The Antiquities Act of 1906 authorized the President to declare by public proclamation landmarks, structures, and other objects of historic or scientific interest situated on lands owned or controlled by the government to be national monuments. National monuments are usually smaller than national parks and lack the diversity of attractions. Examples: Lava Beds (CA) and White Sands (NM)

National Preserve. National preserves are areas having characteristics associated with national parks, but in which Congress may permit one or more of the following activities not normally authorized in national parks: public hunting, trapping, grazing, or oil/gas exploration and extraction. Examples: Mojave (CA) and Gates of the Arctic (AK)

National Historic Site. Usually, a national historic site contains a single historical feature that was directly associated with its subject. Derived from the Historic Sites Act of 1935, a number of historic sites were established by Secretaries of the Interior, but most have been authorized by acts of Congress. Examples: Fort Bowie (AZ) and John Muir (CA)

National Historical Park. This designation generally applies to historic parks that extend beyond single properties or buildings. They are commonly of greater physical extent and complexity than national historic sites. Examples: Appomattox Court House (VA) and Saratoga (NY)

National Memorial. A national memorial is commemorative of a historic person or episode; it need not occupy a site historically connected with its subject. Examples: Coronado National Memorial (AZ) and Vietnam Veterans Memorial (DC).



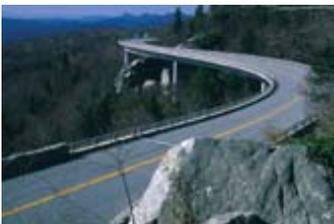
Antietam National Battlefield
Maryland



Lake Mead National Recreation Area
Nevada



Pictured Rocks National Lakeshore
Michigan



Blue Ridge Parkway
Virginia
(Photo courtesy of Bill Witmer.)

National Battlefield. This general title includes national battlefield, national battlefield park, national battlefield site, and national military park. In 1958, an NPS committee recommended national battlefield as the single title for all such parklands. Examples: Manassas (VA) and Antietam (MD)

National Cemetery. There are presently 14 national cemeteries in the National Park System, all of which are administered in conjunction with an associated unit and are not accounted for separately. Examples: Antietam (MD) and Fredericksburg (VA)

National Recreation Area. Twelve recreation areas in the system are centered on large reservoirs and emphasize water-based recreation. Five other NRAs are located near major population centers. Such urban parks combine scarce open spaces with the preservation of significant historic resources and important natural areas in locations that can provide outdoor recreation for large numbers of people. In 2001, the recreation areas accounted for 17 percent of all visits to the National Park System. Approximately 8 percent of visitors to national recreation areas spend a night inside the recreation area. Examples: Golden Gate (CA) and Lake Mead (NV)

National Seashore. Ten national seashores have been established on the Atlantic, Gulf, and Pacific coasts; some are developed and some relatively primitive. The national seashores focus on the preservation of natural values while at the same time providing water-oriented recreation. Hunting is allowed at many of these sites. Examples: Point Reyes (CA) and Cape Hatteras (NC)

National Lakeshore. The four national lakeshores, all on the Great Lakes, closely parallel the seashores in character and use. Examples: Pictured Rocks (MI) and Apostle Islands (WI)

National River. There are several variations to this category: national river and recreation area, national scenic river, wild river, etc. The first was authorized in 1964 and others were established

following passage of the Wild and Scenic Rivers Act of 1968. National rivers preserve ribbons of land bordering on free-flowing streams that have not been dammed, channelized, or otherwise altered. Besides preserving rivers in their natural state, these areas provide opportunities for outdoor activities such as hiking, canoeing, and hunting. Examples: Ozark (MO) and Obed (TN).

National Parkway. The title *parkway* refers to a roadway and the parkland paralleling the roadway. All were intended for scenic motoring along a protected corridor and often connect cultural sites. There are four national parkways in the Washington, DC, area. Examples: George Washington (DC) and Rock Creek (DC)

National Trail. National scenic trails and national historic trails are linear parklands authorized under the National Trails System Act of 1968. Totalling more than 3,600 miles, they are generally long-distance footpaths winding through areas of natural beauty. Examples: Lewis & Clark (OR) and Juan Bautista de Anza (AZ and CA)

Affiliated Areas. In an Act of August 18, 1970, the National Park System was defined in law as “any area of land and water now or hereafter administered by the Secretary of the Interior through the National Park Service for park, monument, historic, parkway, recreational or other purposes.” The affiliated areas comprise a variety of locations in the United States and Canada that preserve significant properties outside the National Park System. Some of these have been recognized by acts of Congress, others have been designated national historic sites by the Secretary of the Interior under authority of the Historic Sites Act of 1935. All draw on technical or financial aid from the National Park Service. Examples: Pinelands National Preserve (NJ) and Jamestown National Historic Site (VA)

Other Designations. Some units of the National Park System bear unique titles or combinations of titles, like the White House and Prince William Forest Park.



Cape Cod National Seashore, Massachusetts
(Photo courtesy of Bill Witmer)

Chapter 3. Air Force Airspace and National Park Service Soundscape Decision Making

AIR FORCE AIRSPACE DECISION MAKING

■ Administrative Authorities

Air Force Policy Directives (AFPDs). AFPDs are directive policy statements by the Secretary of the Air Force that initiate, govern, or regulate USAF activities at any level. AFPDs explain key terms, responsibilities and authority, and policy interfaces. They are generally concise, condensed two-page compositions that do not contain procedures or detailed “how-to” instructions. Range and airspace management is governed by:

AFPD 13-2: Air Traffic Control, Airspace, Airfield, and Range Management. AFPD 13-2 establishes the specific airspace-related duties of various USAF organizations for the purpose of maintaining a safe flying environment while ensuring a realistic training environment.

Air Force Instructions (AFIs). AFIs are orders of the Secretary of the Air Force that address the specific procedures and management details for implementing the AFPDs. The Air Force uses AFIs to direct action, to ensure compliance, or to give detailed procedures to standardize actions across the service. AFIs are created under controlled procedures that ensure coordination, review, certification, and approval, and they are maintained in an official record set to meet legal and historical requirements. The two key AFIs that address and guide airspace and range management based upon the principles of the policy in AFPD 13-2 are AFI 13-201 and AFI 13-212:

AFI 13-201: Air Force Airspace Management. AFI 13-201 provides guidance and procedures for developing and processing SUA. It covers the aeronautical matters governing the efficient planning, acquisition, use, and management of airspace required to support USAF flight operations. The document also establishes practices to decrease disturbances from flight operations and provides flying unit commanders with general guidance for dealing with local airspace issues.

AFI 13-212: Air Traffic Control, Airspace, Airfield, and Range Management. AFI 13-212 (three volumes) defines responsibilities and requirements for the planning, operation, management, safety, equipment, facilities, and security of all ranges operated by USAF, ANG, and AFRC Range Operating Agencies (ROAs). This instruction guides the safe, effective, and efficient implementation of policies for conducting realistic testing and training while minimizing potential impacts on the environment and surrounding communities.

Both of these extensive publications are available through the official USAF website www.af.mil and provide a highly detailed explanation of policy and procedures.

■ Air Force Airspace Representatives

Guided by the core concepts developed in the AFI process, USAF airspace representatives are equipped to deal with a variety of airspace-related issues.

Airspace Managers. USAF facilities and installations have assigned airspace managers at various levels of command who are responsible for working with the FAA and other agencies to identify, coordinate, procure, and manage airspace. Airspace managers are responsible for developing and coordinating agreements and procedures to support military flight operations in meeting both peacetime and wartime requirements. They are a good starting point for dealing with airspace issues and should be the first point of contact for issue resolution at the local level.

California Air National Guard pararescuemen of the 129th Rescue Wing, Moffett Federal Airfield, CA, climb up a moving rope ladder, from the chilly waters outside the Golden Gate Bridge, up to an HH-60G Pave Hawk. (Photo courtesy of U.S. Air Force by Tech. Sgt. Lance Cheung)





A Black Hawk helicopter is unloaded from a C-17 Globemaster III supporting Operation Enduring Freedom. (USAF photo by Tech. Sgt. Mike Buytas)

Air Force Representatives to the FAA (AFREPs).

Each military service has designated persons within each FAA region to facilitate coordination with the FAA on air traffic and airspace issues. In the case of the Air Force, these personnel are referred to as AFREPs. AFREPs are authorized to coordinate, negotiate, and communicate USAF positions on airspace and air traffic control matters within established policy and guidelines. They represent the Air Force in negotiations with competing aviation and land use interests, and they assist with airspace proposals and environmental documents. The AFREPs provide guidance and coordination services to their assigned units in the creation of and changes to airspace.

AFREPs commonly deal with the following issues: noise complaints, flight violation reports, airspace proposals, environmental impact statement/environmental assessment (EIS/EA), scoping meetings, and airspace user forums. They maintain liaison with appropriate federal headquarters and regional offices of the Departments of Interior, Agriculture, and Commerce, and with agencies within these departments, such as the Bureau of Land Management, the National Park Service, and the U.S. Forest Service. Additionally, they are a key participant in the Interagency Airspace and Natural Resources Coordination Group (IANRCG) meetings (see “Other Airspace Committees”).

MAJCOMs. Each USAF installation reports to a MAJCOM with an airspace management office. Both the installation airspace manager and the AFREP can assist on airspace issues at the installation, while the MAJCOM airspace managers can provide valuable assistance on larger airspace issues.

Air Force Airspace and Range Councils. HQ USAF sponsors national and regional Airspace and Range Council meetings to ensure that all USAF offices involved in an airspace and range operations have a common understanding of the objectives and key issues. The councils provide for a thorough review of airspace and range issues by interdisciplinary teams at all management levels. The council meetings are open to all military services, land management agencies, and other interested or concerned parties. The councils meet regionally and nationally to advise units, MAJCOMs, and HQ USAF and to provide all the council members with a flow of information and lessons learned in airspace and range development. The regional council meetings provide a geographic focus. The units, MAJCOMs, and/or regional AFREPs may host

council meetings. The national council meetings are convened annually to allow senior USAF leaders to review pending and proposed range and airspace actions from a national perspective and to provide feedback to regional councils.

Air Force Headquarters Offices.

HQ USAF/XOO-CA. The Office of the Associate Director for Civil Aviation promotes and brokers the USAF mission to civil aviation, both nationally and internationally. As the primary interface with the FAA, the office provides civil aviation’s portal into national defense. Other responsibilities include policy and oversight of operational readiness, aircrew management and personnel recovery, and development of air-power employment options and concepts.

HQ USAF/XOO-RA. The Office of the Associate Director for Ranges and Airspace is dedicated to the management of airspace and range assets throughout the Air Force. This office advocates for USAF ranges and airspace ensuring that they are sufficiently flexible, efficient, and realistic to ensure operational readiness through three key initiatives:

Proponent Leadership: Range and airspace issues are worked at every level within the Air Force by parallel teams in Air Staff, MAJCOMs, and units that operate ranges and airspace.

Communication: The Air Force places a high value on communication to identify issues and areas of concern. The agency communicates, cooperates, and collaborates with other military services, other governmental agencies, Native American tribal groups, non-governmental organizations, such as environmental groups, and the general public to address various concerns.

Partnering: The result of the first two initiative areas is the creation of durable partnerships between the Air Force and those groups concerned with USAF ranges and airspace. These partnerships allow the Air Force to enhance its operations as well as to address regulatory and public concerns.

Other Airspace Committees. The following committees have been developed to provide interagency cooperation and involvement on issues that shape airspace.

Interagency Airspace and Natural Resources Coordination Group (IANRCG). The IANRCG is a national committee formed in 1994 upon direction from the Senate Armed Services Committee to the Secretaries of Defense and

Interior. The committee's focus is to resolve air-space conflicts between the Department of Defense and agencies within the Departments of Agriculture and Interior. IANRCG is comprised of all the DOD branches and with members representing the Bureau of Land Management, the U.S. Forest Service, the U.S. Fish and Wildlife Service, and the Bureau of Indian Affairs. The IANRCG provides a forum for interagency discussion, integrated planning, collaborative dispute resolution, and facilitation of local and regional issues concerning the use of the nation's federally protected land resources and airspace.

Interagency Military Land Use Coordination Committee (IMLUCC). The IMLUCC was formed in 1997 to enhance dialogue on land use issues of mutual interest to the Departments of Defense, Interior, Agriculture, and Transportation. The mission of the committee is to facilitate cooperation and communication at the policy level. IMLUCC membership is at the deputy undersecretary level within the Departments of Defense and Agriculture and at the assistant secretary level within Interior. The scope of issues dealt with by IMLUCC is broad and deals with land withdrawal, joint stewardship, and contamination and cleanup, as well as with overflight and airspace issues. To enhance coordination, the overflight/airspace subcommittee is comprised of IANRCG Steering Group members.

Federal Interagency Committee for Aviation Noise (FICAN). FICAN was formed in 1993 to provide a forum for the debate of future research needs to better understand, predict, and control the effects of aviation noise. FICAN members include the Departments of Transportation, Defense, and Housing and Urban Development, the National Aeronautics and Space Administration, the Environmental Protection Agency, and the National Park Service.

DOD Policy Board on Federal Aviation (PBFA). The DOD management of airspace designated for military use is decentralized. Joint service airspace issues or interservice problems are resolved by a DOD headquarters policy board, the PBFA, composed of military representatives. The PBFA has established a subcommittee with primary interest in airspace issues.

FAA Users Groups. The FAA sponsors local meetings quarterly to allow local airspace users to provide input to airport improvements, airspace issues, or other topics and to provide a

forum for information sharing. These meetings are scheduled through the local FAA offices.

Airspace Organizational Terminology.

Using Agency. The using agency is the agency or military command organization that manages a SUA or an MTR under a memorandum of understanding (MOU) or letter of agreement (LOA) with the FAA.

Scheduling Agency/Activity. The scheduling agency/activity handles the daily administration of the SUA/MTR on behalf of the using agency. (Note that agency is the DOD term associated with SUAs, while activity is associated with MTRs.) This function is often performed by the using agency itself, and there may also be an alternate for after-hours or weekend coordination. Airspace will not be used for military activities unless scheduled by the responsible military office. MTRs and SUAs must be scheduled for use by USAF aircraft.

Controlling Agency. The controlling agency is responsible for ATC in the SUA, when it is no longer active for military use or as otherwise coordinated. This is normally an Air Route Traffic Control Center (ARTCC), but it may be a Terminal Radar Approach Control (TRACON) facility. Controlling agencies for SUAs are listed on the legend of a sectional chart.

The U.S. NOTAM Office (USNOF). The USNOF operates under the FAA and is charged with operating and monitoring the Notice to Airmen (NOTAM) system. NOTAMs are an FAA method of distributing information to pilots. They may contain new information concerning the establishment, condition, or change in any component of the NAS. NOTAMs may be regulatory (restrictive) or advisory (nonrestrictive information to pilots) in nature.



An F-16 Fighting Falcon from Luke Air Force Base, Arizona, returns to base after a local training mission.
(U.S. Air Force photo by Staff Sgt. Jeffrey Allen)



A B-1B Lancer flies a mission supporting Operation Enduring Freedom. (U.S. Air Force photo by Staff Sgt. Sarah Webb-Frost)

■ Decision-Making Processes

USAF airspace proposals require agency review and approval prior to formal submission to the FAA. FAA headquarters has final approval authority for airspace proposals, although requests are first reviewed by, and usually developed in conjunction with the appropriate FAA local facilities and regional offices. All federal proposals, including USAF proposals for airspace changes, must comply with processes established for compliance with the National Environmental Policy Act (NEPA). In addition, the FAA has established processes for ensuring that proposals affecting aviation adequately consider all the aeronautical concerns of the users of the nation's airspace. These processes are described in greater detail below.

National Environmental Policy Act (NEPA) and Other Environmental Laws. NEPA is the nation's charter for the protection of the environment. It requires all federal agencies to analyze the potential impacts of all proposed actions on the human and natural environments. Compliance with a number of federal laws protecting the quality of the environment, including the Endangered Species Act, the Wilderness Act, the Clean Water and Clean Air Acts, and the Marine Mammal Protection Act, is addressed through NEPA consultation processes. NEPA also requires that the public be involved in the planning process and that their concerns be considered prior to reaching a decision on any proposed action.

When an airspace proposal originates within the Air Force, the Air Force is the lead agency and the FAA acts as the cooperating agency. In this role the FAA represents the collective interests of civilian airspace users. The lead agency is responsible for developing the preliminary airspace proposal and for managing the NEPA compliance process, including assuring appropriate notice to the public, user groups, and other agencies. The AFREP located at FAA headquarters serves as the key facilitator between the Air Force, the FAA, and the affected land management agencies in this process.

NEPA compliance may take one of four paths, depending upon the nature of the proposal.

Categorical Exclusion. Some actions may be categorically excluded (CATEX) from additional NEPA consideration. These actions are specifically identified in the regulations and generally consist of routine and repetitive federal actions that have been determined not to represent a significant impact upon the human or natural environment. The approved list of USAF

CATEXs is in AFI 32-7061. CATEXs apply to actions in the United States and abroad.

Environmental Assessment. Actions that are not subject to the categorical exclusion but do not warrant a "significant federal action" must be given an environmental assessment (EA). These actions are evaluated in a process that identifies the areas of the environment likely to be impacted by the proposed federal action, the probable consequences of the impacts, and proposed mitigating actions. Every EA must lead to a finding of no significant impact (FONSI), a decision to prepare an environmental impact statement (EIS), or a decision not to move forward on the proposal. EAs require review by other agencies as well as public involvement and can take several months to a year to prepare. Details on EAs are in AFI 32-7061.

Environmental Impact Statement. Lastly, the most extensive and lengthy path is the EIS. Certain classes of environmental impacts require preparation of an EIS (Title 40, *Code of Federal Regulations*, Part 1502, and Environmental Impact Statement). These include, but are not limited to, potential for significant degradation of the environment; potential for significant threat or hazard to public health or safety; and substantial environmental controversy concerning the significance or nature of the environmental impact of a proposed action.

The EIS process starts with a notice of intent published in the Federal Register and involves public scoping, preparation of a draft EIS, public review of the draft, a formal response to comments, preparation of a final EIS, preparation of a record of decision, and implementation of the proposed action with mitigation, as required. EISs normally take 18 to 24 months to complete. Details on EISs are in AFI 32-7061.

Emergency Procedures. Emergencies requiring immediate response may be completed without meeting NEPA requirements initially. Agencies are limited to the minimum actions needed to reasonably mitigate the emergency, and once the emergency is controlled, more detailed planning requirements of NEPA must be met. This fourth option for emergency actions is a rare occurrence and requires consultation with HQ USAF.

The keys to the NEPA process are (1) early identification of the issue and collaboration with appropriate stakeholders, (2) proper and timely integration into federal decision-making and (2) informed participation by private organizations, public-interest groups, and concerned citizens.



An F-16 above a solid deck of clouds over the central United States during a cross-country mission. (USAF photo by Senior Airman Greg L. Davis)

FAA Circularization Process. The FAA circularization process is used by the FAA to identify specific aviation concerns regarding a proposed action and is initiated after the NEPA process is completed. Circular notices provide a detailed description of the proposal, including charts that will help in preparing comments. The FAA sends the circular to individuals/organizations on its circularization lists, which include all known aviation interested persons and groups. This process is designed to deal solely with the aeronautical aspects of the proposed action. Resource-related concerns must be addressed in the NEPA process rather than in the circularization process. Comments relating to nonaeronautical issues are not considered during the FAA circularization process.

■ How to Become Involved in Airspace Decision Processes

In addition to attending the Regional Airspace and Range Council meetings, NPS personnel can get involved in airspace decisions by taking the following actions:

Airspace Proposal Review. The NPS is encouraged to review and comment on proposals for use of airspace. While any comments are welcome, some known issues to address are:

1. Will the proposal cause impairment or significant adverse impacts to park resources or visitor experiences?
2. Will the proposal affect the park's ability to conduct law enforcement, wildland fire management, search and rescue, wildlife management, or other operations requiring use of airspace?
3. Will the proposal affect existing interagency agreements (e.g., MOUs, LOAs) or require new agreements?

While all of these factors are considered when reviewing a proposal, a conflict does not necessarily preclude the action. However, the impacts of any proposal need to be identified and minimized.

Requests to Modify Airspace Procedures. When the Air Force receives a request to voluntarily change airspace procedures, the following four metrics are considered:

1. The Air Force is receptive to changes that help both agencies accomplish their missions better.

2. The Air Force will consider modifications if its missions can be accomplished without degradation.
3. Each agency is the authority in determining the feasibility of the proposed changes as they relate to each individual agency mission.
4. Alterations must not overly complicate airspace as to make the most well-intentioned person unable to comply with them.

In short, changes to local airspace can be successful as long as the solutions are practical and USAF missions aren't jeopardized.

Get Connected to Receive Information. The FAA maintains a mailing list for sending written notices of airspace proposals. Other sources of information on proposals include legal notices in area newspapers and newsletters from aviation organizations, such as the Aircraft Owners and Pilots Association (AOPA).

Memorandums of Understanding (MOUs) and Letters of Agreement (LOAs). Airspace managers and park managers may negotiate MOUs and LOAs when operational or procedural needs require the cooperation and concurrence of other persons, facilities, or organizations. Managers use MOUs and LOAs to define protocols for addressing recurring activities and resolving unforeseen issues of mutual concern.

A MOU or LOA can supplement established operational or procedural instructions to

- Define responsibilities and coordination requirements
- Establish or standardize operating methods
- Specify special operating conditions or specific air traffic control procedures

When SUA, MTR, or LATN areas are located near or overlie NPS areas, the National Park Service should consider instituting an MOU or LOA with the Air Force to define responsibilities, methods, procedures, and local points of contact applicable to each facility and organization involved. The MOU or LOA can define the conditions governing the use of the applicable airspace, including altitudes, routing configuration, and limitations or exceptions to the use. This delegation is particularly important in providing continuity when either local level NPS or USAF leadership changes.

The MOU/LOA is approved once coordination with other affected groups is ensured. The parties involved in the agreement should allow a

sufficient amount of time for distribution and for participating facilities and user groups to familiarize personnel and revise directives and flight charts.

■ **Air Force Focus on the Environment and Conservation**

The Air Force and National Park Service Western Pacific Regional Sourcebook is a natural extension of the Air Force's longtime commitment to the environment. The Air Force protects and maintains its trust of lands and waterways through a comprehensive program of natural and cultural resource management. Site and species-specific programs ensure proper land use management, preservation of natural habitats, and protection of rare, threatened, and endangered species. Effective cultural resource management protects artifacts and historic structures from harm, respecting their significance and preventing impact from current and future planned activities.

To maximize protection of valued resources, an environmental impact analysis process involves the community in a comprehensive analysis of proposed projects to ensure minimal disruption to fragile ecosystems, archaeological artifacts, and historical structures.

USAF conservation programs develop cooperative agreements and alliances with public agencies, academic institutions, and environmental preservation groups. Environmental organizations such as The Nature Conservancy work closely with the Air Force. USAF environmental management has twice been the recipient of The Nature Conservancy President's Award.

USAF installations join with communities they serve to celebrate Earth Day (April 22) each year as part of a year-long commitment to environmental stewardship. Earth Day USAF activities include presentations, environmental displays, fairs, nature walks, open houses, recycling demonstrations, tree plantings, environmental awareness and cleanup site tours, special activities for students, and other community outreach activities showcasing USAF accomplishments throughout the year.

The Trust for Historic Preservation sponsors the Historic Preservation Week Partnership Program to promote National Historic Preservation Week (second week in May). The trust provides local community groups funds to sponsor Historic Preservation Week activities at various USAF installations, as a collaborative effort between the community and the installa-

tion. Activities include media presentations, open houses, walking tours of historic sites, recognition ceremonies, dedication of commemorative plaques, and military history demonstrations.

The Air Force takes a "big picture" approach to natural and cultural resources management. Comprehensive analyses of proposed activities ensure that the integrity of each program component contributes to the integrity of the whole. The Air Force and DOD partnered with The Nature Conservancy and other environmental organizations to develop *Conserving Biodiversity: A Handbook for Natural Resource Managers* for the DOD. The handbook assists installations in developing a comprehensive approach to natural resources management.

NATIONAL PARK SERVICE SOUNDSCAPE DECISION MAKING

■ **Legislative and Administrative Authorities**

The decisions made by park superintendents and all other NPS managers are directed by the Constitution; by federal laws, treaties, proclamations, executive orders, and regulations; by directives from the Secretary of the Interior and the Assistant Secretary for Fish and Wildlife and Parks, and by NPS regulations and policies.

Primary NPS Authorities. The property clause of the U.S. Constitution gives Congress the authority to develop laws governing the management of the National Park System. Under this authority Congress has established the National Park Service and authorized it to "promote and regulate the use of the Federal areas known as national parks."

Three laws constitute the primary authorities for administering the National Park System:

- **The National Park Service Organic Act of 1916** charges the agency with stewardship of the nation's national parks to "conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations."
- **The General Authorities Act of 1970** defines the National Park System as including all areas administered by the National Park Service "for park, monument, historic, parkway, recreational, or other purposes" and declares that all units of the system will be managed in

A *soundscape* is the total ambient acoustic environment associated with a given area, such as a national park. In a national park setting, the soundscape is usually composed of both natural ambient sounds and a variety of human-made sounds. Examples of natural ambient sounds are the sounds of birds chirping, wind, waterfalls, elk bugling, and wolves howling. Examples of human-made sounds are the sounds of traffic, aircraft, visitors talking, and radios playing. The most noticeable condition in a natural area may be the absence of noise, which is rarely experienced by people who live in cities and suburban areas.



Great Egret at Everglades National Park, Florida (Photo courtesy of Bill Witmer)

accordance with the congressional direction found in the National Park Service Organic Act and other relevant legislation, as well as with each park's individual statutory directives.

- The **Redwoods Act of 1978** reaffirms the equal importance of all units of the National Park System by declaring that all units “though distinct in character, are united through their inter-related purposes and resources...as cumulative expressions of a single national heritage.” The act further clarifies NPS authorities and responsibilities by mandating that “the protection, management, and administration of these areas shall be conducted in light of the high public value and integrity of the National Park System and shall not be exercised in derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress.”

Thus, the fundamental purpose of the National Park System, as stated in the Organic Act and reaffirmed by subsequent legislation, is to conserve park resources and values and to prevent or mitigate any impairment or derogation. The impairment that is prohibited by the Organic Act and its amendments is an impact that, in the professional judgment of the park superintendent, would harm the integrity of park resources or values. If it is determined that there is, or will be, such an impairment, the superintendent must take appropriate action, to the extent possible within the National Park Service's authorities and available resources, to eliminate or prevent the impairment.

The fundamental purpose of all parks also includes providing for the enjoyment of park resources and values by the people of the United States. Congress, recognizing that the enjoyment by future generations of the national parks can be ensured only if the superb quality of park resources and values is left unimpaired, has provided that when there is a conflict between conserving resources and values and providing for enjoyment of them, conservation is predominant.

Park-Specific Authorities. In addition to the aforementioned servicewide legislation, each unit of the National Park System also has enabling legislation or a presidential proclamation that establishes the purpose and significance of that particular unit. These purposes may include:

- The preservation and protection of significant ecosystem values. (For example, Redwoods National Park was established “in order to preserve significant examples of the primeval coastal redwood (*Sequoia sempervirens*) forests and the streams and seashores with which they are associated for purposes of public inspiration, enjoyment, and scientific study.”)
- The preservation and protection of significant cultural sites. (For example, Independence National Historical Park was established “for the purpose of preserving for the benefit of the American people . . . certain historical structures and properties of outstanding national significance located in Philadelphia, Pennsylvania, and associated with the American Revolution and the founding and growth of the United States.”)
- Public recreation. (For example, Lake Mead National Recreation Area was established “for general purposes of public recreation, benefit, and use, and in a manner that will preserve, develop, and enhance, so far as practicable, the recreation potential in a manner that will preserve the scenic, historic, scientific, and other important features of the area.”)

All decisions made at the park level must be consistent with each park's particular purpose and significance.

Other Federal Laws. The primary authorities for administering the National Park System are complemented by a large body of laws that mandate the consideration and appropriate protection of ecological and cultural values on all federal lands, including those managed by the National Park Service. Among the authorities most relevant to the management of soundscapes are

- The National Historic Preservation Act, which provides guidance for park cultural resource protection and preservation
- The National Environmental Policy Act, which requires a systematic analysis of major federal actions in support of a national policy for environmental protection
- The Wilderness Act, which establishes a policy for the enduring protection of wilderness resources for public use and enjoyment
- The Wild and Scenic Rivers Act, which preserves certain selected rivers for their out-

standing scenic, recreational, geological, cultural, or historic values

- The Endangered Species Act, which requires federal agencies to ensure that any federal action does not jeopardize the continued existence of any threatened or endangered species

NPS Policies. NPS policies, which must be consistent with all legal authorities, comprise the decisions that are made at the agency level to guide activities throughout the National Park System. The current NPS policies for park management were revised and republished in 2001. These policies may be further updated or amended through director's orders. The director's orders also serve as a vehicle for the associate directors to clarify or supplement the management policies with additional requirements they deem mandatory for program management. Associate directors may also issue handbooks or reference manuals containing recommendations, procedures, standards, examples, references, and other general information that may be useful but are not mandatory in carrying out policies and director's orders.

NPS policies state that "the National Park Service will preserve, to the greatest extent possible, the natural soundscapes of parks. Natural soundscapes exist in the absence of human-caused sound. . . . The Service will restore degraded soundscapes to the natural condition wherever possible, and will protect natural soundscapes from degradation due to noise (undesirable human-caused sound)."

■ National Park Service Soundscape Representatives

Park Superintendents. The park superintendent and his/her staff make most decisions concerning the protection of park resources and opportunities for visitor experiences. Development of joint military and NPS endeavors or resolution of any military overflight issues is generally dealt with at the park level, where the superintendent is the final authority. In most cases the park superintendent delegates responsibility for air-space issues to the chief ranger. These contacts are listed on the park-specific information sheets in chapter 5.

Regional Offices. Some regional offices also employ soundscape professionals to support parks with soundscape and aircraft overflight issues. The point of contact for the Pacific West Region is the regional soundscape coordinator. The contact for the Intermountain Region is the overflights and noise program coordinator.

Soundscapes Program Center. The National Park Service maintains a Soundscapes Program Center to provide advice, guidance, and technical support to parks for purposes of characterizing and preserving park soundscapes. The center is a detached unit of the National Park Service's Washington Office for Natural Resource Stewardship and Science and is located in Fort Collins, Colorado. The office goal is to heighten public and agency awareness of the value and character of park soundscapes so that park resources are preserved unimpaired

**Historic Mabry Mill,
Blue Ridge Parkway, Virginia**
(Photo courtesy of Bill Witmer.)



and visitors can appreciate the full range of park settings with the opportunity to enjoy tranquility, solitude, and the sounds of nature.

The Soundscapes Program Center was established in October 2000 primarily to assist park and regional staffs in working with the FAA to develop air tour management plans (ATMPs) for the more than 50 parks experiencing commercial air tour operations. The ATMPs are required by the National Parks Air Tour Management Act of 2000, which directed the FAA and the National Park Service to work cooperatively in developing the plans for any parks where commercial air tour operations exist or are proposed. In an effort to protect park soundscapes, ATMPs may be integrated into overall park soundscape management plans or park general management plans that address noise intrusions of concern to park management.

In addition the center frequently provides the following services to regional offices and parks:

- Technical assistance and expertise for baseline acoustical data collection, analysis, and interpretation
- Assistance in soundscape management planning
- Coordination with the military on mutually beneficial endeavors and to minimize and mitigate the noise associated with military aircraft training exercises over parks
- Coordination with the FAA and local officials to mitigate noise intrusions into parks associated with adjacent or nearby airports
- Assistance on management planning for other noise issues, such as personal watercraft, snowmobiles, other loud vehicles, and NPS operational aircraft and equipment
- Training courses on soundscapes management and acoustical data collection

The Soundscapes Program Center is supervised by a manager, who reports to the Associate Director for Operations and Education. The manager has a support staff consisting of an acoustical expert/wildlife biologist and several park planning/NEPA compliance specialists. Park overflight and soundscape professionals exist in the Washington Office and some of the regional offices. The Soundscapes Program Center staff coordinate with experts in the other NPS offices on a regular basis.

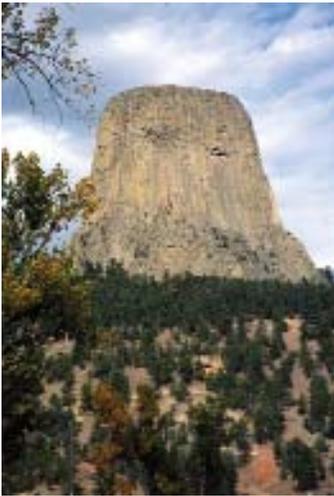
■ Decision-Making Processes

General Management Planning/Zoning. Each park has a general management plan (GMP) or equivalent planning report that clearly defines what specific resource conditions and visitor experiences are to be achieved and maintained in various locations throughout the park. Each GMP includes a map that delineates management zones. Each zone has its own distinctive prescription for a certain set of resource conditions and visitor experiences that differ from the prescriptions for other zones. The purpose of the zoning is to ensure the preservation of ecological and cultural resources and values while allowing for an appropriate range of visitor experiences in suitable areas.

Management zoning is a key tool used by park superintendents to determine the impact of military overflights on various locations within parks. Noise impacts that may be appropriate in some management zones may not be appropriate in others.

There are almost as many management zoning classification schemes as there are units of the National Park System; however, there are similarities in all of the zoning schemes that make it easier to understand them:

- Most parks' management zones include one or more frontcountry or developed zones where the majority of park visitors congregate to see significant park resources and to obtain information and become oriented to the park. Visitor amenities, which may include such facilities as a visitor center, lodging, campgrounds, restrooms, roads, and parking areas, are present. In these zones a certain amount of noise intrusion (e.g., sounds of vehicles, maintenance equipment, people talking, car doors slamming) is expected, and similar noise intrusions, such as the sounds of aircraft overflights, may be acceptable.
- Parks with significant cultural resources have one or more zones where the preservation and interpretation of historic landscapes, structures, archeological areas, and/or sacred sites is paramount. These zones are typically more noise sensitive because of the sacredness or historic ambience of the site. If such zones are adjacent to or surrounded by a frontcountry zone the National Park Service may emphasize noise management within the frontcountry zone to minimize the impacts on the cultural zone.



Devil's Tower National Monument
Wyoming

- Most parks with sizable natural areas have one or more backcountry zones. The degree of prescribed “pristine-ness” or “primitiveness” of these zones may vary, but they will generally all be managed to avoid disturbance to wildlife and habitats. The desired visitor experiences in these zones invariably include opportunities for tranquility and solitude, where natural sounds can be heard without noise intrusions. Often these zones are wholly or mostly within designated, recommended, or proposed wilderness (see “Wilderness Designation,” below). The backcountry zones of a park are extremely noise sensitive.
- One or more kinds of transition zones may be designated between the frontcountry and backcountry zones. These zones may have well-developed trails and overlooks for various length day hikes or access to the backcountry. The transition zones are generally more noise sensitive than the frontcountry zones because visitors are moving farther away from frontcountry amenities and expect a more natural setting.

Wilderness Designation. A number of National Park System units have tracts of congressionally designated wilderness or areas under consideration for such designation. Wilderness, as defined in the 1964 Wilderness Act, is an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. Wilderness is further defined to mean an area which has outstanding opportunities for solitude or a primitive and unconfined type of recreation. The National Park Service manages wilderness areas for the use and enjoyment of the American people in such manner as will leave them unimpaired for future use and enjoyment as wilderness. This management includes the protection of wilderness areas, the preservation of their wilderness character, and the gathering and dissemination of information regarding their use and enjoyment as wilderness.

The National Park Service is required under the Wilderness Act to study all areas that potentially have wilderness characteristics to determine their suitability for inclusion in the National Wilderness Preservation System. Those areas considered suitable by the Park Service are forwarded to the Secretary of the Interior as “proposed wilderness.” Areas that the Secretary agrees are suitable are forwarded to the President, who may then submit them to Congress as “recommended wilderness.”

Congress must enact legislation to designate the area as a unit of the National Wilderness Preservation System. Until Congress makes a determination, all areas of proposed and recommended wilderness are managed by the Park Service as if they were designated wilderness.

A wilderness study may identify lands that are surrounded by or adjacent to lands proposed for wilderness designation but that do not themselves qualify for immediate designation due to temporary nonconforming or incompatible conditions. The wilderness recommendation forwarded to Congress by the President may identify these lands as “potential wilderness” for future designation as wilderness when the nonconforming use has been removed or eliminated.

General Management Plans and NEPA Compliance. Each park general management plan is prepared with an accompanying documentation (EIS or EA) of compliance with the decision-making processes required under NEPA. NEPA consultation processes provide for public involvement and ensure compliance with a number of federal laws protecting the quality of the environment, including the Endangered Species Act, the Clean Water and Clean Air Acts, and the Marine Mammal Protection Act. The National Park Service also uses the NEPA process to comply with the requirements of the National Historic Preservation Act.

■ How to Become Involved in Soundscape Decision Processes

Opportunities for involvement by the Air Force in the planning for an individual park occur during park general management planning and subsequent implementation planning.

Superintendents should initiate discussions with the Air Force during the scoping phase of general management planning. Participation in this phase of park planning offers base commanders and/or airspace managers the opportunity to help identify potential conflicts between military needs and park needs and to participate in the identification of options that would meet the goals of both agencies.

Other sources of information on proposals include legal notices in area newspapers and newsletters from support organizations, such as the National Parks Conservation Association (NPCA).

Chapter 4. Developing Relationships and Collaborative Problem Solving

Contrails: An Introduction

The Air Force operates many aircraft and space systems that are constantly interacting with the environment. Atmospheric interactions from aircraft engines, chaff, and flares can produce a variety of condensation patterns (or contrails), exhaust plumes, vapor trails, or smoke patterns.

The exhaust emissions produced by aircraft and space launch vehicles can produce contrails, which look very similar to clouds, that can last for as little as a few seconds or as long as several hours. Vapor trails are formed only under certain atmospheric conditions and create a visible atmospheric wake similar to a boat propeller in water and usually dissipate very rapidly. Flares produce unique smoke patterns that are visibly different than a contrail but have the same color and appearance as a cloud and typically dissipate very quickly.



DEVELOPING RELATIONSHIPS

Success and failure in diplomacy, in business, and in our daily lives are the result of interpersonal knowledge and personal relationships. Conflict resolution, like diplomacy, is based on understanding the other side's concerns, priorities, and cultural environment. Building relationships also breeds trust, and with trust, opportunity for collaboration and mutually satisfying mission support.

The National Park Service and the Air Force have built relationships through participation in regional Airspace and Range Council meetings. Both agencies have benefited from the increased collaboration over the last decade. The National Park Service has also hosted backcountry trips in Sequoia and Kings Canyon National Parks for the purpose of developing relationships between senior military officers and park managers in a setting that provides the opportunity for solitude, tranquility, and the ability to hear natural sounds. The relationships that have developed have resulted in collaborative problem solving and enhanced cooperation. The

Air Force and National Park Service highly encourage contact, via meetings and trips, between installation commanders and park superintendents in order to learn the values and missions of each agency.

This chapter shares the lessons we have learned through a variety of success stories and provides a guide to cultivating new contacts.

COLLABORATIVE PROBLEM SOLVING: HOW TO RESOLVE AIR FORCE AND NATIONAL PARK SERVICE ISSUES

The following examples highlight the most common Air Force and National Park Service issues and the appropriate office to call for each. If you still cannot determine which office to call, you are encouraged to call the public affairs office at an installation or the main line at a park for further direction.

If you don't know which installation or park to call, you should be able to find the information in the pages for your own base or park in chapter 5.

■ Overflight Issues

For the purposes of this sourcebook the term *overflight issues* encompasses all issues relating to USAF aircraft operations over a national park.

Some common examples are

- Noise from aircraft
- Low-flying aircraft
- Unauthorized flight (e.g., a flight that is not in compliance with USAF/DOD regulations governing that particular airspace)

Contacting the Air Force. Each USAF installation has airspace managers who can be contacted directly for all overflight issues. For every USAF installation featured in chapter 5, you will find a map of the area with its routes and the corresponding airspace manager. USAF MTRs are not always run by the closest USAF installation and could be run by an installation a thou-

BMGR and Sonoran Pronghorn Antelope

The Barry M. Goldwater Range in Arizona is home to the last 100 or so Sonoran pronghorn antelope in the United States. The Department of Defense flies over 40,000 sorties there each year. Seven different target areas have been identified and are surveyed daily prior to any flights. If any antelope are present, no strafing or dropping of ordnance is conducted on the affected target that day.

sand miles away, so identification of the route is important.

General Airspace Issues. When addressing a military overflight issue, the airspace manager should be contacted as soon as possible because radar coverage data is maintained a maximum of 15 days.

When you call the airspace manager you should provide the following basic information:

- Your name
- Your location
- Time of the incident
- Description of the incident
- Location of the incident
- Impacts to park resources and/or visitors (be specific)

While not required, any of the following pieces of information will help expedite the research:

- Type of aircraft (See the Air Force Identification Chart on pages 33-34 for help.)
- Color of aircraft (May help identify if it belongs to the Air Force, Navy, etc.)
- Detailed location (Consult the appropriate map for route names.)
- Estimated altitude
- Frequency of event (first time or every day?)
- Information about normal flight patterns (For example, planes normally fly further east/higher.)

The Air Force has made aircraft noise a priority and routinely charts and, if possible, avoids noise-sensitive areas.

Special Event Scheduling. In some instances USAF schedules can be altered to make short-term allowances for NPS special events. The airspace manager at an installation handles the scheduling and will try to accommodate such requests.

Contacting the National Park Service. When you are conducting long-range planning for a USAF exercise that will require heavy use of airspace

over a park, the park superintendent can help you avoid conflicts by providing information about specific park resources, values, and activities. The manager of the NPS Soundscapes Program Center and/or the regional overflights official can also be contacted regarding park-specific information about soundscapes and overflight issues.

■ Environmental Issues

Contacting the Air Force. Each USAF installation has a civil engineering (CE) office that handles local environmental issues. You should contact the CE chief directly on matters concerning conservation, cleanup, pollution prevention, and NEPA compliance. The direct line for each CE office can be found on the individual base pages in chapter 5. The CE office is also the contact if anything is found in the park that may have fallen from an aircraft.

Contacting the National Park Service. Many federally listed threatened and endangered species are found on USAF installations and ranges. In some cases, the ranges are the only large, undeveloped areas remaining in growing urban areas and provide a last refuge for the animals. In such cases, the Air Force operates under decisions resulting from Endangered Species Act consultations, mainly associated with aircraft noise and munitions use. The key to addressing endangered species issues on an installation is good communication. The superintendent at each park is an invaluable resource for the Air Force in that effort.

■ Other Issues

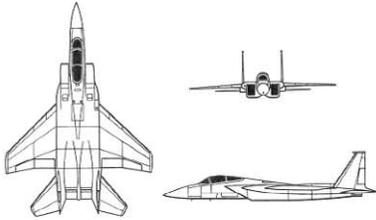
Contacting the Air Force. The public affairs (PA) office at each installation is available to help with education and outreach requests. The PA office handles all community affairs, local news, and requests for speakers or aerial events.

Contacting the National Park Service. The larger parks have public affairs offices that handle similar requests. At smaller parks, such requests are handled through the superintendent's office.

Aircraft Identification Chart

This list shows the standard body types of various USAF aircraft. Please see the "Photos" section of the Air Force website for additional aircraft and variations. www.af.mil

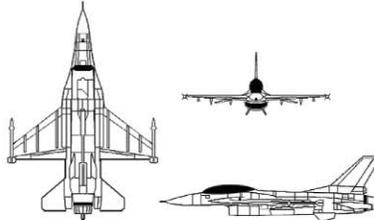
Fighters



F-15 Eagle

ID: Small fighter with two vertical stabilizers on the tail.

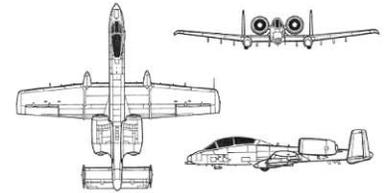
Summary: An unprecedented combination of maneuverability, acceleration, range, weapons and avionics make this a force for air-to-air combat.



F-16 Fighting Falcon

ID: Small fighter with a single stabilizer and a large air intake under the nose.

Summary: A compact, multi-role fighter that has proven itself in air-to-surface attack.

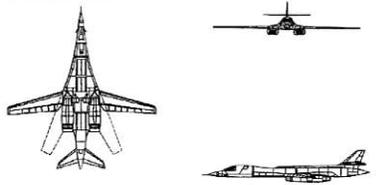


A-10 Thunderbolt

ID: A slower fighter with two external engines on the tail.

Summary: This simple and effective twin engine jet aircraft is designed for close air support of ground forces.

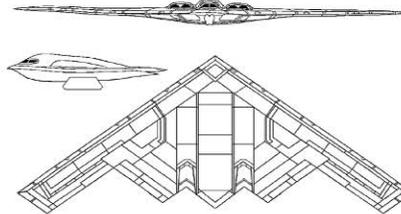
Bombers



B-1 Lancer

ID: Variable wing settings; Forward for takeoff, landing and cruising/ Aft for high speed and maneuverability.

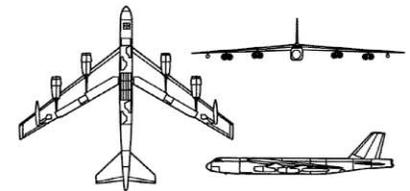
Summary: Provides massive and rapid delivery of precision weapons anywhere around the globe on short notice.



B-2 Spirit

ID: The well-known "Stealth" bomber is unique in appearance.

Summary: A multi-role bomber capable of delivering both conventional and nuclear munitions through previously impenetrable defenses through low-observable or "stealth" characteristics.

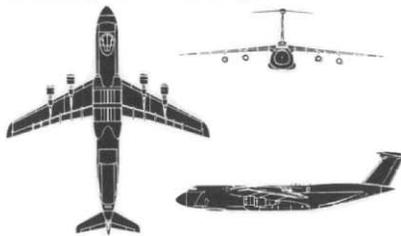


B-52 Stratofortress

ID: Four engines on the wings that span almost 160 feet.

Summary: For more than 40 years the B-52 has been the backbone of the manned strategic bomber force and is capable of dropping or launching the widest array of weapons in the U.S. inventory.

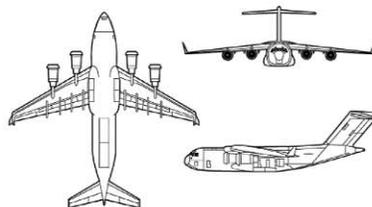
Transports/ Cargo



C-5 Galaxy

ID: The largest aircraft flown by the AF has a wingspan of 223 feet.

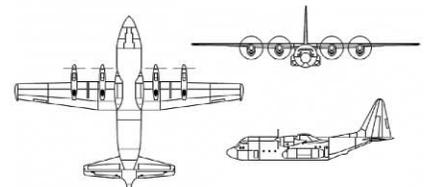
Summary: The tremendous payload capacity of this transport is used for missions in both war and peacetime.



C-17 Globemaster

ID: Wide body with two large engines on each wing.

Summary: This flexible cargo aircraft is capable of rapid and strategic delivery of troops and cargo as well as tactical airlift and airdrop missions



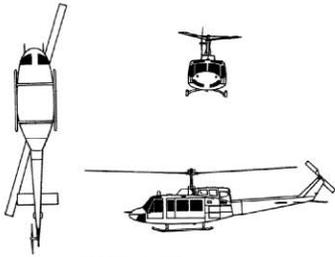
C-130 Hercules

ID: Two large propellers on each wing

Summary: Capable of operating from rough strips, the C-130 is the primary transport for paratropping troops and equipment in hostile areas.

aircraft not drawn to scale

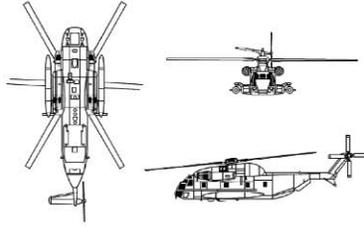
Helicopters



UH-1 Huey

ID: Larger cargo doors with twin cabin windows on each side.

Summary: The most widely-used military helicopter, the Huey is a light-lift utility helicopter used to support Air Force Space Command missile wings and groups



MH-53 Pave Low

ID: The largest and most powerful helicopter in the Air Force inventory.

Summary: Used for low-level, long range infiltration, exfiltration and resupply of special operations, day or night, in adverse conditions.

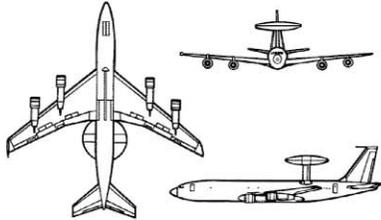


HH-60 Pave Hawk

ID: A highly modified version of the Army Black Hawk

Summary: Primarily used for combat search and rescue. Also capable of performing infiltration, exfiltration and resupply of special operations forces.

Reconnaissance



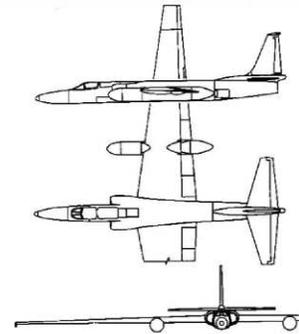
E-3 Sentry

ID: Large, rotating radar dome also known as AWACS (Airborne Warning and Control System)

Summary: A modified Boeing 707 with a radar subsystem that permits surveillance for up to 200 miles.



U.S. AIR FORCE

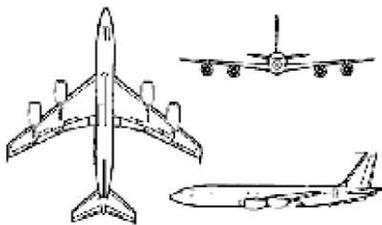


U-2 Dragon Lady

ID: Extremely long wings that give the U2 glider-like characteristics.

Summary: An extremely reliable reconnaissance aircraft with high altitude capability.

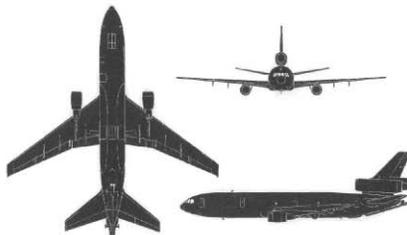
Tankers



KC-135 Stratotanker

ID: Large swept-wing design similar to a Boeing 707.

Summary: The primary mission of this tanker is the air-refueling of strategic long-range bombers.

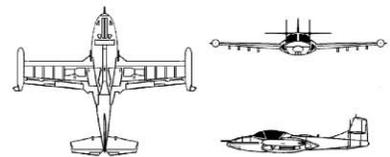


KC-10 Extender

ID: Similar in design to the commercial DC-10.

Summary: Although its primary mission is air-refueling, the KC-10 can combine the tasks of tanker and cargo aircraft.

Trainers:



T-37 Tweet

ID: Small, with a 37 foot wingspan.

Summary: A twin-engine jet used in the training of undergraduate pilots.

Aircraft Not Drawn to Scale

SUCCESS STORIES



■ Joshua Tree National Park and Military Training Route VR-1257

In 2000, the U.S. Air Force, the U.S. Navy, and the National Park Service cooperated to modify a VFR military training route, VR-1257. This cooperative effort resulted in positive training benefits for the military, enhanced enjoyment of the park by visitors, and reinforcement of respective agency missions.

VR-1257 is a one-way 590 nm low-altitude military training route that originates off the coast of California, goes inland and eventually over Joshua Tree National Park, and ends at the training ranges in El Centro south of the park. A segment of the route originally transited the heavily visited northwestern and central parts of the park, passing over a major scenic roadway, seven of the park's nine campgrounds, and six of the eight picnic areas. It also passed over the highest concentration of desert tortoise habitat, bighorn sheep watering and lambing areas, raptor nesting sites, and major cultural resources.

The route was designed to provide pilots with the opportunity to practice terrain avoidance over both mountainous and non-mountainous terrain at optimum training levels of 200' AGL. Such training is essential to military pilots learning low-level radar avoidance maneuvers. However, in response to noise complaints from park visitors, the military had voluntarily raised the minimum altitude to 1500' AGL. This resulted in less than optimal training opportunities for military pilots and did little to eliminate the noise complaints.

The Air Force, a user of the route, and the Navy, suggested that the three agencies form a team and develop an EA that evaluated the environmental consequences of relocating the portion of the route overlying Joshua Tree National Park. An alternate route was proposed that covered a section of the park with little visitor use and no campgrounds or picnic areas. The new route would overlie few, if any, desert tortoises or bighorn sheep watering and lambing areas, no raptor nesting sites, and only two historic properties. An added benefit of relocating the MTR was the ability to return the route's floor to the optimum training level of 200' AGL.

When the EA for the proposed route was released for public review and comment, the neighboring

rural communities raised concerns about the noise potential. Working with Congresswoman Mary Bono's office, the park and the military conducted a demonstration flight along the new proposed MTR so that the park neighbors could hear for themselves what the noise impacts would be. The demonstration flight, which registered noise levels that were below normal background noise, alleviated the concerns that had been raised by park neighbors.

The final EA was completed and the agencies issued a "finding of no significant impact" (FONSI). The FAA published the revised route in its December 2000 aeronautical maps, and pilots have begun to use the new route.

All three involved agencies gained something significant from this cooperative initiative. The modified route improved both the training experience for the military pilots and the ability of park visitors to hear the sounds of nature and to experience such park values as solitude.

Several circumstances came together to make this cooperative effort a success:

- The park manager clearly defined the noise-sensitive resource and visitor experience areas of the park.
- The park manager and the airspace manager maintained an open channel of communication.
- The military and the park jointly developed the required NEPA compliance documents.
- The partnering agencies presented options that would meet the flight training requirements of the military and the resource protection and visitor experience conditions sought by the park, ultimately agreeing on a route that would benefit both the military and the park, thus creating a "win-win scenario."
- The military and the park worked closely with neighboring communities and their political representatives to resolve noise concerns.

■ Big Bend National Park and Laughlin Air Force Base

The mountains of Big Bend National Park contrast with desert within the great bend of the Rio Grande, as the river rushes through deep-cut canyons and the open desert for 118 miles. A MTR controlled by Laughlin AFB in Del Rio, Texas, went over heavily visited areas of the park and generated a number of noise complaints from park visitors. The park manager and a key member of his staff attended an Air Force Southwest Region Airspace and Range Council meeting, where they presented their concerns and made contact with the appropriate officials from Laughlin AFB and from the Headquarters for Ranges and Airspace (HQ USAF/XOO-RA).

The park manager initially asked if the route could be moved completely outside the park. The Air Force representatives explained why they could not do that and still accomplish their military

readiness mission. With help from XOO-RA, the park and Laughlin AFB searched for a compromise. An agreement was reached to use an alternative MTR during the one-month peak visitation period for the park. This adjustment satisfied both agencies by virtually eliminating flights over the most heavily visited portions of the park during the busiest time of the year while allowing the Air Force to continue conducting necessary pilot training.

This was one of the first success stories worked out between the two agencies. It illustrated the value of having parks identify military overflight concerns at the appropriate Air Force regional meeting and of using that forum as a mechanism for making key contacts, particularly at the local level.



■ Pipe Spring National Monument and IR126

Pipe Spring National Monument, located in northwest Arizona just south of the Utah border in a remote and quiet natural setting, lies under an IFR military training route, IR-126. The management of Pipe Spring has taken an active role in the airspace decision-making process over the years and has built a constructive working relationship with the Air Force. The following examples show how local-level problem solving is often the quickest and most efficient way to handle issues and concerns.

- The park manager and members of his staff observed that the noise from training flights (primarily B-1 bombers) near the park interfered with interpretive programs of this site, which was established to preserve and convey the feel of the 1870s pioneer experience. There was also concern that vibrations from low-level flights could be detrimental to the park's historic structures. The park manager voiced his concerns, and explained his park's location, mission, resources, and desired visitor experience at the Air Force Western Pacific Region Airspace and Range Council meeting in Palm Springs in 1997. At the meeting he met USAF officials from Barksdale AFB, LA, the scheduling agency for IR-126. After analysis, the Air Force determined that it could accomplish its training missions using a different part of the route and offered to schedule flights at least one-half mile from the park or at an altitude of at least 1,000' AGL. The park manager at Pipe Spring attended subsequent Air Force regional meetings to express his appreciation for the Air Force's responsiveness and cooperation.
- In early 2001, Pipe Spring staff witnessed two Air Force fighter jets flying fast and low over the park. The park manager called the Air Force, and the airspace manager at Barksdale AFB quickly identified and contacted the two pilots

involved. The next day, one of the pilots called the park manager. The pilot was unaware that he had been flying over this small unit (40 acres). After learning about the park's location and mission, including its historical reenactments, he went to the extraordinary length of calling the airspace manager at Barksdale AFB on the park's behalf. The airspace manager called the park manager, and the two of them agreed on an appropriate additional buffer zone (also referred to as an avoidance zone).

- On April 9, 2002, park staff reported seeing a B-1 bomber that appeared to be within the agreed upon avoidance zone of 1 mile laterally and 1500' AGL. The park manager again called on the contacts he had made at the Air Force regional meetings, in this case the airspace manager for the Air Combat Command (ACC). That official was able to determine that the B-1 in question was flown by an ANG unit that was not familiar with the park's location. He notified the ANG of the park's whereabouts to avoid future problems. The park manager indicated that the action taken by the Air Force in response to his expression of concern was both prompt and effective.

The Pipe Spring examples illustrate the value of the two agencies getting to know each other's locations, missions, objectives, resources, and constraints at the local level. In each case, the contacts that the park manager made at Air Force Regional Airspace and Range Council meetings provided assistance, and the Air Force was able to accommodate the park without causing a negative impact on military readiness training.



■ Sequoia-Kings Canyon and Death Valley National Parks and the R-2508 Complex (Edwards Air Force Base and Lemoore Naval Air Station)

The Air Force and National Park Service have a history of working together in California, where two of the nation's biggest parks interact with some of the most complex airspace scheduled by the military.

Sequoia-Kings Canyon National Parks are located in California's High Sierra and are home to Mount Whitney, the highest mountain in the U.S. outside of Alaska. Death Valley National Park, the largest NPS unit in the contiguous United States, is located in the Mojave Desert of California and includes the lowest point in the Western Hemisphere. Both parks contain large amounts of wilderness.

The eastern half of Sequoia-Kings Canyon and the western half of Death Valley lie beneath the R-2508 Complex, the largest and most topographically diverse military airspace in the Lower 48 states. The R-2508 Complex is vital to systems development and aircrew training.

The NPS had been working with Edwards AFB and Lemoore Naval Air Station (NAS) for 20 years in an effort to curb individual deviations from the existing 3,000' AGL altitude restriction over the parks, with only sporadic success.

Thanks largely to the strong support of the commanders of Edwards AFB and Lemoore NAS, the DOD's Joint Policy and Planning Board (JPPB) placed a voluntary floor of 18,000' MSL on military aircraft using the R-2508 Complex. The voluntary floor is in effect unless lower altitude operations are approved on a case-by-case basis, and only after careful review of the requirements.

The key to resolving the military overflight issues among the parks and the Air Force and Navy was the ongoing effort on the part of the three agencies to achieve a better understanding of each other's missions, resources, priorities, etc. That included regular participation by the National Park Service at the annual Air Force Western Pacific Region Airspace and Range Council meetings and ongoing NPS attendance at DOD's JPPB meetings; the latter are facilitated by the flag officers at Edwards AFB, China Lake NAS, and Fort Irwin and National Training Center.

Another major contributor to the enhanced working relationship among the three agencies has been annual backcountry trips into the park. Park management typically invites a number of key USAF, USN and other DOD officials to participate in those backcountry trips, to give them a better idea of what the parks are about and of the resources and visitor experiences that they are trying to protect. Since the backcountry trips began, the number of deviations from DOD altitude restrictions over the park has plummeted to near zero. Meanwhile, the Department of Defense has taken selected NPS officials on orientation flights, and Edwards AFB has had NPS officials out to tour the base. Over the past few years, the personnel at Edwards AFB have consistently addressed and resolved airspace issues raised by the National Park Service. The strong working relationship that exists between Sequoia-Kings Canyon NPs and Edwards AFB features just the kind of communication and cooperation the two agencies are trying to encourage at the local level.



Air Force Regional Meetings Hosted by the National Park Service

The special nature of the relationship that has developed between the Air Force and the National Park Service is illustrated by the fact that the National Park Service is the only non-DOD agency to have hosted an Air Force Regional Airspace and Range Council meeting, having done so in 1997 in Palm Springs and in 1998 in Santa Fe. In addition, Gulf Islands National Seashore has offered to host the Air Force's Southern Region meeting at Pensacola, FL, in 2003.

■ 1st Air Force, Alaska, the National Park Service, and Other Land Management Agencies

In the mid-1990s, the Department of Defense sought to relocate Operation Cope Thunder, a vital military training exercise that had been conducted in the Pacific, near the Philippines. Cope Thunder required such a large amount of airspace that the Air Force quickly began focusing on Alaska. The Air Force sought to establish some new MOAs, and to modify some existing ones, by working with all of the major stakeholders.

The Air Force completed an EIS for the proposed changes and additions. The National Park Service and other DOI agencies provided numerous comments, resulting in changes from the draft EIS to the final version. While some national park units, including Denali and Lake Clark, benefited from the new MOAs while other parks, such as Gates of the Arctic, had new MOAs established over them, all of the parties at interest worked together to develop a mechanism for improving communication and coordination on issues of mutual interest.

Key to the establishment of the MOAs and to the communication process was that the Air Force established three interagency committees to talk about the effects of overflights in the MOAs on

land management agency resources, and about mitigation options. The three committees addressed research, mitigation, resource management, and public information. The agencies established a Resource Protection Council to serve as the decision-making body for the committees. The Air Force agreed to provide funding for research and for mitigation initiatives for a specified period of time.

The committees met regularly and developed a relationship featuring the kind of free exchange of information that had not happened prior to the establishment of the committees. The format of the meetings encouraged problem identification and resolution in an informal setting. For example, a resource management specialist from the National Park Service would identify Dall sheep lambing areas and ask if the Air Force could avoid those areas during lambing seasons. The Air Force would often agree to do so.

The bottom line is that the process used to identify the new MOAs in Alaska resulted in more consistent communication and cooperation between the Air Force and the land management agencies than had existed prior to the EIS.

■ Crater Lake National Park, the Air Force, and the Army

The relationships established through NPS participation in the Regional Airspace and Range Council meetings have led to more than just conflict resolution. As the agencies that share the same space get to know one another, opportunities to work together are uncovered.

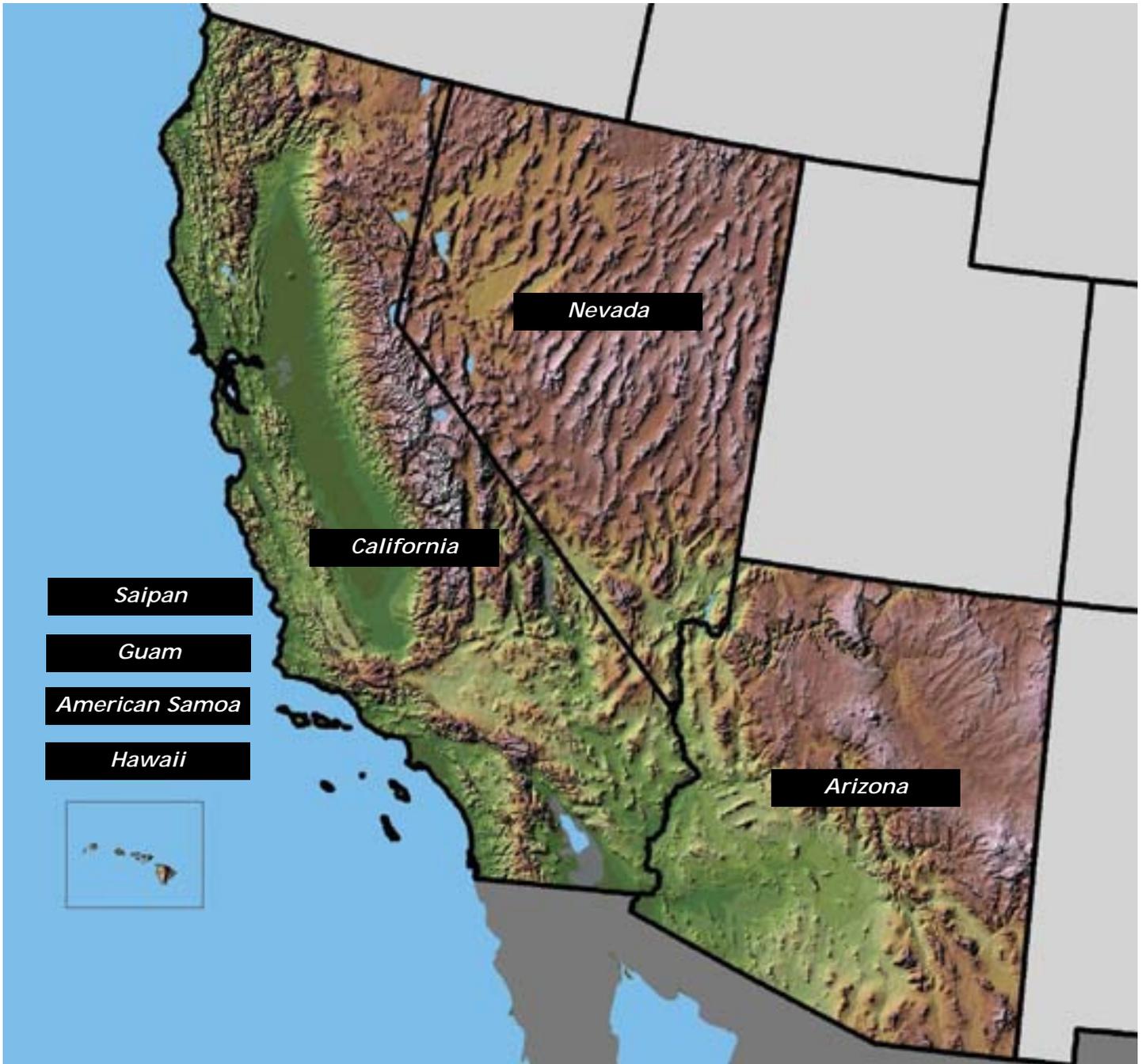
One prominent example took place at Crater Lake National Park in southwest Oregon, site of the deepest natural lake in the U.S, in the summer of 2000. Crater Lake had contracted, at considerable expense, to have the research vehicle *Surf Surveyor* map the lake floor. At the last minute, the company scheduled to airlift the *Surf Surveyor* to the lake backed out because all of its aircraft were in use fighting wildland fires. Time had all but run out when the NPS Pacific West Regional Director called the USAF's liaison to the Department of the Interior for help. The latter official quickly located

an installation – Fort Lewis, Washington – with the equipment and personnel necessary to do the job. Fort Lewis sent an Army CH-47D Chinook helicopter to airlift the research vehicle to Crater Lake. The mapping project was a complete success and the research vehicle was returned as scheduled.

The National Park Service was clearly the principal beneficiary in this example, but the Army also received a tangible benefit in the form of a real mission, in lieu of a training exercise. This example is not about military overflights, but it is highly unlikely that the success story at Crater Lake NP would have happened but for the fact that the NPS regional director and the AF liaison to the Department of Interior knew each other from working together on military overflight issues.



The F-15 Eagle is an all-weather, extremely maneuverable, tactical fighter designed to permit the Air Force to gain and maintain air superiority in aerial combat. (U.S. Air Force Photo)



Understanding the Air Force Installation Data

Helpful Hints and Descriptions for Understanding USAF Installation Information

SAMPLE AFB	
California	
Public Affairs	The Public Affairs (PA) office at the installation.
Environmental Management	The Civil Engineering (CE) office that handles environmental issues.
Airspace Management	The office that schedules airspace.
Wing Commander	The Wing Commander is responsible for the entire wing at an installation.

Get things started at the local level.
Call the airspace manager to address airspace concerns and ideas early.

About the Installation:
A brief background of the installation and its personnel.

Aircraft:
While many types of aircraft will fly at each installation, this list contains just those routinely based at this location.

Threatened and Endangered Species:
A list of species known to inhabit the installation that have been federally designated as either Threatened or Endangered.

National Parks Under/Near the Airspace:
National Parks within twenty miles of the of airspace scheduled by this installation.

>> Airspace listed under this heading will be USAF scheduled airspace with the installation for the current page listed first followed by other USAF installations that have airspace featured on the map.

USAF SUA & MTR AIRSPACE DETAILS

Airspace Scheduled By & Effective Times
11th OSS/OSO
007 Wilson Blvd.
Sample AFB, CA 94535-5020
(C) 707-555-5559
DSN: 555-5559

This is the commercial phone number. The other number is DSN or Defense Switched Network, which is for internal military dialing.

>> In this example, the 11th OSS at Sample AFB schedules a variety of airspace to include SUNSHINE MOA. It is listed as being under the effective hours of operation of Monday to Friday 0800-1600Z++.

SUNSHINE MOA Mon-Fri 0800-1600Z++
R2555 Mon-Fri 1600-0500Z++
A444 Continuous
W555 By NOTAM

When you see 1200-0500Z++ you might be wondering what the "Z" at the end means. "Z" or Zulu time, is the same as Greenwich Mean Time.

IR333 Daylight hrs., OT by NOTAM
VR555 Continuous
SR111 Mon-Fri 1200-0500Z++

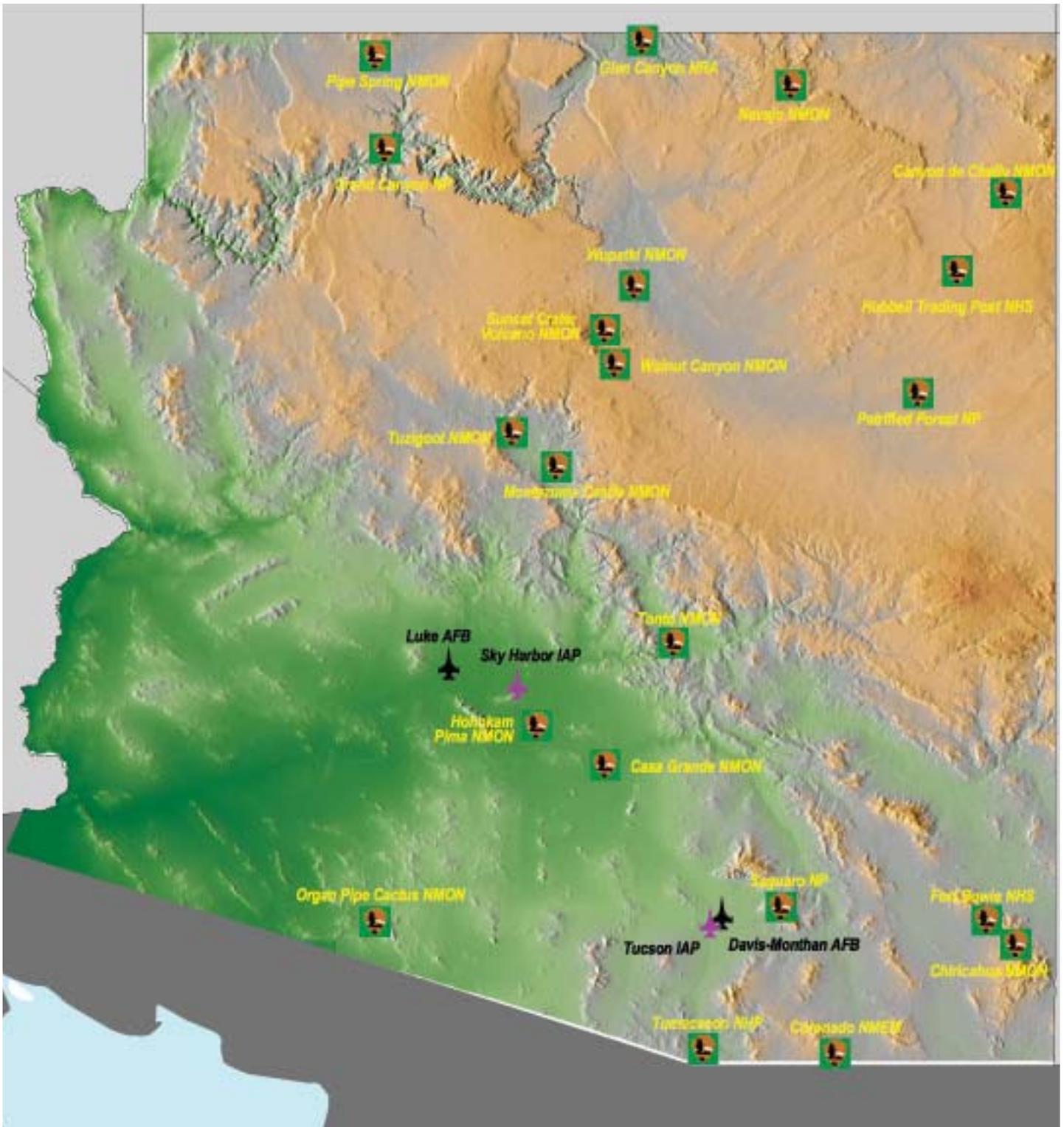
The airspace details for the installation page lists all airspace scheduled by the installation. Occasionally, an installation schedules airspace that is too far away to be included in the map.

>> Airspace listed under this heading will be all other airspace not scheduled by the USAF but in the proximity of the installation featured on the map.

SUA & MTR AIRSPACE DETAILS [Not scheduled by the USAF but in the proximity]

Airspace Scheduled By & Effective Times
Commander Strike Fighter Wing
U.S. Pacific Fleet
4001 (R) Street, Room 601
NAS Rhino, CA 93246-5022
(C) 559-555-1034
DSN: 555-1034

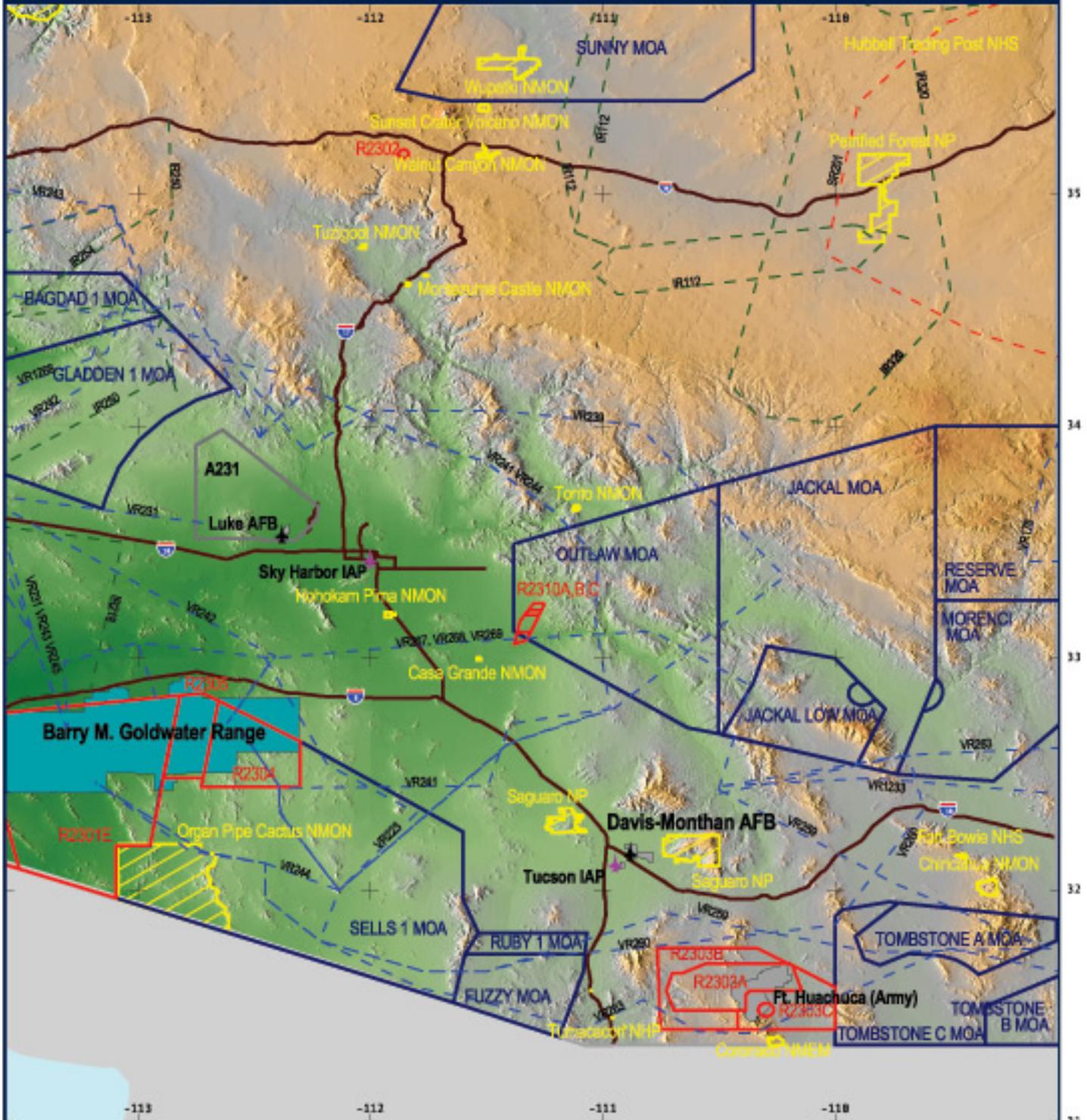
CANTINA 1 MOA By NOTAM
IR203 Daylight hrs.,
 OT by NOTAM



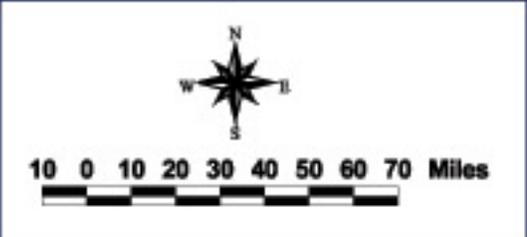
Davis-Monthan Air Force Base

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



Park Boundary	Military Training Routes
Air Force Base	IR
AF Guard/Reserve Base	SIR
DoD Ranges	VR
Air Force	Special Use Airspace
Army	Warning
Marine Corps	Alert
Navy	MOA
	Prohibited
	Restricted



2022

DAVIS-MONTHAN AIR FORCE BASE

Arizona

CONTACTS

Public Affairs

355th PA
5275 East Granite Street
Davis-Monthan AFB, AZ 85707
(C) 520-228-5091
DSN: 228-5091

Environmental Management

355th CES/CEV
5285 East Madera Street
Davis-Monthan AFB, AZ 85707
(C) 520-228-4885
DSN: 228-4885

Airspace Management

355th OSS/OSOSO
5350 East Madera Street
Building 4413
Davis-Monthan AFB, AZ 85707
(C) 520-228-4680
DSN: 228-4680

Wing Commander

355th CC
5275 East Granite Street
Davis-Monthan AFB, AZ 85707
(C) 520-228-3551
DSN: 228-3551

About the Installation: Davis-Monthan became a military base in 1925, but its origins can be traced to the earliest days of civil aviation. In 1927, Charles Lindbergh, fresh from his non-stop crossing of the Atlantic Ocean, flew his Spirit of St. Louis to Tucson to dedicate Davis-Monthan Field, then the largest municipal airport in the United States. The base was named in honor of Lieutenants Samuel H. Davis and Oscar Monthan, World War I era pilots from Tucson who died in separate military aircraft accidents. Today, the 355th Wing is the host unit, which provides training for A-10 pilots as well as command, control, and communications (C3) in support of tactical forces with its EC-130. The FAA, the U.S. Customs Service Air Service Branch, the U.S. Corps of Engineers, the Federal Law Enforcement Training Center, and a detachment of the Naval Air Systems Command make up some of the other federal agencies using the base.

Aircraft:

- Fighters/Attack: F-16, A-10
- Helicopters: HH-60
- Reconnaissance: EC-130

Threatened and Endangered Species: None

National Parks Under/Near the Airspace:

- Casa Grande Ruins NM
- Chiricahua NM
- Fort Bowie NHS
- Hohokam Pima NM
- Organ Pipe NM
- Saguaro NP

USAF SUA & MTR AIRSPACE DETAILS

Airspace Scheduled By & Effective Times:

355th OSS/OSOSO
5350 East Madera Street
Building 4413
Davis-Monthan AFB
Tucson, AZ 85707
(C) 520-228-4680 / DSN: 228-4680

TOMBSTONE A-C MOA	1300Z-0700Z++
VR259, VR260, VR267	
VR268, VR269, & VR1233	1300-0530Z++

56th RMO/ASMS
7224 North 139th Drive
Luke AFB, AZ 85309-1420
(C) 623-856-7654 / DSN: 896-7654

A231	Continuous
BAGDAD 1 MOA/ATCAA	0600-1900 Mon-Fri OT by NOTAM

GLADDEN 1 MOA/ATCAA	0600-1900 Mon-Fri OT by NOTAM
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SELLS 1 MOA/ATCAA	0600-1900 Mon-Fri OT by NOTAM
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SUNNY MOA	By NOTAM
R2301E	0630-2230 Mon-Fri OT by NOTAM

R2304	0700-2200 Mon-Fri OT by NOTAM
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R2305	0700-2300 Mon-Fri OT by NOTAM
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VR223, VR231, VR239, VR241, VR242, VR243, VR244, & VR245	Continuous, must be scheduled 2 hrs in adv. of entry and with Goldwater Range Mission
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162nd FW
P.O. Box 11037
Tucson, AZ, 85734-1037
(C) 520-295-6371 / DSN: 924-6371

OUTLAW MOA, JACKAL MOA,
JACKAL LOW MOA, RESERVE MOA,
MORENCI MOA, FUZZY MOA,
& RUBY 1 MOA Continuous
VR263 Continuous

58th OSS/OSO
4249 Hercules Way SE
Kirtland AFB, NM 87117
(C) 505-853-5888 / DSN: 263-5888

IR112	Continuous
SR201	Continuous
VR176	1500-2400Z++daily

7th OSS/OSOR
966 Avenue D-4
Dyess AFB, TX 76907
(C) 915-696-3666 / DSN: 461-3666

IR320	Continuous
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SUA & MTR AIRSPACE DETAILS [Not Scheduled by the USAF but in proximity]

Airspace Scheduled By & Effective Times:

USA Intelligence Center
Ft. Huachuca, ATZS-TPP-F
Ft. Huachuca, Arizona 85613-6000
(C) 520-538-2861 / DSN: 879-2861

R2303A & B	Mon-Fri 1400-2300Z++
R2303C	Intermittent by NOTAM

Commanding General
3rd Marine Aircraft Wing (G-3)
MCAS Miramar
San Diego, CA 92145
(C) 858-577-7237 / DSN: 267-7237

IR218	Continuous
IR250	Daylight hrs., on even #days
IR254	Daylight hrs., Mon-Fri

AZ ARNG
Training Support Branch
Phoenix, AZ 85008-3495
(C) 602-267-2651 / DSN: 853-2651

R2310 A-C	Intermittent by NOTAM 48hr. advance
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Yuma MCAS
P.O. Box 99160
Yuma, AZ 85369-9160
(C) 928-269-2326 / DSN: 269-2326

VR1268	0700-1800 local
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USA CO
Navajo Ordnance Depot
Flagstaff, AZ

R2302	Mon-Sat 1500-0700Z
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LUKE AIR FORCE BASE

Arizona

CONTACTS

Public Affairs

56th FW/PA
14185 West Falcon Street
Luke AFB, AZ 85309-1629
(C) 623-856-6011
DSN: 896-6011

Environmental Management

56th FW/CE
14002 W. Marauder St
Luke AFB, AZ 85309-1125
(C) 623-856-8488
DSN: 896-8488

Airspace Management

56th RMO/ASM
7224 North 139th Drive
Luke AFB, AZ 85309-1420
(C) 623-856-5855/56
DSN: 896-5855/56

Wing Commander

56th FW/CC
14185 West Falcon Street
Luke AFB, AZ 85309-1629
(C) 623-856-0056
DSN: 896-0056

About the Installation. In 1940, the U.S. Army chose a site for an Army Air Corps training facility and the city of Phoenix bought 1,440 acres of land, which they leased, to the government for \$1 per year effective March 24, 1941. Luke AFB is named for Lt. Frank Luke, Jr., of Phoenix, who was the first aviator to receive the Medal of Honor for his efforts in WWI. Today it is the largest fighter-training base in the western world, located in the fifth largest metropolitan area in the United States.

Aircraft:

- Fighters: F-16

Threatened and Endangered Species:

- *Mammals:*
 - Sonoran Pronghorn
 - Lesser Long-Nosed Bat

National Parks Under/Near the Airspace:

- Grand Canyon NP
- Organ Pipe NM
- Sunset Crater Volcano NM
- Tonto NM
- Wupatki NM.

USAF SUA & MTR AIRSPACE DETAILS

Airspace Scheduled By & Effective Times:

56th RMO/ASMS
7224 North 139th Drive
Luke AFB, AZ 85309-1420
(C) 623-856-7654 / DSN: 896-7654

A231	Continuous
BAGDAD 1 MOA/ATCAA	0600-1900 Mon-Fri OT by NOTAM
GLADDEN 1 MOA/ATCAA	0600-1900 Mon-Fri OT by NOTAM
SELLS 1 MOA/ATCAA	0600-1900 Mon-Fri OT by NOTAM
SUNNY MOA	By NOTAM
R2301E	0630-2230 Mon-Fri OT by NOTAM
R2304	0700-2200 Mon-Fri OT by NOTAM
R2305	0700-2300 Mon-Fri OT by NOTAM
VR223, VR231, VR239, VR241, VR242, VR243, VR244, & VR245	Continuous, must be scheduled 2 hours in adv. of entry and with Goldwater Range Mission

162nd FW
P.O. Box 11037
Tucson, AZ, 85734-1037
(C) 520-295-6371 / DSN: 924-6371

OUTLAW MOA	Continuous
JACKAL MOA	Continuous
JACKAL LOW MOA	Continuous
RESERVE MOA	Continuous
MORENCI MOA	Continuous
FUZZY MOA	Continuous
RUBY 1 MOA	Continuous
VR263	Continuous

355th OSS/OSOSO
5350 East Madera Street
Building 4413
Davis-Monthan AFB
Tucson, AZ 85707
(C) 520-228-4680 / DSN: 228-4680
TOMBSTONE A-C MOA 1300Z-0700Z++
VR259, VR260, VR267
VR268, VR269, & VR1233 1300-0530Z++

58th OSS/OSO
4249 Hercules Way SE
Kirtland AFB, NM 87117
(C) 505-853-5888 / DSN: 263-5888
IR112 Continuous
SR201 Continuous
VR176 1500-2400Z++

7th OSS/OSOR
966 Avenue D-4
Dyess, AFB, TX 76907
(C) 915-696-3666 / DSN: 461-3666
IR320 Continuous

SUA & MTR AIRSPACE DETAILS

[Not scheduled by the USAF but in the proximity]

Airspace Scheduled By & Effective Times:

AZ ARNG
Training Support Branch
Phoenix AZ, 85008-3495
(C) 602-267-2651 / DSN: 853-2651
R2310 A-C Intermittent by NOTAM
48 hr. in advance

Commanding General
3rd Marine Aircraft Wing (G-3)
MCAS Miramar
San Diego, CA 92145
(C) 858-577-7237 / DSN: 267-7237
IR218 Continuous
IR250 Daylight hrs., even days
IR254 Daylight hrs., Mon-Fri

Yuma Proving Ground
Range Management Office
Yuma, AZ 85369-9160
(C) 928-269-2214 / DSN: 269-2214
R2307 Continuous
R2308 A-B Continuous

Yuma MCAS
P.O. Box 99160
Yuma, AZ 85369-9160
(C) 928-269-2326 / DSN: 269-2326
VR1267 & VR1268 0700-1800 local

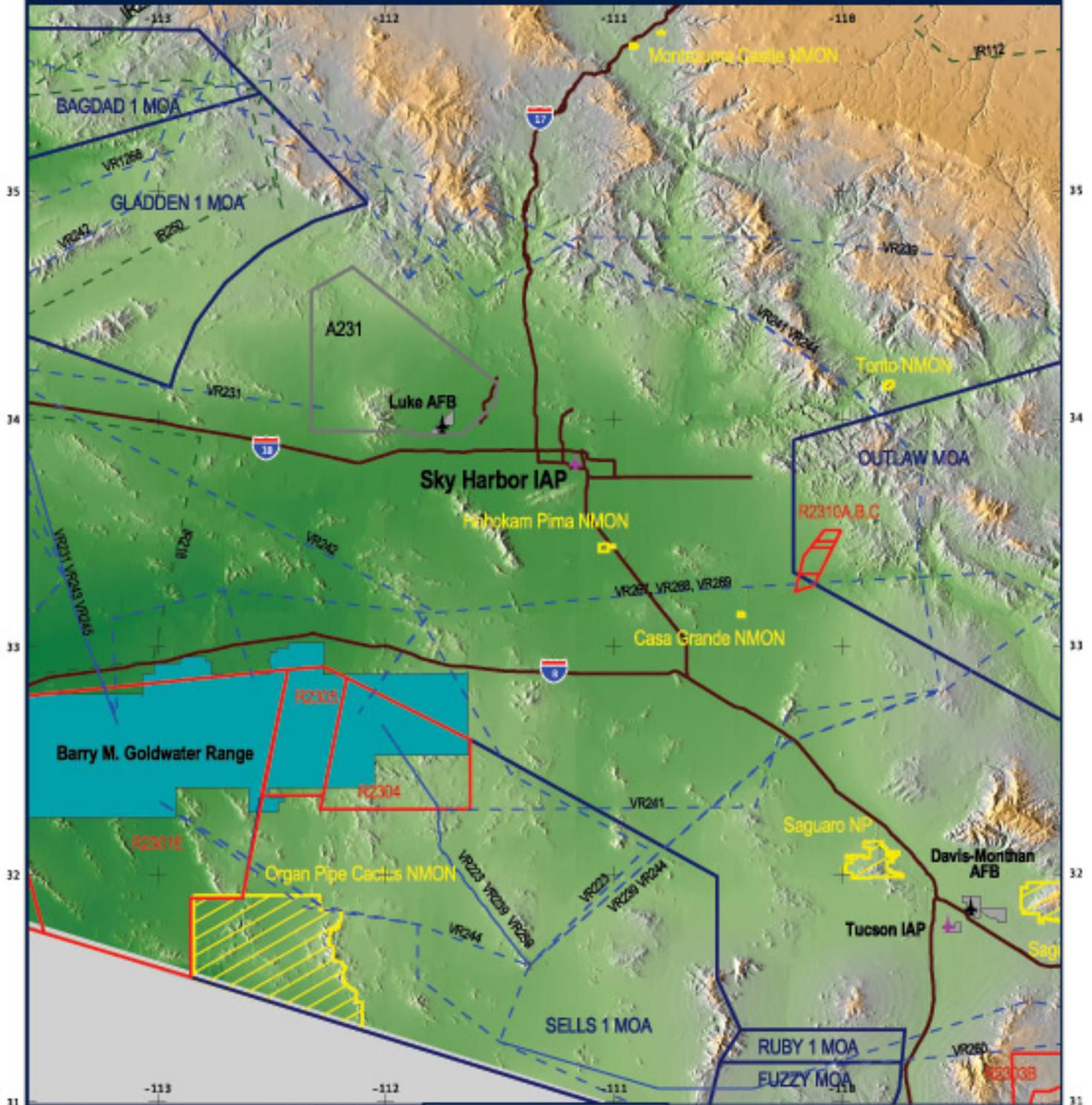
USA CO
Navajo Ordnance Depot
Flagstaff, AZ
R2302 Mon-Sat 1500-0700Z

USA Intelligence Center
Ft. Huachuca, ATZS-TPP-F
Ft. Huachuca, AZ 85613-6000
(C) 520-538-2861 / DSN: 879-2861
R2303A & B Mon-Fri 1400-2300Z++
R2303C Intermittent by NOTAM

Sky Harbor International Airport

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



<ul style="list-style-type: none"> Park Boundary Air Force Base AF Guard/Reserve Base DoD Ranges Air Force Army Marine Corps Navy 	<ul style="list-style-type: none"> Military Training Routes IR SR VR Special Use Airspace Warning Alert MOA Prohibited Restricted 		
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SKY HARBOR INTERNATIONAL AIRPORT

Arizona

CONTACTS

Public Affairs

161st ARW/PA
3200 East Old Tower Road
Phoenix, AZ 85034-7263
(C) 602-302-9331
DSN: 853-9331

Environmental Management

161st ARW/CE
3200 East Old Tower Road
Phoenix, AZ 85034-7263
(C) 602-302-9254
DSN: 853-9254

Airspace Management

The 161st is not the Scheduling Agency for any airspace.

Wing Commander

161st ARW/CC
3200 East Old Tower Road
Phoenix, AZ, 85034-7263
(C) 602-302-9200
DSN: 853-9200

About the Installation: Sky Harbor International Airport (IAP) is located in Maricopa County in central Arizona, approximately 10 miles southeast of Phoenix. Sky Harbor IAP is owned and operated by the city of Phoenix and is home to the 161st Air Refueling Wing (ARW), which is located within the airport. The mission of the 161st ARW is to train, equip, and maintain units for federal day-to-day and mobilization missions in addition to state emergencies. The 161st ARW has KC-135 aircraft assigned and located on the southern end of the airport on a 50-acre parcel.

Aircraft:

• Tankers: KC-135

Threatened and Endangered Species: None

National Parks Under/Near the Airspace: None

USAF SUA & MTR AIRSPACE DETAILS

Airspace Scheduled By & Effective Times:

56th RMO/ASMS
7224 North 139th Drive
Luke AFB, AZ 85309-1420
(C) 623-856-7654 / DSN: 896-7654

A231	Continuous
BAGDAD 1 MOA/ATCAA	0600-1900 Mon-Fri OT by NOTAM
GLADDEN 1 MOA/ATCAA	0600-1900 Mon-Fri OT by NOTAM
SELLS 1 MOA/ATCAA	0600-1900 Mon-Fri OT by NOTAM
SUNNY MOA	By NOTAM
R2301E	0630-2230 Mon-Fri OT by NOTAM
R2304	0700-2200 Mon-Fri OT by NOTAM
R2305	0700-2300 Mon-Fri OT by NOTAM
VR223, VR231, VR239, VR241, VR242, VR243, VR244, & VR245	Continuous, must be scheduled 2 hrs in adv. of entry and with Goldwater Range Mission

162nd FW
P.O. Box 11037
Tucson, AZ, 85734-1037
(C) 520-295-6371 / DSN: 924-6371

FUZZY MOA	Continuous
OUTLAW MOA	Continuous
RUBY 1 MOA	Continuous

355th OSS/OSOSO
5350 East Madera Street
Building 4413
Davis-Monthan AFB
Tucson, AZ 85707
(C) 520-228-4680 / DSN: 228-4680

VR259, VR267 VR268 & VR269	1300-0530Z++
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58th OSS/OSO
4249 Hercules Way SE
Kirtland AFB, NM 87117
(C) 505-853-5888 / DSN: 263-5888

IR112	Continuous
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SUA & MTR AIRSPACE DETAILS

[Not scheduled by the USAF but in the proximity]

Airspace Scheduled By & Effective Times:

AZ ARNG
Training Support Branch
Phoenix AZ, 85008-3495
(C) 602-267-2651 / DSN: 853-2651

R2310 A-C	Intermittent by NOTAM 48hr. advance
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Commanding General
3rd Marine Aircraft Wing (G-3)
MCAS Miramar
San Diego, CA 92145
(C) 858-577-7237 / DSN: 267-7237

IR218	Continuous
IR250	Daylight hrs., on even days

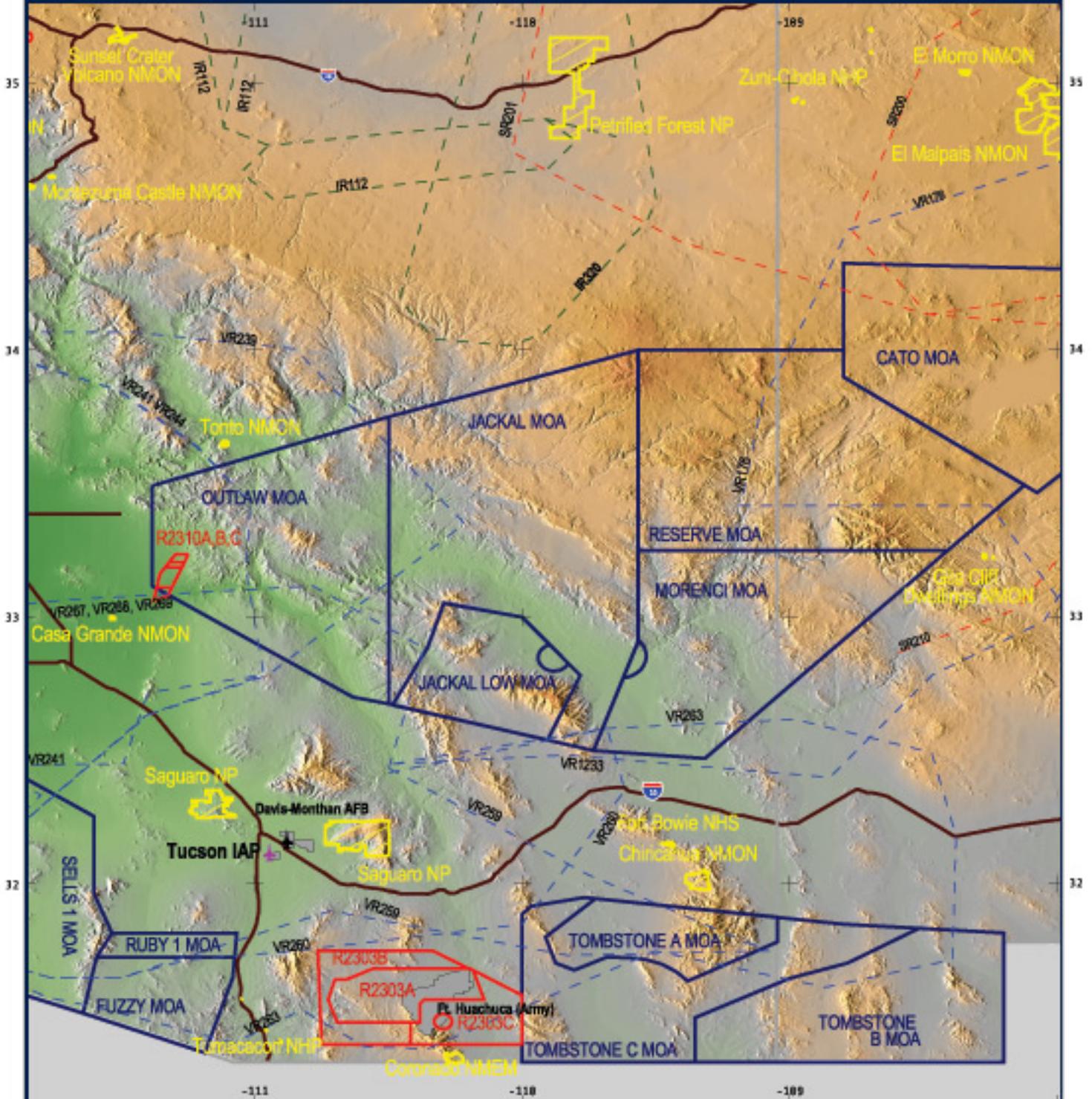
USA Intelligence Center
Ft. Huachuca, ATZS-TPP-F
Ft. Huachuca, Arizona 85613-6000
(C) 520-538-2861 / DSN: 879-2861

R2303 B	Mon-Fri 1400-2300Z++
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Tucson International Airport

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



Park Boundary	Military Training Routes
Air Force Base	IR
AF Guard/Reserve Base	SR
DoD Ranges	VR
Air Force	Special Use Airspace
Army	Warning
Marine Corps	MOA
Navy	Alert
	Prohibited
	Restricted



Scale: 10 0 10 20 30 40 50 60 Miles

**TUCSON
INTERNATIONAL
AIRPORT**

Arizona

CONTACTS

Public Affairs

162nd FW/PA
1659 East Perimeter Way
Tucson, AZ 85706-6052
(C) 520-295-6192
DSN: 924-6192

Environmental Management

162nd FW/EMO
1800 East Perimeter Way
Tucson, AZ, 85706-6082
(C) 520-295-6580
DSN: 844-6580

Airspace Management

162nd FW
P.O. Box 11037
Tucson, AZ, 85734-1037
(C) 520-295-6371
DSN: 924-6371

Wing Commander

162nd FW/CC
1650 East Perimeter way
Tucson, AZ, 85706-6052
(C) 520-295-6100
DSN: 844-6100

About the Installation: Tucson IAP is home to the 162nd Fighter Wing (FW) and the Air National Guard Air Force Reserve Test Center (AATC). The mission of the 162nd FW is to provide F-16 training for AF, ANG, AFRES, and foreign aircrews. The 162nd FW supports Operation Snowbird at Davis-Monthan AFB, which is a National Guard Bureau program functioning as a winter deployment site for northern tier ANG flying bases. AATC is fully integrated as one of ACCs operational test centers in combination with the Air Warfare Center at Nellis AFB and Eglin AFB. Their primary responsibility is F-16 testing but they also conduct testing on the A-10, F-15, HH-60, C-130 and KC-135 aircraft.

Aircraft:

- Cargo: C-26
- Fighters: F-16

Threatened and Endangered Species: None

National Parks Under/Near the Airspace:

- Casa Grande Ruins NM
- Chiricahua NM
- Coronado NMEM
- Fort Bowie NHS
- Hohokam Pima NM
- Saguaro NP
- Tonto NM
- Tumacacori NHP

USAF SUA & MTR AIRSPACE DETAILS

Airspace Scheduled By & Effective Times:

162nd FW
P.O. Box 11037
Tucson, AZ, 85734-1037
(C) 520-295-6371 / DSN: 924-6371

OUTLAW MOA	Continuous
JACKAL MOA	Continuous
JACKAL LOW MOA	Continuous
RESERVE MOA	Continuous
MORENCI MOA	Continuous
FUZZY MOA	Continuous
RUBY 1 MOA	Continuous
VR263	Continuous

355th OSS/OSOSO
5350 East Madera Street
Building 4413
Davis-Monthan AFB
Tucson, AZ 85707
(C) 520-228-4680 / DSN: 228-4680

TOMBSTONE A-C MOA	1300Z-0700Z++
VR259, VR260, VR267	
VR268, VR269, & VR1233	1300-0530Z++

56th RMO/ASMS
7224 North 139th Drive
Luke AFB, AZ 85309-1420
(C) 623-856-7654 / DSN: 896-7654

SELLS 1 MOA/ATCAA	0600-1900 Mon-Fri OT by NOTAM
VR239, VR241, & VR244	Continuous, must be scheduled 2 hrs in adv. of entry and with Goldwater Range Mission

58th OSS/OSO
4249 Hercules Way SE
Kirtland AFB, NM 87117
(C) 505-853-5888 / DSN: 263-5888

IR112	Continuous
SR200 & SR201	Continuous
SR210	Continuous

150th FW/OG
2251 Air Guard Road SE
Kirtland AFB, NM 87117-5875
(C) 505-846-7431 / DSN: 246-7431

CATO MOA	Continuous
VR176	1500-2400Z++ daily

7th OSS/OSOR
966 Avenue D-4
Dyess AFB, TX 76907
(C) 915-696-3666 / DSN: 461-3666

IR320	Continuous
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SUA & MTR AIRSPACE DETAILS
[Not Scheduled by the USAF but in proximity]

Airspace Scheduled By & Effective Times:

USA Intelligence Center
Ft. Huachuca, ATZS-TPP-F
Ft. Huachuca, Arizona 85613-6000
(C) 520-538-2861 / DSN: 879-2861

R2303 A & B	Mon-Fri 1400-2300Z++
R2303C	Intermittent by NOTAM

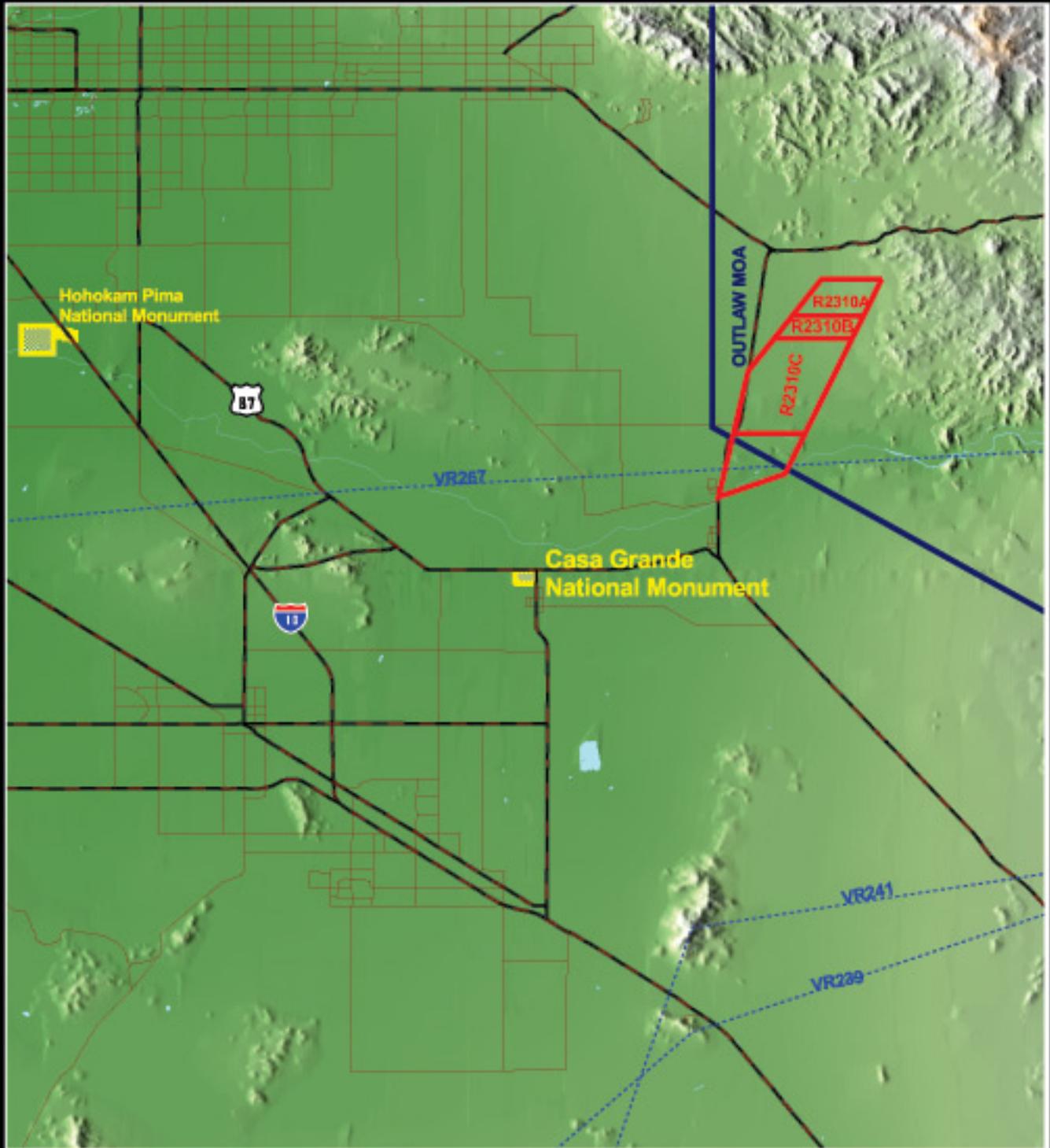
AZ ARNG
Training Support Branch
Phoenix, AZ 85008-3495
(C) 602-267-2651 / DSN: 853-2651

R2310 A-C	Intermittent by NOTAM 48hr advance
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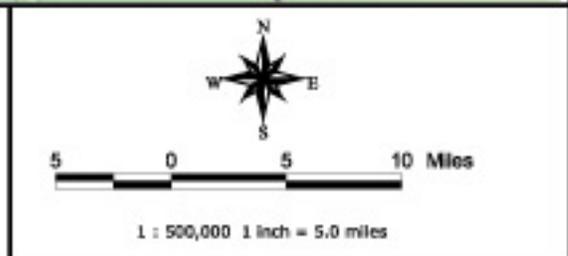
Casa Grande National Monument

National Park Units

National Park Service
U.S. Department of the Interior



Park Boundary	Military Training Routes
Wilderness	IR
Roads	VR
Highways	SR
Secondary Roads	Special Use Airspace
Developed Areas	Warning Alert
Major Peak	MOA
	Prohibited
	Restricted



CASA GRANDE RUINS NATIONAL MONUMENT

Arizona

CONTACTS

Casa Grande Ruins NM

1100 Ruins Drive
Coolidge, AZ 85228
(520) 723-3172

Superintendent

(520) 723-3172
(520) 723-7209 fax
E-mail:
cagr_superintendent@nps.gov

Chief Ranger (primary contact
for airspace issues)

(520) 723-3172

Park Acronym: CAGR

Park Website:

<http://www.nps.gov/cagr>

Background and National Significance. For over a thousand years, prehistoric farmers inhabited much of the present-day state of Arizona. When the first Europeans arrived, all that remained of this ancient culture were the ruins of villages, irrigation canals, and various artifacts. Among these ruins is the Casa Grande (Spanish for great house), one of the largest and most mysterious prehistoric structures ever built in North America. Casa Grande was abandoned by the mid-1400s. Few European-Americans visited the area until the late 19th century, when souvenir hunting threatened to destroy the site. The scientific community pressed for legal protection, and in 1892 Casa Grande Ruins, a 472-acre site, became the nation's first archeological preserve. Fortress-like, the Casa Grande guards within its confines the secrets of an ancient people.

Park Features and Values. The Casa Grande is an earthen-walled structure surrounded by the remains of smaller buildings and a compound wall. It was constructed by the Hohokam (those who are gone in the Pima Indian language). Four stories high and 60 feet long, Casa Grande is the largest structure known to exist in Hohokam times. Openings in the building align with the sun and moon at specific times.

Visitor Use and Enjoyment. Approximately 160,000 people visit the park annually. Inside the visitor center are exhibits of Hohokam village life. Outside, trails lead through the ruins of what once was the largest compound in the prehistoric village.

The park encompasses typical low desert vegetation consisting primarily of salt brush and creosote. Mild winters

with periods of rain can weave a brilliant tapestry of desert wildflowers in the spring.

Noise-Sensitive Areas/Resources.

Cultural Landscape: Most of this park is zoned and managed to preserve and immerse visitors into a landscape evocative of the historic time frame of the Hohokam culture. The park's historic setting is a powerful tool for helping people appreciate and understand this period of America's history. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. Constructed of natural caliche mud rising four stories high, the Casa Grande is very sensitive to vibrations. The local crop dusters have been asked to avoid flights over the park any lower than 500 feet.

Airspace Over/Near the Park. The airspace over the park is used by commercial passenger and crop spraying aircraft. The park is surrounded by cotton fields, and crop sprayers often turn at the outer limits of the park to line up with the cotton fields.

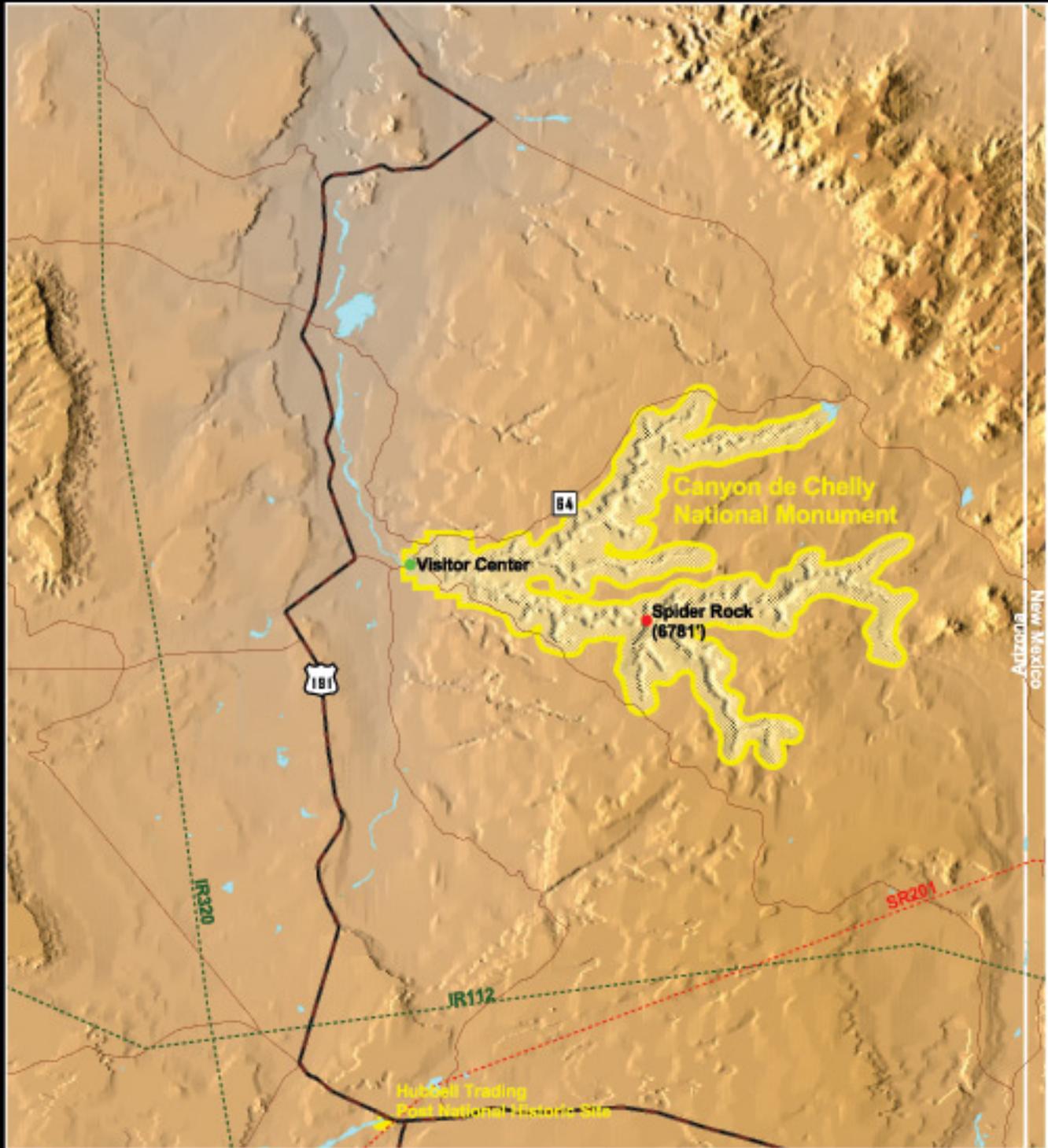
Air Force Installations with Airspace Near the Park. Please refer to the Davis-Monthan AFB narrative and map for information about Air Force/military use of the airspace.



Canyon De Chelly National Monument

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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CANYON DE CHELLY NATIONAL MONUMENT

Arizona

CONTACTS

Canyon de Chelly NM

P.O. Box 588
Chinle, AZ 86503-0588
(928) 674-5500

Superintendent

(928) 674-5500, ext. 224
(928) 674 5507 fax

E-mail:

cach_superintendent@nps.gov

Chief Ranger

(928) 674-5500, ext. 226

Park Acronym: CACH

Park Website:

<http://www.nps.gov/cach>

Background and Significance. The high, steep walls of the labyrinth called Canyon de Chelly (pronounced d Shay) overshadow a relatively verdant area of streams, cottonwoods, and small farms below. The area has attracted human occupation for thousands of years and offers visitors the chance to learn about Southwest Indian history from the earliest basket makers to the Navajo Indians who live and farm here today. Canyon de Chelly National Monument was established in 1931 to preserve the canyons and their important record of human history. The park encompasses 83,840 acres, 18,000 of which lie within the Navajo Reservation.

Canyon de Chelly long has been, and remains today, the epicenter of Navajo culture. The Navajo people lean on traditions during times of contemporary demands to help preserve their way of life. As a Navajo Nation leader once said, We will be like a rock a river has to go around. The National Park Service administers the park, but these rock canyons belong to the Navajo people.

Park Features and Values. The Canyon de Chelly complex is really several canyons, including Canyon de Chelly and Canyon del Muerto. At their mouth the rock walls are only 30 feet high, but deeper into the canyons, the walls rise dramatically until they reach more than 1,000 feet above the floor. It has taken about 2 million years and volumes of water to etch these stone paths through layers of sandstone and igneous rock as the Defiance Plateau has pushed its way upward.

The remains of villages built between AD 350 and 1300 still stand in alcoves in the canyon walls and at the bases of some of the sheer red cliffs.

For the past several centuries, the Navajo people have lived in the canyons, raising crops and collecting plants for food, medicines, dyes, and ceremonies. The people who

live here consider Canyon de Chelly to be both a physical and a spiritual home. Traditional plant use continues today. Navajo farmers plant corn in the canyon as their ancestors did before them. Chanters (medicine men and women) collect wild plants to use for medicines and ceremonies. Such plants include narrowleaf yucca, yucca root, sumac, prickly pear cactus, snakeweed, sagebrush, and juniper.

Public Use and Enjoyment. More than 840,000 people visited Canyon De Chelly National Monument during fiscal year 2001. Park visitors may tour the Rim Drive or hike the White House Trail on their own. They may also elect to experience the canyon via a tour with an authorized Navajo guide. Federal and tribal law protects all cultural and natural features.

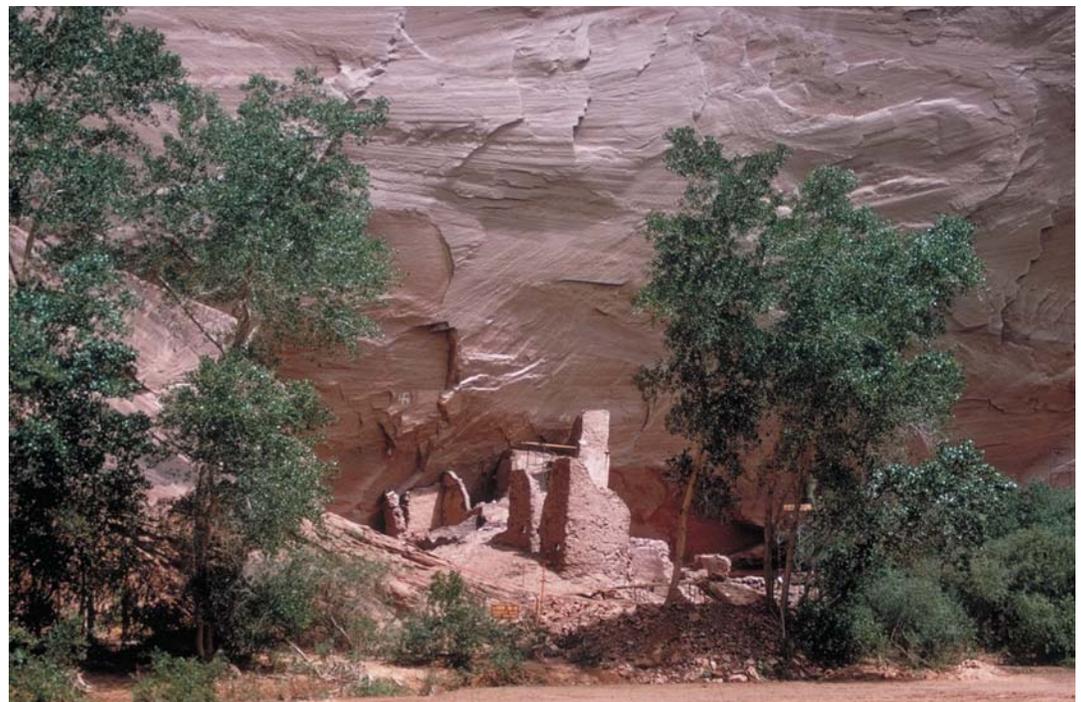
Noise-Sensitive Areas/Resources.

Cultural Landscape: Much of this park is zoned and managed to preserve and immerse visitors into a living cultural landscape, where the Navajo people continue to live much as they did centuries ago. Visitors come to learn about this way of life, in which the Navajo derive meaning, culture, and spirituality from the natural features that surround them. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the cultural significance of this place.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. The puebloan structures in this park are potentially susceptible to such sonic damage from low-flying and/or loud aircraft.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

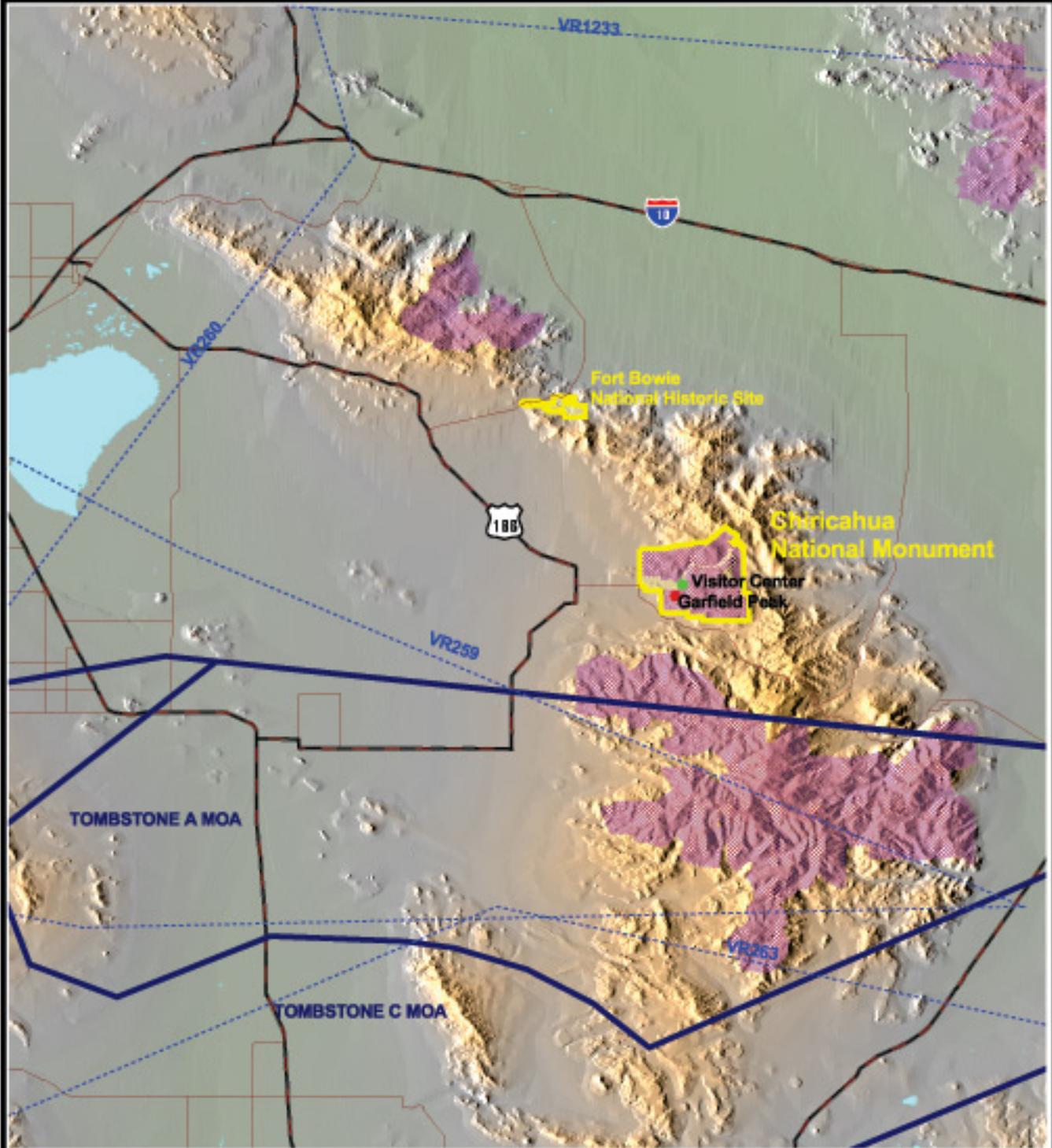
Air Force Installations with Airspace Near the Park. None.



Chiricahua National Monument

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	<p>Scale: 1 : 500,000 1 inch = 5.0 miles</p>
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CHIRICAHUA NATIONAL MONUMENT

Arizona

CONTACTS

Chiricahua NM

13063 East Bonita Canyon Road
Wilcox, AZ 85643-9737
(520) 824-3560

Superintendent

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(520) 824-3421 fax
E-mail:
chir_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(520) 824-3560

Wilderness Coordinator

(520) 824-3560

Park Acronym: CHIR

Park Website:

<http://www.nps.gov/chir>

Background and National Significance. Millions of years ago a volcanic eruption a thousand times greater than the 1980 eruption of Mount Saint Helens created a landscape of rare beauty that has come to be known as the Chiricahua Mountains. From this rugged homeland the Chiricahua Apaches, led by Cochise and Geronimo, launched attacks against the onrushing tide of pioneers for more than 25 years. Their resistance slowed but did not stop settlement, and when Geronimo's band surrendered in 1886 and was removed to a distant reservation, a new way of life took over. Among the first pioneers to settle in the area was a Swedish immigrant couple. Their daughter and her husband turned the homestead into a prosperous cattle/guest ranch named Faraway Ranch. In 1922, they promoted the area as a national park. Two years later Chiricahua National Monument was established to preserve the area's natural wonders. The park was transferred from the U.S. Forest Service to the National Park Service in 1933. It encompasses 11,985 acres, almost all federal land.

Park Features and Values. Chiricahua is renowned for its beautiful scenery and spectacular rock formations. Situated at the intersection of the Chihuahuan and Sonoran deserts, the southern Rocky Mountains, and the northern Sierra Madre, the Chiricahua Mountains are a premier area for northern hemisphere biological diversity. The park is inhabited by an abundance of rare birds, including sulphur-bellied flycatchers, Mexican chickadees, and exotic-looking coppery tailed trogons. The Mexican influence produces such mammals as the Apache fox squirrel and such trees as the Chiricahua pine and Apache pine. A rich variety of vegetation ranges from lowland cacti, through stunted oak-juniper forests in the canyons, to scrubby chaparral, and finally to pine and aspen forests on the highest slopes. Animals include whitetail deer, cottontails, peccaries, lizards, snakes, and other Southwest

mountain creatures. Much of the park (10,290 acres) is designated wilderness.

Faraway Ranch has been restored and is furnished with historic artifacts.

Visitor Use and Enjoyment. The park, which is a mecca for hikers and birders, was visited by approximately 84,000 people during fiscal year 2001. The visitor center has brochures, books, maps, exhibits, and a slide show. Park interpretive programs, such as guided walks and talks, are offered in spring and summer. The winding 8-mile Bonita Canyon Drive climbs gradually through oak-juniper and pine forests to the crest of the Chiricahua Mountains, where a commanding view from Massai Point overlooks the park, the desert valleys below, and the landmark mountain peaks of Sugarloaf Mountain and Cochise Head. More than 20 miles of trails wind through landscapes containing many unusual rock formations. The grounds of Faraway Ranch and Stafford Cabin are open all year.

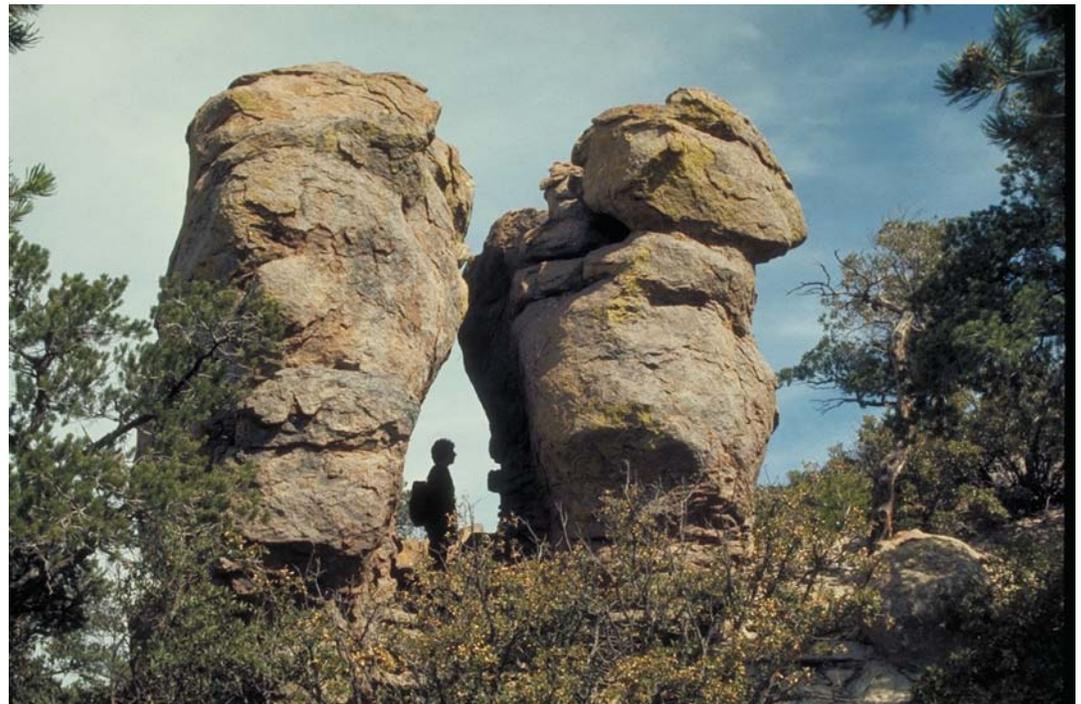
Noise-Sensitive Areas/Resources.

Wilderness: Most of the park is congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

Air Force Installations with Airspace Near the Park.

Please refer to the Davis-Monthan AFB narrative and map for information about Air Force/military use of the airspace.

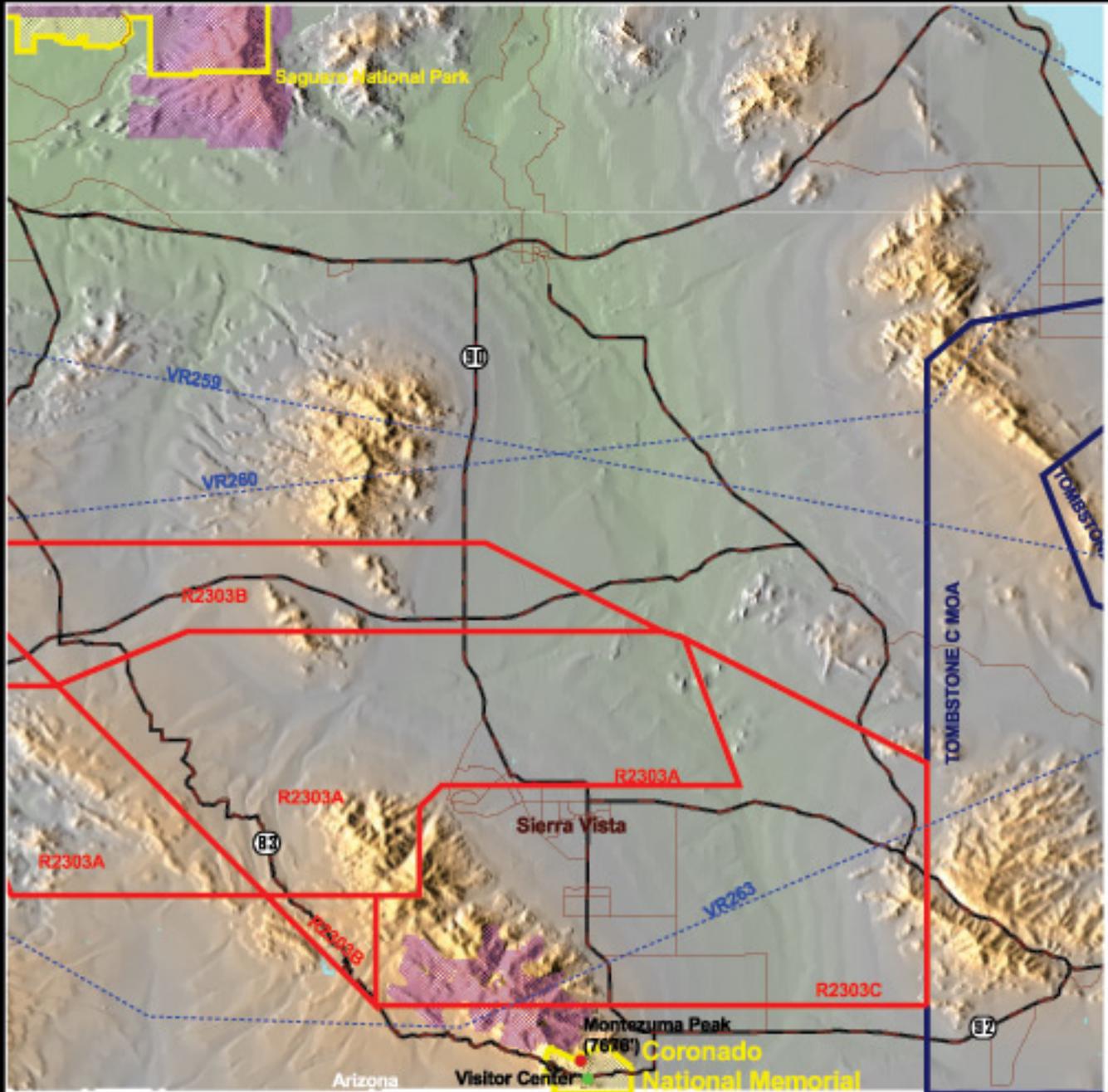


Coronado National Memorial

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads ● Developed Areas ● Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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CORONADO NATIONAL MEMORIAL

Arizona

CONTACTS

Coronado NM

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Hereford, AZ 85615-9376
(520) 366-5515

Superintendent

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E-mail:

coro_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(520) 366-5515, ext. 32

Integrated Resources Program Manager

(520) 366-5515, ext. 30

Park Acronym: CORO

Park Website:

<http://www.nps.gov/coro>

Background and National Significance. Coronado National Memorial, located on the Mexican border, both commemorates the first organized expedition into the Southwest and affirms the ties that bind the United States to Mexico and Spain. Coronado's expedition opened a way for Spanish explorers and missionaries to colonize the Southwest, which had a major influence on the region's distinctive culture. The park was authorized as an international memorial in 1941 and redesignated in 1952. It encompasses 4,750 acres, mostly federal lands.

Park Features and Values. Francisco Vasquez de Coronado was commissioned by New Spain in 1540 to lead an expedition through what is now northern Mexico and the southwestern United States. Coronado's forces engaged in battles with American Indians in a number of locations and forced the Indians to abandon several others. Coronado found no riches. He led his men back to Mexico City in the spring of 1842, his dreams of fame and fortune shattered. Ten years later, he died in relative obscurity, but his actions had brought back knowledge of the northern land and its people.

Coronado National Memorial preserves a natural landscape near the point where Coronado's expedition entered the United States. Montezuma Pass, at an elevation of 6,575 feet, offers sweeping views of the San Pedro River Valley to the east and the San Rafael Valley to the west.

The park is well known for its variety of birds, with different species being sighted each season of the year. More than 140 species have been recorded, including about 50 resident birds. Vegetation in lower elevations includes desert grasses and shrubs, with honey mesquite and desert willow along temporary drainages. Forests of oak, Mexican pinyon pine, and alligator juniper dominate the upper elevations. Among the more commonly seen mammals are white-tailed deer, peccary or javelina, coyote, coatimundi, and gray fox. Also found in the park,

but much more elusive, are bobcat, black bear, and mountain lion.

Visitor Use and Enjoyment. Approximately 90,000 people visit the park annually. The visitor center has a picnic area and a nature trail. The top of Montezuma Pass serves as a parking area for hikers using the park's trails and the connecting U.S. Forest Service trails in the Huachuca Mountains. The Yaqui Ridge Trail is the southern terminus of the 750-mile Arizona Trail that traverses the state from Mexico to Utah. At scenic vistas found along the trails, visitors can look toward the horizon and see the countryside through which Coronado led his company of soldiers and missionaries. Camping is not allowed in the memorial, but visitors may camp in the Coronado National Forest to the west and north.

Noise-Sensitive Areas/Resources.

Cultural Landscape: Most of this park is zoned and managed to preserve and immerse visitors into a natural landscape evocative of the historic time frame of Coronado's early exploration of the United States. The park's historic setting is a powerful tool for helping people appreciate and understand this event in America's history. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Airspace Over/Near the Park. Due to Coronado National Monument's proximity to the U.S.-Mexico border, many state and federal agencies use rotary and fixed-wing aircraft for illegal drug and immigration interdiction. Operations are primarily conducted under 2,000 AGL.

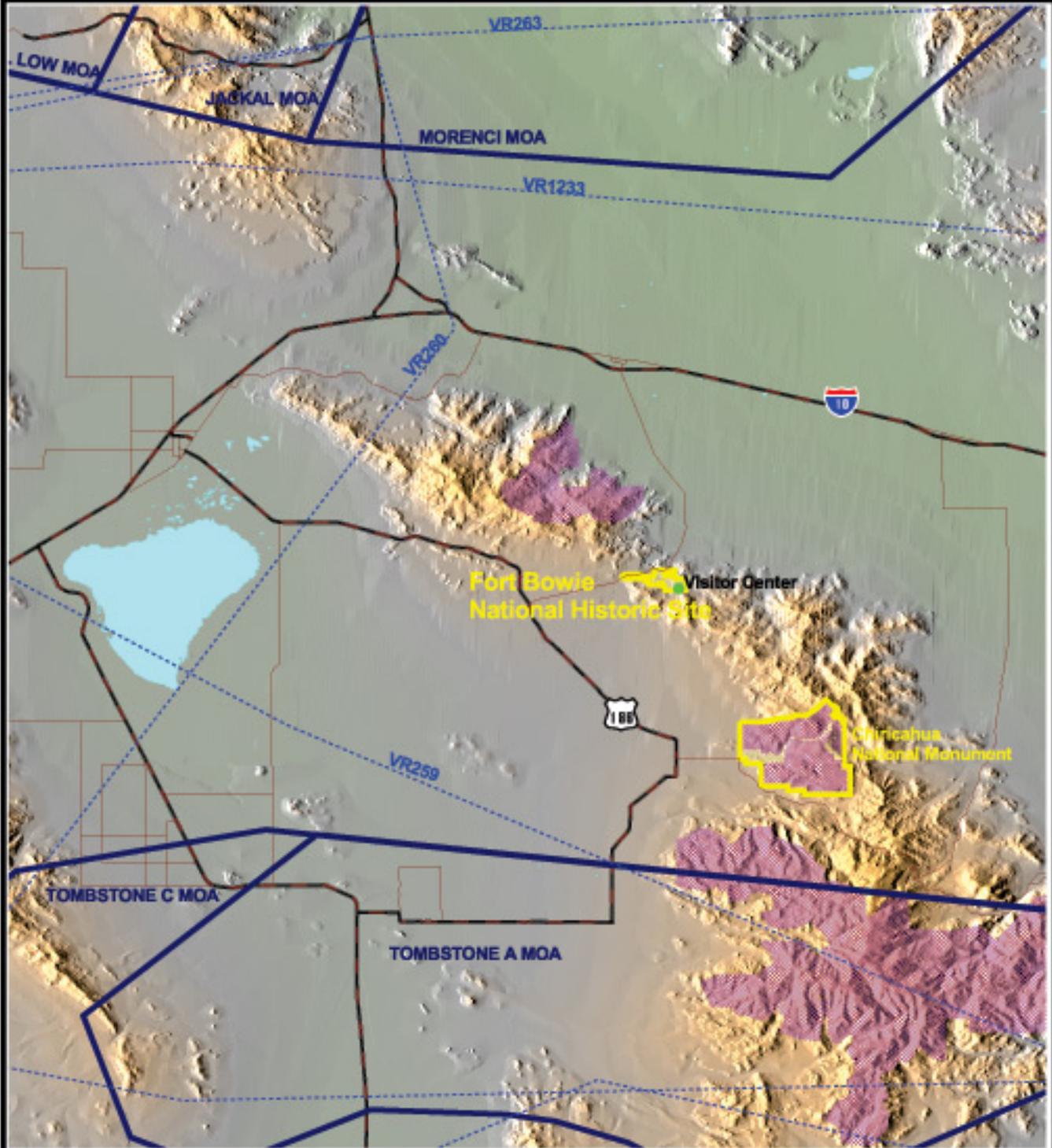
Air Force Installations with Airspace Near the Park. Please refer to the Tucson IAP narrative and map for information about Air Force/military use of the airspace.



Fort Bowie National Historic Site

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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FORT BOWIE NATIONAL HISTORIC SITE

Arizona

CONTACTS

Fort Bowie NHS

P.O. Box 158
Bowie, AZ 85605-0158
(520) 847-3560

Superintendent

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fobo_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(520) 847-3560

Wilderness Coordinator

(520) 847-3560

Park Acronym: FOBO

Park Website:

<http://www.nps.gov/fobo>

Background and National Significance. Fort Bowie National Historic Site commemorates the story of the bitter conflict between the Chiricahua Apaches and the U.S. military. Between 1862 and 1886, Fort Bowie served as the nerve center for military campaigns against hostile Chiricahua Apaches led first by Cochise and then by Geronimo. The Apache resistance was finally crushed at Fort Bowie in 1886, and the result was the end of the Indian Wars in the United States. Fort Bowie is a lasting monument to the bravery and endurance of U.S. soldiers in paving the way for westward settlement and the taming of the western frontier. The fort also represents the clash of cultures between an emerging nation in pursuit of its manifest destiny and a valiant hunter/gatherer society fighting to survive. The park, which encompasses 1,000 acres, was established in 1972.

Park Features and Values. The carefully preserved remains of Fort Bowie include the adobe walls of various post buildings. The post was established shortly after the Battle of Apache Pass, fought July 15-16, 1862, to protect both the pass and Apache Spring, an unfailing source of water in an otherwise dry land. Hostilities continued until Cochise made peace in 1872. After Cochise died in 1874, Indian agent Tom Jeffords tried to maintain order, but a number of young Apaches grew restless with conditions on the Chiricahua Reservation and escaped. In 1876 the federal government abolished the Chiricahua Reservation and ordered everyone moved to the San Carlos Reservation in the hot, barren, and disease-ridden Gila River Valley. At that point Geronimo and others fled to the Sierra Madre of northern Mexico and began to terrorize the border region. Over the next 10 years, most of these renegades were captured and returned to San Carlos, but many escaped again, some more than once. The last outbreak came in 1885, when Geronimo led 134 Chiricahuas back into Mexico. They were pursued by soldiers and Apache scouts, and after their final surrender in September 1886, Geronimo and his remaining followers were taken by railroad to exile in Florida. Geronimo's defeat ended Fort Bowie's usefulness as a military installation.

The park also includes the ruins of a Butterfield Stage Station, which was part of the Butterfield Overland Mail Route.

The hills around Fort Bowie lie within the Upper Sonoran life zone and contain several biotic communities, including desert grasslands on the lower slopes, a chaparral characterized by dense thickets of tough evergreens, and woodlands of oak, juniper, and pinyon pine on the higher

slopes. Large trees, such as willow, walnut, and cottonwood, are typical along the sandy drainages. After good winter rains, many spring and summer wildflowers brighten the hillsides. The area also features an array of animals such as deer, gray fox, coyote, cougar, bobcat, coati, peccary, snakes, and lizards, as well as birds of many kinds.

Visitor Use and Enjoyment. The park is visited by 10,000 people annually. Today, access to the fort is by way of a 1.5 mile foot trail that generally follows the old military road. The trail passes a number of historic features, including the ruins of a Butterfield Stage Station, the post cemetery, Apache Spring, and the site of the first Fort Bowie. There are no camping facilities within the park.

Noise-Sensitive Areas/Resources.

Cultural Landscape: A fundamental goal for this park is to immerse visitors in the historic time frame of the bitter conflict between the Chiricahua Apaches and the U.S. military. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. The adobe walls in this park are susceptible to sonic damage from low-flying and/or loud aircraft.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

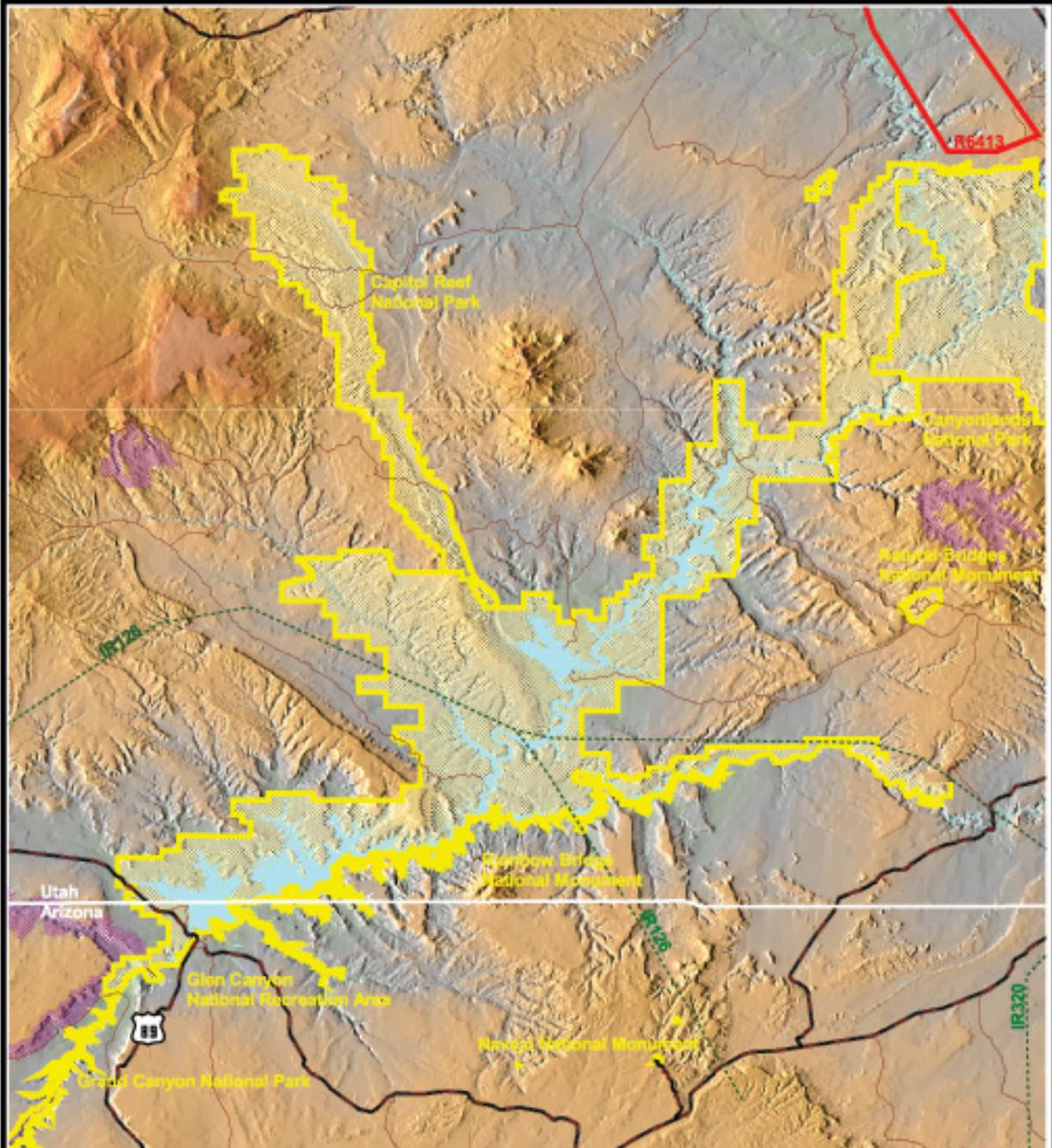
Air Force Installations with Airspace Near the Park. Please refer to the Davis-Monthan AFB narrative and map for information about Air Force/military use of the airspace.



Glen Canyon National Recreation Area

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 1,270,000 1 inch = 10.0 miles</p>
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2002

GLEN CANYON NATIONAL RECREATION AREA

Arizona

CONTACTS

Glen Canyon NRA

P.O. Box 1507
Page, AZ 86040-1507
(928) 608-6200

Superintendent

(928) 608-6200
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glca_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(928) 608-6200

Wilderness Coordinator

(928) 608-6200

Park Acronym: GLCA

Park Website:

<http://www.nps.gov/glca>

Background and National Significance. Glen Canyon National Recreation Area, established in 1972, provides a dramatic example of one of nature's most inspiring settings combined with an ambitious human project. Impounded behind the Bureau of Reclamation's Glen Canyon Dam, waters of the Colorado River and tributaries are backed up about 185 miles, forming Lake Powell. Born amid controversy and compromise, the dam fulfills its goals of water storage and power generation, and it provides major recreational opportunities. The resulting lake enables many people to view natural marvels and cultural features. The park encompasses nearly 1.3 million acres of mostly federal lands and waters.

Park Features and Values. The spectacular landscape of canyons, cliffs, talus slopes, buttes, and mesas is the product of eons of geologic activity: shifting of continents, global rising and falling of sea levels, and creation of highlands now worn and redeposited by wind and water erosion. The last uplift of the Colorado Plateau, which began about 10 million years ago, caused the once-meandering Colorado River to run faster and to cut the canyons that now form the basin for Lake Powell. The canyon walls expose a number of rock strata, some of which contain sea-deposited sediments, petrified wood, and fossils of land and marine organisms that lived millions of years ago.

Lake Powell's presence in a desert landscape has modified the species of plants and animals that now inhabit Glen Canyon. However, many plants and animals found here are typical desert species. Cactus, blackbrush, and grasses dominate. Spring or summer moisture prompts the lupine and Indian paintbrush to bloom. Pinyon and juniper trees grow at higher elevations. Animals include coyotes, foxes, eagles, owls, and many insects. Shaded spring-fed alcoves in side canyons provide habitat for deer and beaver, ferns and sedges, reeds and cattails, cottonwoods and willows. The natural sounds preserved within this park include the unforgettable songs of canyon wrens.

Lees Ferry, a natural corridor in the break between Glen, Marble, and Paria Canyons, was the site of a historic wagon road and river crossing to connect Utah and north-eastern Arizona. A ferry ran continuously from 1873 until 1928, when it was replaced by the Navajo Bridge, completed across Marble Canyon in 1929. Charles Hall operated a ferry at Hole-in-the-Wall in early 1880. Later that year, he moved the ferry upstream to the present day site

of Halls Crossing and operated it until 1884. Cass Hite located a more accessible crossing about 35 miles upstream, and the ferry that operated there and the town of Hite were active until flooded by the waters of Lake Powell.

The canyons of the Escalante River and its tributaries long have been favorites of modern-day explorers seeking the canyon country at its wildest. Natural bridges, arches, narrow canyons, and dwellings of prehistoric inhabitants are just some of the region's attractions. Portions of the Escalante Canyons region have been recommended for, and are managed as, wilderness.

Visitor Use and Enjoyment. The park was visited by approximately 2.4 million people during fiscal year 2001. The lake and surrounding desert-and-canyon country offer leisure-time activities for American and international visitors. Fishing and water sports are the predominant activities. Exploring on foot can provide intimate contact with the natural and cultural features accessible from the lake.

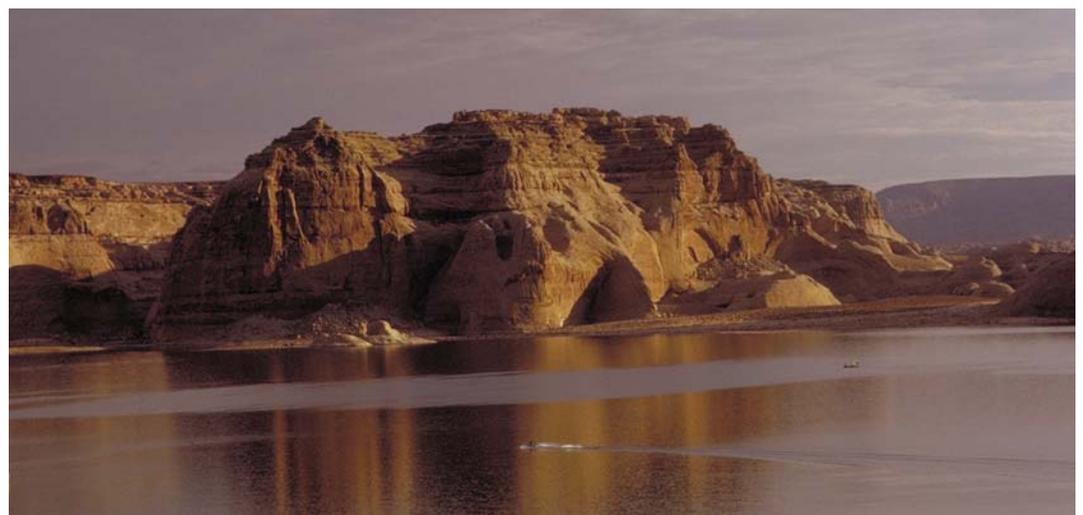
Marinas exist at Wahweap, Halls Crossing, Bullfrog, Hite, and Dangling Rope (near adjacent Rainbow Bridge National Monument, Utah). The visitor center at Wahweap provides information about the park and the history of the region.

Noise-Sensitive Areas/Resources.

Wilderness: The Escalante Canyons region of this park is recommended wilderness and is managed to preserve its pristine naturalness and to provide outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Airspace Over/Near the Park. Some air tour operations originate in Page, Arizona. General aviation flights take place from south to north Marble Canyon, Arizona; Page, Arizona; Cal Black Airport, Utah; Bullfrog, Utah; and Hite, Utah. There is a military training route (radar evasion) that crosses the recreation area from east to west down the San Juan River drainage and up the Escalante River drainage.

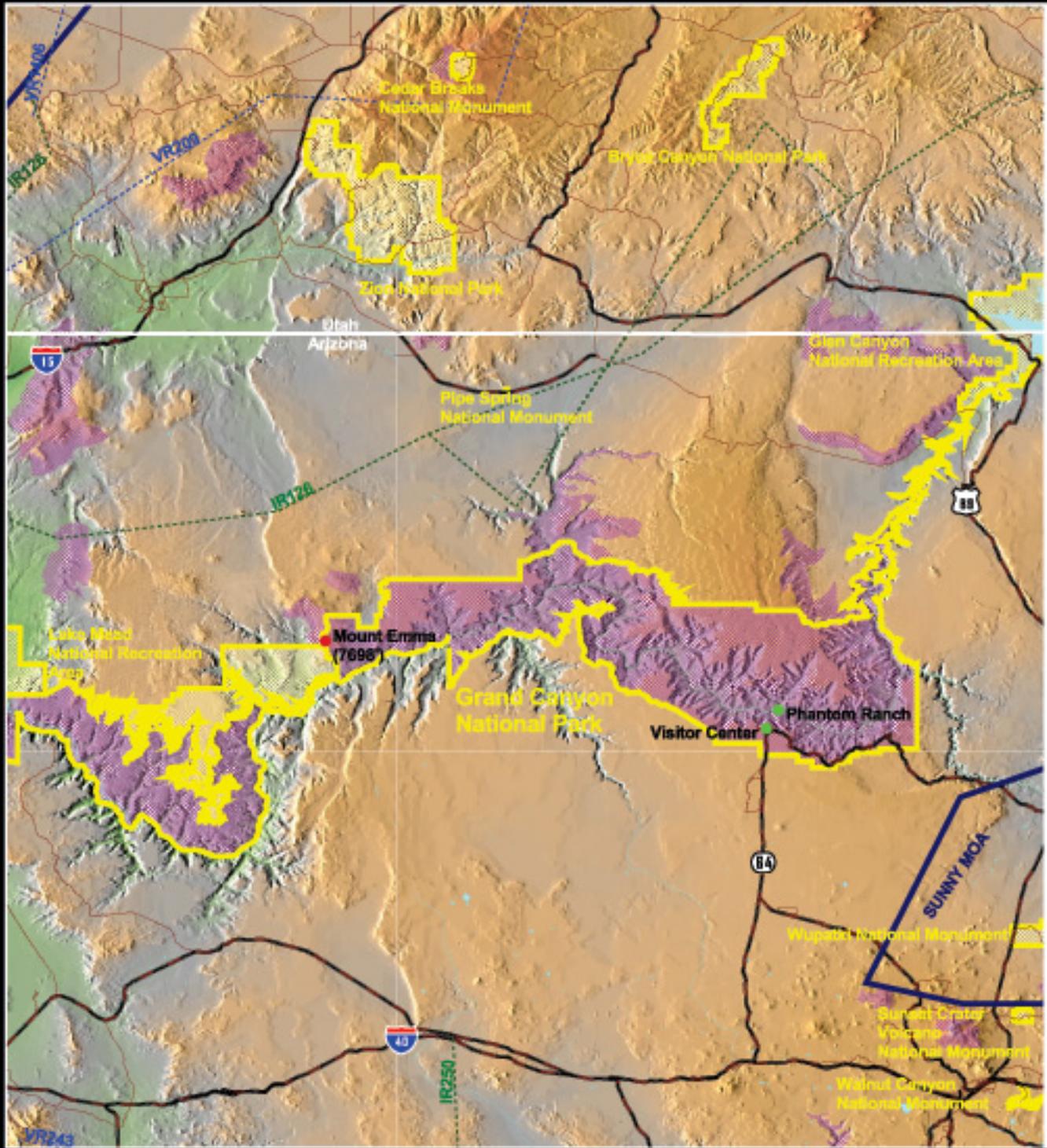
Air Force Installations with Airspace Near the Park. None.



Grand Canyon National Park

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 1,490,000 1 Inch = 10.0 miles</p>
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2002

GRAND CANYON NATIONAL PARK

Arizona

CONTACTS

Grand Canyon NP

P.O. Box 129
Grand Canyon, AZ 86023-0129

Superintendent

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(928) 638-7755 fax

Overflights Program Manager

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(928) 638-7755 fax

Aviation Specialist/Park Pilot

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fwbase@grand-canyon.az.us

Park Acronym: GRCA

Park Website:

<http://www.nps.gov/grca>

Background and National Significance. Perhaps no landscape on Earth is as startling to the observer as the vast yet intricate face of the Grand Canyon. This immense chasm, carved over several million years by the Colorado River, is one of the greatest geologic features of its kind. The layers of rock exposed in the canyon walls record much of the geologic history of North America, but it is the sheer visual impact of the landscape that impresses most people. The world seems larger here, with sunrises, sunsets, and storms taking on an added dimension to match the landscape. It is a land to humble the soul. Grand Canyon is one of the crown jewels of the National Park System and has been recognized as a world heritage site since 1979. The Grand Canyon is unusual in meeting both natural and cultural resource criteria for world heritage site designation.

Although afforded federal protection since 1893, first as a forest reserve and later as a national monument, Grand Canyon did not achieve national park status until 1919, three years after the creation of the National Park Service. The park covers a total of 1,218,375 acres and encompasses 277 miles of the Colorado River and adjacent uplands.

Park Features and Values. Well known for its geologic significance, the Grand Canyon is one of the most studied geologic landscapes anywhere in the world. It offers an excellent record of three of the four eras of geologic time, a rich and diverse fossil record, a great diversity of geologic features and rock types, and numerous caves containing extensive and significant paleontological, archeological, and biological resources.

The park's great biological diversity includes five of the seven life zones and three of the four deserts in North America. From rim to river one encounters the Lower Sonoran, Upper Sonoran, Transition, Canadian, and Hudsonian life zones equivalent to traveling from Mexico to Canada. The park serves as an ecological refuge, with relatively undisturbed remnants of dwindling ecosystems (such as boreal forest and desert riparian communities), and numerous rare, endemic, or specially protected plant and animal species. Over 1,500 plant species, 287 bird species, 88 mammalian species, 58 reptile and amphibian species, and 26 native fish species are found in the park.

Eight separate Indian tribes have identified close cultural and sacred ties to the Grand Canyon, with some considering the canyon their original homeland and place of origin. Grand Canyon contains more than 3,500 known archeological sites, with artifacts indicating 3,000 to 4,000 years of human habitation. A recent finding suggests human use of the Canyon as much as 10,000 years ago.

Visitor Use and Enjoyment. People come from all over the world to visit the spectacular Grand Canyon. Incomparable vistas, backcountry hiking, and river rafting attract almost 5 million visitors each year. The great majority of visitors view the canyon from the village on the South Rim. The more adventurous hike or ride mules down to the river. Although the park facilities on the North and South Rims are only 10 miles apart as the crow flies, by road they are separated by 215 miles. The North Rim is less developed and less crowded. Nature walks, hikes along the rim, talks about geology and prehistoric peoples, campfire programs, and nature talks for children are among the programs available for visitors on both rims.

Noise-Sensitive Areas/Resources.

Grand Canyon National Park Special Flight Rules Area (SFRA): At Grand Canyon National Park, natural sounds and natural quiet are protected under federal law for both resource protection and visitor experience purposes. Substantial restoration of natural quiet is a legal mandate, and the ability to experience the sounds of nature without noise intrusions is a high priority for many park visitors, particularly those who visit the backcountry areas of the park. Both Public Law 100-91 (1987) and an executive memorandum (1996) require the achievement of substantial restoration of natural quiet, defined as 50 percent or more of the park naturally quiet (i.e., no aircraft audible) for 75 percent or more of the day. Current computer modeling indicates the park is some distance from achieving substantial restoration and that the volume, distribution, or duration of air-tour-produced noise will have to be reduced to achieve the goal.

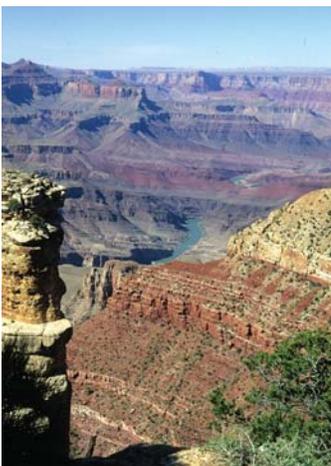
Since 1988, the park and immediate vicinity have been part of an FAA-administered SFRA. In the SFRA, air tour flights are on flight corridors and routes with assigned altitudes; flight free zones separate these corridors. In a recent FAA regulation, the number of air tour operations was limited to approximately 90,000 yearly. An additional number of air tour support flights (training, repositioning, maintenance, etc.) are not counted in this number. Commercial air tour operations originate in four states, use nearly 240 aircraft, and fly 19 routes to tour the Grand Canyon. Air tour activities are centered on three primary areas: the west end (Hualapai Indian Reservation-Grand Canyon West Airport area), the east end (Grand Canyon National Park Airport Tusayan area), and the routes connecting the Las Vegas area with Grand Canyon National Park Airport. The east end has flight curfews during the early morning and early evening hours that vary seasonally. General aviation also uses flight corridors to transit the park.

Sensitive wildlife habitat: Wildlife may be particularly vulnerable to noise during periods of migration, mating, or birthing. Threatened, endangered, and other species of special concern, because of their tenuous populations, may be vulnerable to stress at any time. The park is inhabited by a number of animal species that are classified as sensitive through federal and state listings. Of these, condors are undoubtedly of greatest interest to airmen. Adult condors are predominantly black in color, may weigh up to 20 pounds, and have wingspans of up to 9.5 feet. Condors were introduced to the Vermilion Cliffs area, immediately north of the park, in 1996. During spring 2002, two pairs of condors established nests in the canyon and laid eggs. Inside the park, condors are treated as an endangered species. Like tourists, condors are primarily found in the east end of the park between April and October.

Airspace Over/Near the Park. The National Park Service utilizes rotary and fixed-wing aircraft as part of normal operations, including search and rescue, fire control, and supplying materiel to remote personnel. Temporary flight restrictions are rare and only requested for large operations.

See previous sections for information regarding the Grand Canyon National Park Special Flight Rules Area.

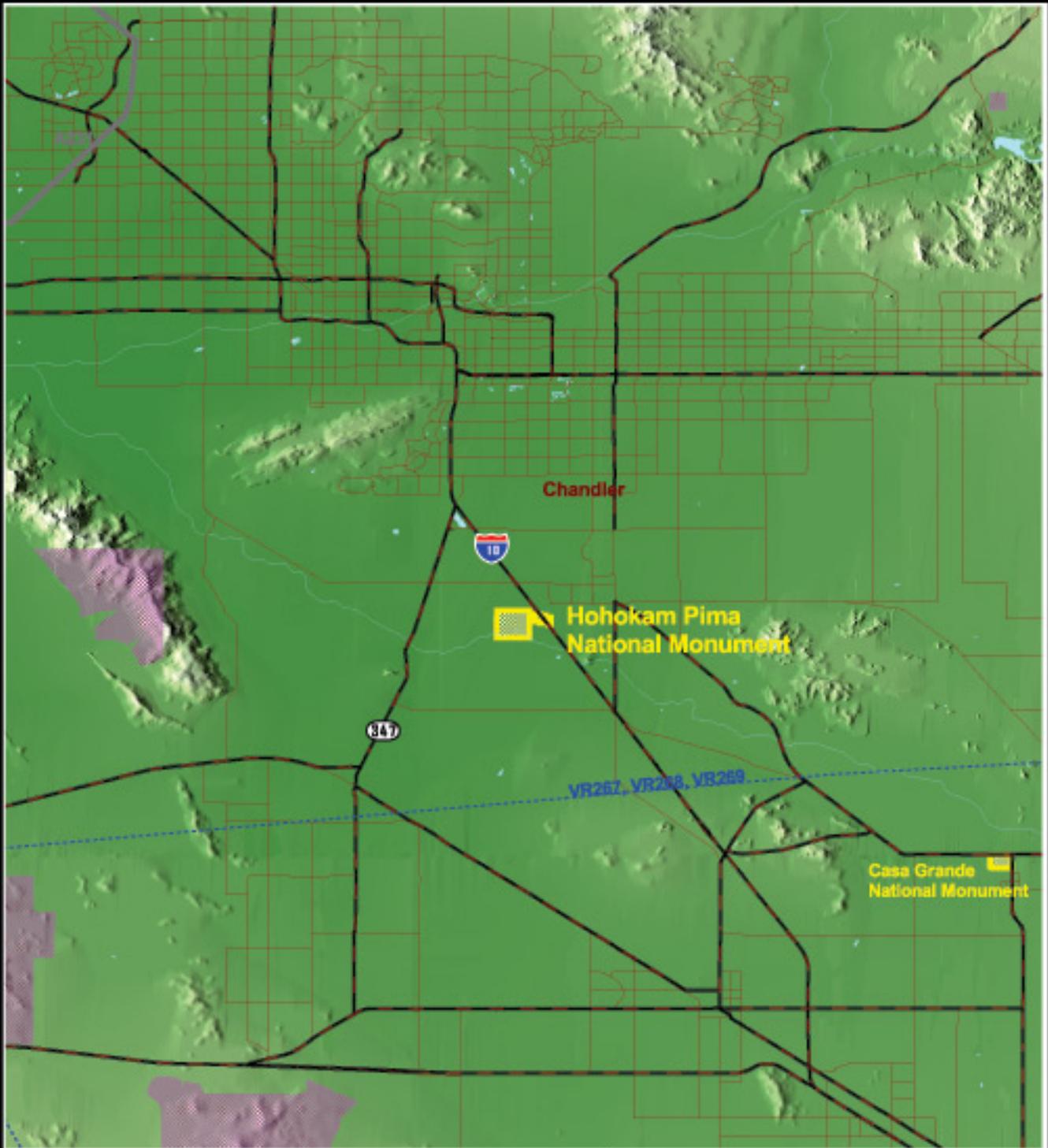
Air Force Installations with Airspace Near the Park. Please refer to the Luke AFB narrative and map for information about Air Force/military use of the airspace.



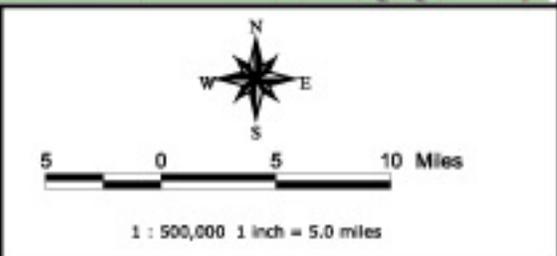
Hohokam Pima National Monument

National Park Units

National Park Service
U.S. Department of the Interior



- | | |
|-----------------|---------------------------------|
| Park Boundary | Military Training Routes |
| Wilderness | IR |
| Roads | VR |
| Highways | SR |
| Secondary Roads | Special Use Airspace |
| Developed Areas | Warning |
| Major Peak | Alert |
| | MOA |
| | Prohibited |
| | Restricted |



HOHOKAM PIMA NATIONAL MONUMENT

Arizona

Contacts

Hohokam Pima NM

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1100 Ruins Drive
Coolidge, AZ 85228-3200
(520) 723-3172

Superintendent

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(520) 723-7209 fax
E-mail:
pima_superintendent@nps.gov

Chief Ranger (primary contact
for airspace issues)
(520) 723-3172

Park Acronym: PIMA

Park Website:

<http://www.nps.gov/pima>

Background and National Significance. Significant archeological remains of the Hohokam culture are preserved at this park, which was authorized in 1972. The park encompasses 1,690 acres, all nonfederal land. The park is not open to the public.

Park Features and Values. The Hohokam (those who are gone in the Pima Indian language) occupied a wide area of south-central Arizona from roughly Flagstaff south to the Mexican border. The Hohokam were archaic hunter-gathers who successfully irrigated and farmed this region for thousands of years.

The ingenious Hohokam developed an elaborate irrigation network using only stone instruments and organized labor. Before modern development obliterated this system, their predecessors commonly referred to them as the Canal Builders. They also became entrepreneurs in a thriving trade with their neighbors, the Anasazi and the Mogollon. They gained a great deal of Mesoamerican influence through trade, as can be seen in their use of ball courts and decorative feathers. The Hohokam were creative artisans who became famous for their intricate work with shells obtained from the Gulf of California and the Pacific coast. They created a coiled pottery finished with a paddle and painted with red designs.

The fate of the Hohokam people is mostly unclear, but they seem to have disappeared from the archeological record between the first half of the 15th century and the time when the Spanish first came upon their descendents, Pima-speaking Indians still using the ancient irrigation techniques. Some of their original irrigation canals are still being used in the Phoenix area today.

Visitor Use and Enjoyment. The park is not open to the public.

Noise-Sensitive Areas/Resources. All known ruins are buried, and the only noise restrictions would pertain to the residential housing areas adjacent to the park.

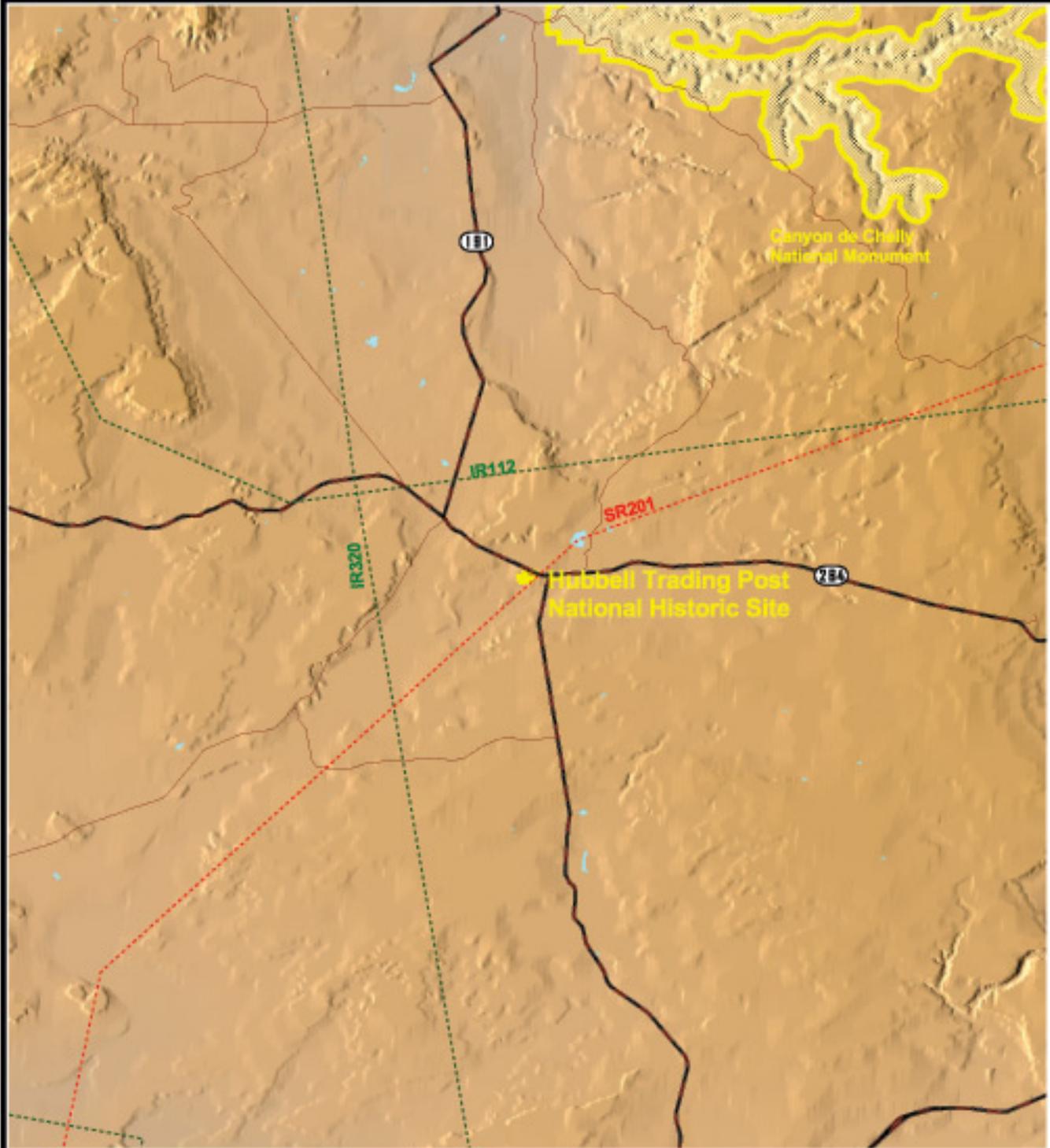
Airspace Over/Near the Park. No issues or concerns were noted by the park.

Air Force Installations with Airspace Near the Park. Please refer to the Davis-Monthan AFB narrative and map for information about Air Force/military use of the airspace.

Hubbell Trading Post National Historic Site

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	Military Training Routes <ul style="list-style-type: none"> IR VR SR Special Use Airspace <ul style="list-style-type: none"> Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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HUBBELL TRADING POST NATIONAL HISTORIC SITE

Arizona

CONTACTS

Hubbell Trading Post NHS

P.O. Box 150
Ganado, AZ 86505-0150
(928) 755-3475

Superintendent

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(928) 755-3405 fax
E-mail:
hutr_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(928) 755-3475

Park Acronym: HUTR

Park Website:

<http://www.nps.gov/hutr>

Background and National Significance. The oldest continuously operating trading post on the Navajo Nation, Hubbell Trading Post has helped bridge cultures for generations. Reservation trading posts were often the only direct point of contact between Native Americans and European-Americans until well into the 20th century. From the beginning, Navajo people gathered at the post, where Hubbell not only acted as their merchant, facilitating rapid changes in their material culture, but also served as their liaison to the world beyond the reservation. He translated and wrote letters, settled family quarrels, explained government policy, and helped the sick.

The trading post was purchased by John Lorenzo Hubbell in the mid 1870s, and the Hubbell family operated the post until it was sold to the National Park Service in 1967. The trading post is still active and operated by a nonprofit organization that maintains the trading traditions the Hubbell family established. The park encompasses the original 160-acre homestead.

Park Features and Values. The trading post remains a place where the Navajo come to trade. Little has changed in the site's operation since the trading post opened in the 1870s. The Hubbell house and homestead are also preserved at the park.

When Hubbell died in 1930, he was buried on Hubbell Hill, overlooking the trading post. Buried next to him are his wife Lina Rubi, and his closest Navajo friend, Bi Ili Lani (Many Horses). Following Navajo custom, Hubbell's grave is not marked.

Visitor Use and Enjoyment. The park is visited by approximately 250,000 people annually who come to

experience a piece of history that can be experienced nowhere else. The Navajo and English languages combine with those of visitors from all over the world in a continuation of the Hubbell tradition as a meeting place of cultures. Visitors can join in the exchange of jewelry and rugs, watch rug-weaving demonstrations, and tour the Hubbell home and homestead. Picnic facilities are available, but no camping or overnight accommodations.

Noise-Sensitive Areas/Resources.

Cultural Landscape: Most of this park is zoned and managed to preserve and immerse visitors into a landscape evocative of the historic time frame of a 19th-20th century trading post. The park's historic setting is a powerful tool for helping people appreciate and understand the significance of this place to Navajo and American history. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. All the buildings in the park range in age from 80 to 120 years old, are made of stone or adobe, and are very susceptible to sonic damage caused by low-flying, loud aircraft.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

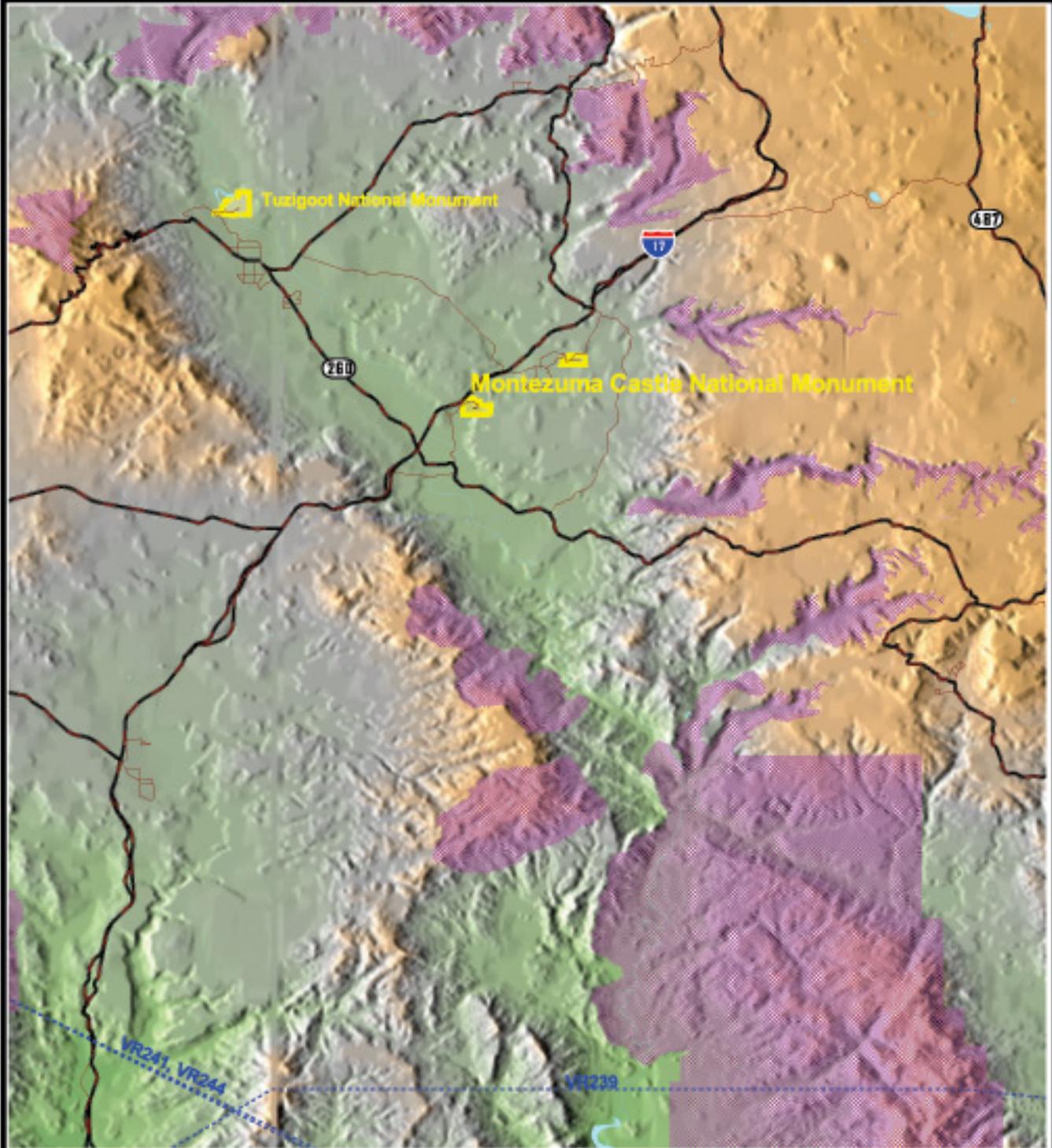
Air Force Installations with Airspace Near the Park. None.



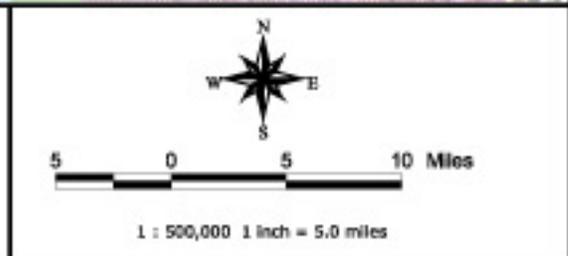
Montezuma Castle National Monument

National Park Units

National Park Service
U.S. Department of the Interior



- | | |
|-----------------|---------------------------------|
| Park Boundary | Military Training Routes |
| Wilderness | IR |
| Roads | VR |
| Highways | SR |
| Secondary Roads | Special Use Airspace |
| Developed Areas | Warning Alert |
| Major Peak | MOA |
| | Prohibited |
| | Restricted |



MONTEZUMA CASTLE NATIONAL MONUMENT

Arizona

CONTACTS

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(928) 567-5276

Superintendent

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E-mail:
moca_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(928) 567-3322 x27

Wilderness Coordinator

(928) 567-5276

Park Acronym: MOCA

Park Website:

<http://www.nps.gov/moca>

Background and National Significance. Nestled into a limestone recess a hundred feet above the floodplain of Beaver Creek in the Verde Valley stands one of the best preserved cliff dwellings in North America. Early settlers to the area assumed that the imposing structure was associated with the Aztec emperor Montezuma, but the castle, built in the 12th century by the Sinagua people, was abandoned almost a century before Montezuma was born. As a result of heightened concern over vandalism of fragile southwestern prehistoric sites, the site became a major focus of the nation's early historic preservation movement, and it was proclaimed a national monument in 1906. The park encompasses 858 acres, of which 17 are nonfederal land.

Park Features and Values. The Sinagua dwellings in the park vary in size from large pueblos of 55 rooms to one-room houses. Between 1125 and 1400 about 150 to 200 Sinaguans lived here. Montezuma Castle, a five-story, 20-room cliff dwelling, served as a high-rise apartment building. The Sinagua (Spanish for "without water") were peaceful village dwellers and farmers. The landscape surrounding the dwellings is also a major park feature. The creek at the base of the cliff was a reliable source of water, and the fertile land on the nearby terrace supported a form of dryland agriculture.

Nearby Montezuma Well is a surprising lake surrounded by fairly lush vegetation in the midst of the desert. The well is a limestone sink formed long ago by the collapse of an immense underground cavern. The springs that feed it flow continuously. Both the Hohokam and the Sinagua irrigated crops with its waters. Traces of their irrigation ditches, thickly coated with lime, can still be seen.

Visitor Use and Enjoyment. The park is visited by nearly 1 million people annually. Exhibits in the visitor

center provide information about the prehistoric Sinagua people who lived in this region, and walking trails provide access into the cultural landscape.

Noise-Sensitive Areas/Resources.

Cultural Landscape: Most of this park is zoned and managed to preserve and immerse visitors into a landscape evocative of the historic time frame of the Sinagua culture. The park's historic setting is a powerful tool for helping people appreciate and understand this period of America's history. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. Standing five stories high, Montezuma Castle, one of the best preserved cliff dwellings in North America, is potentially susceptible to such sonic damage from low-flying and/or loud aircraft.

Airspace Over/Near the Park. The airspace over the park is used by local private aircraft and commercial air tours. A local private airstrip is near the Montezuma Castle unit and contributes to noise intrusion. It is not uncommon for commercial helicopters to buzz the primary archeological resources at Montezuma Castle. The detached Montezuma Well unit experiences an occasional flyover by both private and commercial aircraft.

Air Force Installations with Airspace Near the Park. None.

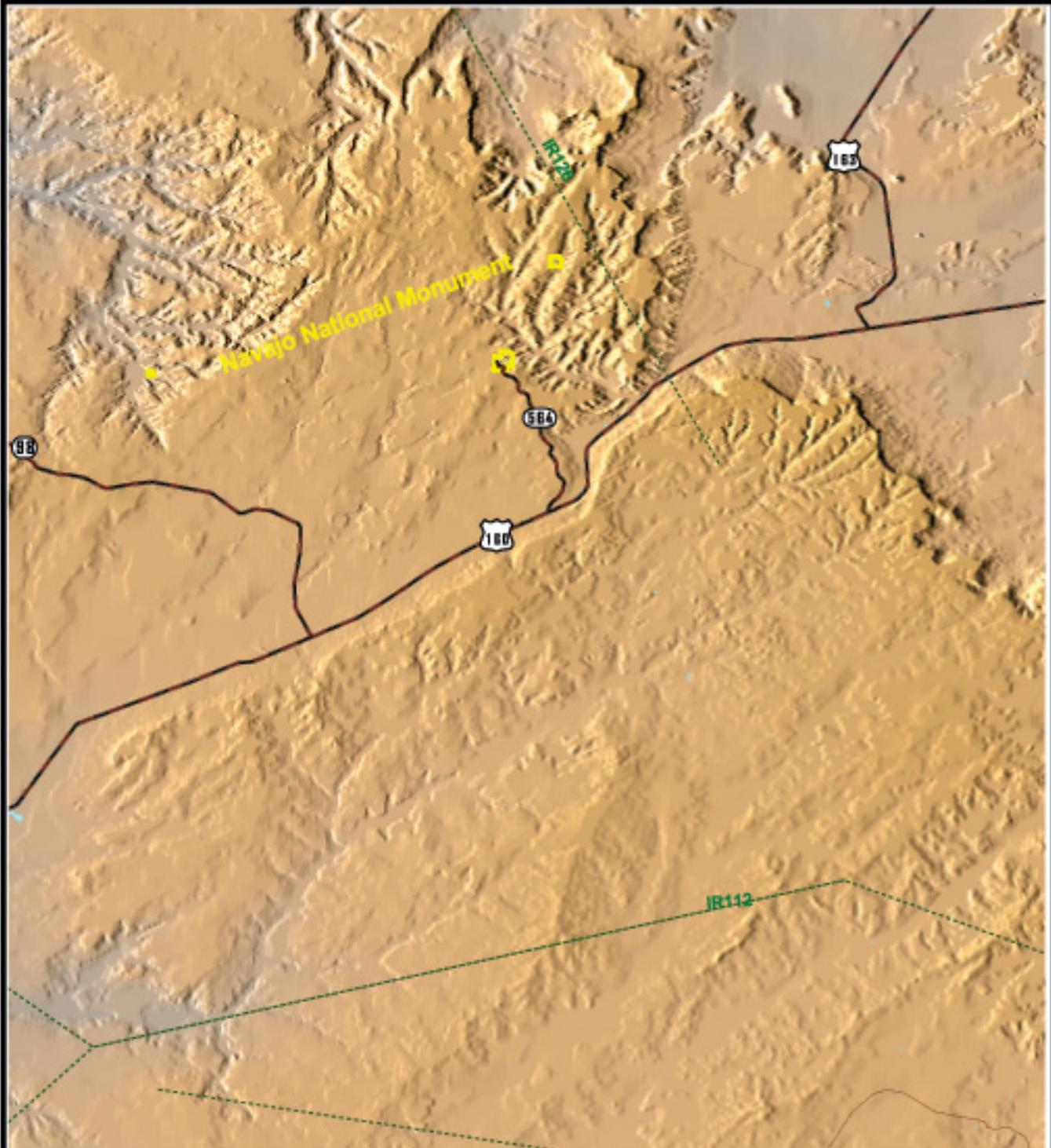


Navajo National Monument

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 Inch = 5.0 miles</p>
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NAVAJO NATIONAL MONUMENT

Arizona

CONTACTS

Navajo NM

HC 71, Box 3
Tonalea, AZ 86044-9704
(928) 672-2700

Superintendent

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E-mail:
nava_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(928) 672-2700

Wilderness Coordinator

(928) 672-2700

Park Acronym: NAVA

Park Website:

<http://www.nps.gov/nava>

Background and National Significance. Navajo National Monument preserves three of the most intact cliff dwellings of the Anasazi (Hisatsinom) culture: Betatakin, Keet Seel, and Inscription House. These distinctive villages situated under natural shelters in the cliff walls were built between 1250 and 1300. Their residents successfully met the demands of the rugged environment by farming the plateaus and bottomlands of the canyons. But for these people, periodic migrations were a way of life, and after only a few decades in the canyons, they abandoned these dwellings and moved on.

The Hopi people are among the descendants of these people with strong ties to the ancient stone villages in the park. The villages are believed to have been stops along the sacred migration paths of at least eight Hopi clans, and tribal elders still annually visit these villages and other sacred shrines in the area. The Hopi have identified paintings on canyon walls as clan symbols. These cultural treasures were included in Navajo National Monument in 1909. The park encompasses 360 acres, all federal land.

Park Features and Values. The park is situated high on the Shonto Plateau, overlooking the Tsegi Canyon system in the Navajo Nation in Northern Arizona.

Tree-ring dating has revealed much about Betatakin. About A.D. 150, a few people temporarily used the cave. By 1267, settlers had established at least three stone-walled households on its bedrock ledges. Though agricultural fields lay a mile down-canyon, the alcove was attractive to settlers because it was deep enough for shelter and it faced south, so it was warmed by the winter sun.

Keet Seel was occupied much longer than Betatakin. Tree-ring dating and pottery found below the dwelling show that some people had settled here by A.D. 950. Those early houses are completely gone, but a few timbers and some stones were reused in building a second village,

beginning in 1250. Unlike Betatakin, where people apparently arrived as a group, at Keet Seel there were continuous arrivals and departures. This is reflected in the appearance of the village: there are more kivas and room design varies more than at Betatakin. Thus, different groups probably built the two villages.

Visitor Use and Enjoyment. Navajo National Monument was visited by some 60,000 people during fiscal year 2001. In summer the park's rangers take visitors on guided tours of the Keet Seel and Betatakin cliff dwellings. Inscription House is closed to the public due to its fragility. The park's visitor center features exhibits, audiovisual programs, and books for sale. Indian craftwork is available in the arts-and-crafts shop next door. There are two short self-guided mesa top trails, a small campground, and picnic area.

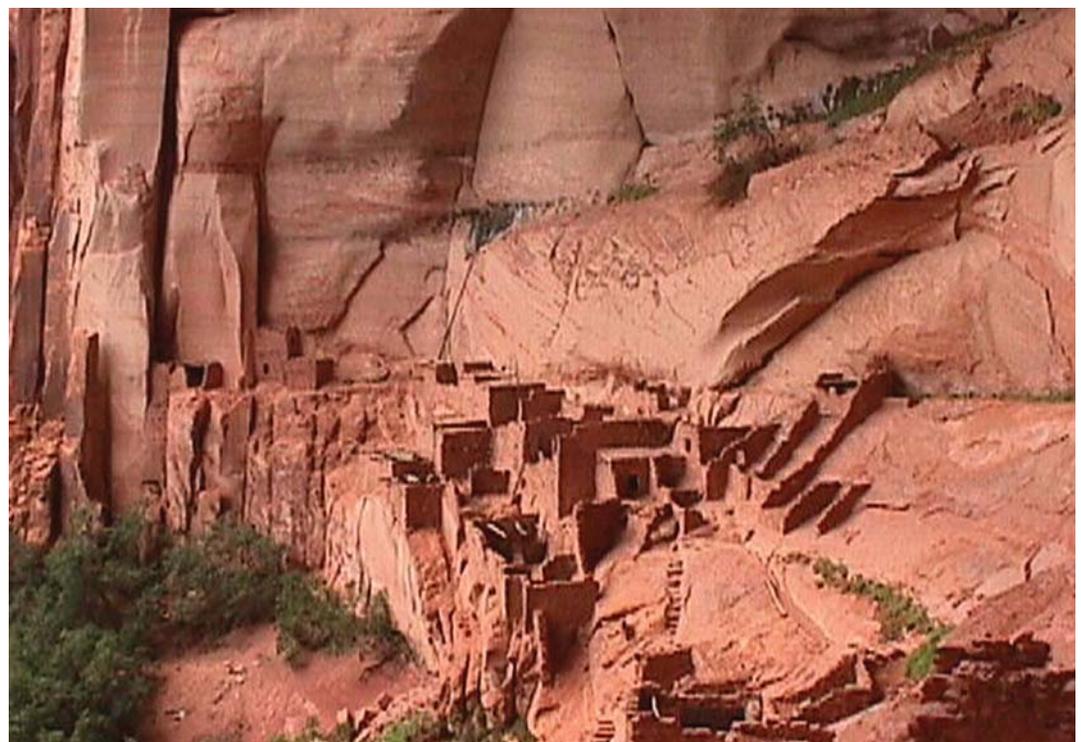
Noise-Sensitive Areas/Resources.

Cultural Landscape: Most of this park is zoned and managed to preserve and immerse visitors into a landscape evocative of the historic time frame of the Anasazi culture. The park's historic setting is a powerful tool for helping people appreciate and understand this period of America's history. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. The park's fragile cliff dwellings are potentially susceptible to such sonic damage from low-flying and/or loud aircraft.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

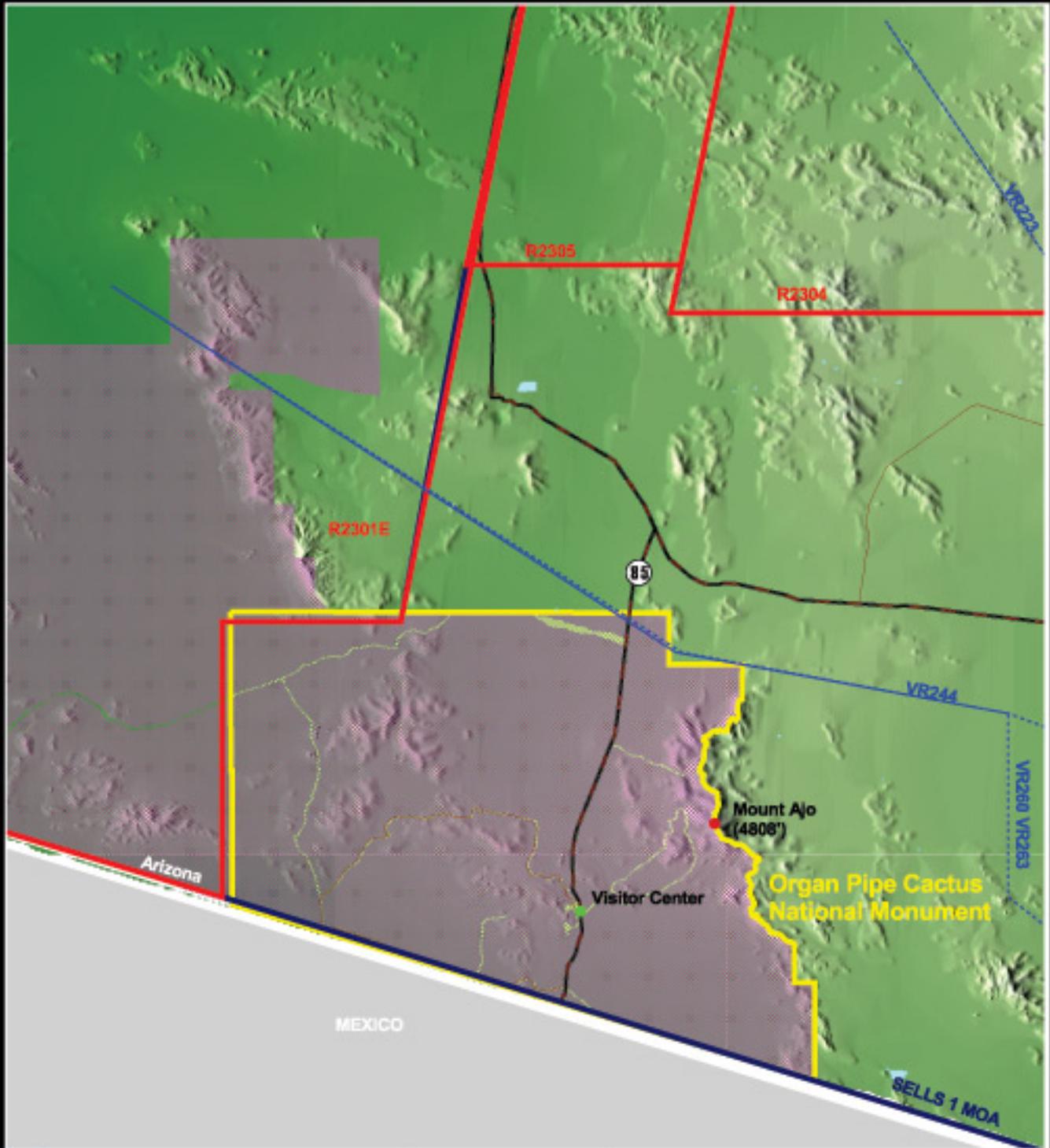
Air Force Installations with Airspace Near the Park. None.



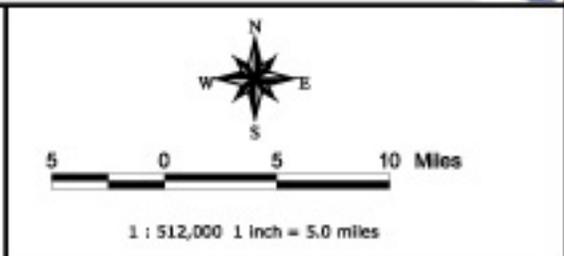
Organ Pipe Cactus National Monument

National Park Units

National Park Service
U.S. Department of the Interior



Park Boundary	Military Training Routes
Wilderness	IR
Roads	VR
Highways	SR
Secondary Roads	Special Use Airspace
Developed Areas	Warning
Major Peak	Alert
	MOA
	Prohibited
	Restricted



ORGAN PIPE CACTUS NATIONAL MONUMENT

Arizona

CONTACTS

Organ Pipe Cactus NM

10 Organ Pipe Drive
Ajo, AZ 85321-9626
(520) 387-6849

Superintendent

(520) 387-5840
(520) 387-7144 fax
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orpi_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

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Wilderness Coordinator

(520) 387-7661, ext. 7201

Park Acronym: ORPI

Park Website:

<http://www.nps.gov/orpi>

Organ Pipe Cactus National Monument staff represent the National Park Service on both the Barry Goldwater Executive Committee (BEC) and the Interagency Executive Committee (IEC) to coordinate activities and resource management programs with the military operations on the nearby Barry M. Goldwater Range.

Background and National Significance. Organ Pipe Cactus National Monument, designated in 1937, celebrates the life and landscape of the Sonoran Desert. The 330,000-acre park protects an extraordinary collection of Sonoran Desert plants, including the organ pipe cactus. The organ pipe is a large cactus found rarely in the United States, although it is common in Mexico. The park encompasses the bulk of the U.S. population.

Recognizing the park's significance as an outstanding natural preserve where one of Earth's major ecosystems survives almost unspoiled, the United Nations in 1976 designated it as an international biosphere reserve. Conservation and scientific research, including studies of man's impact on the desert, will be invaluable in protecting the life of the desert.

Park Features and Values. The park is a showcase for creatures who have adapted themselves to the extreme temperatures, intense sunlight, and little rainfall that characterize this Southwest region. Foremost among the desert dwellers who have mastered this harsh environment are the cacti. The organ pipe cactus grows on south-facing slopes, where it can absorb the most sun, but when it blooms, in the heat of May, June, and July, it waits until the sun goes down to open its tender lavender-white flowers. Altogether 29 species of cactus inhabit the park. Most of the park is designated wilderness, allowing the life of the Sonoran Desert to flourish under nearly ideal wilderness conditions.

The park shares 30 miles of international boundary with Mexico and includes traces of the historic Camino del Diablo trail.

Visitor Use and Enjoyment. The park is visited by approximately 320,000 people annually. Visitors to this desert wilderness can drive a lonely road, hike a backcountry trail, camp beneath a clear desert sky, or just soak in the warmth and beauty of the Southwest.

Two scenic loop roads—the Ajo Mountain Drive and the Puerto Blanco Drive—penetrate the desert country. Both are winding, up-and-down graded dirt roads. A few unimproved dirt roads go further into the backcountry, some leading to historic sites with windmills, ranch houses, abandoned gold and silver mines, and other remnants of the past.

Noise-Sensitive Areas/Resources.

Wilderness: More than 95 percent of this park is congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Sensitive wildlife habitat: Threatened, endangered, and other species of special concern, because of their tenuous populations, may be particularly vulnerable to stress caused by aircraft noise. Several endangered species are found in the park, including Sonoran pronghorn and ferruginous pigmy cactus owl.

Airspace Over/Near the Park. Due to the park's proximity to the international border and the presence of illegal activity along the border and in the monument, rotary and fixed-wing aircraft are used by law enforcement agencies on a regular basis over the monument. Both day and night operations are common.

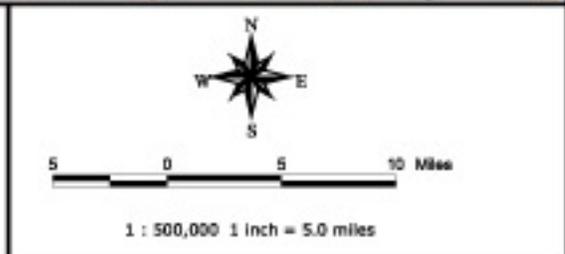
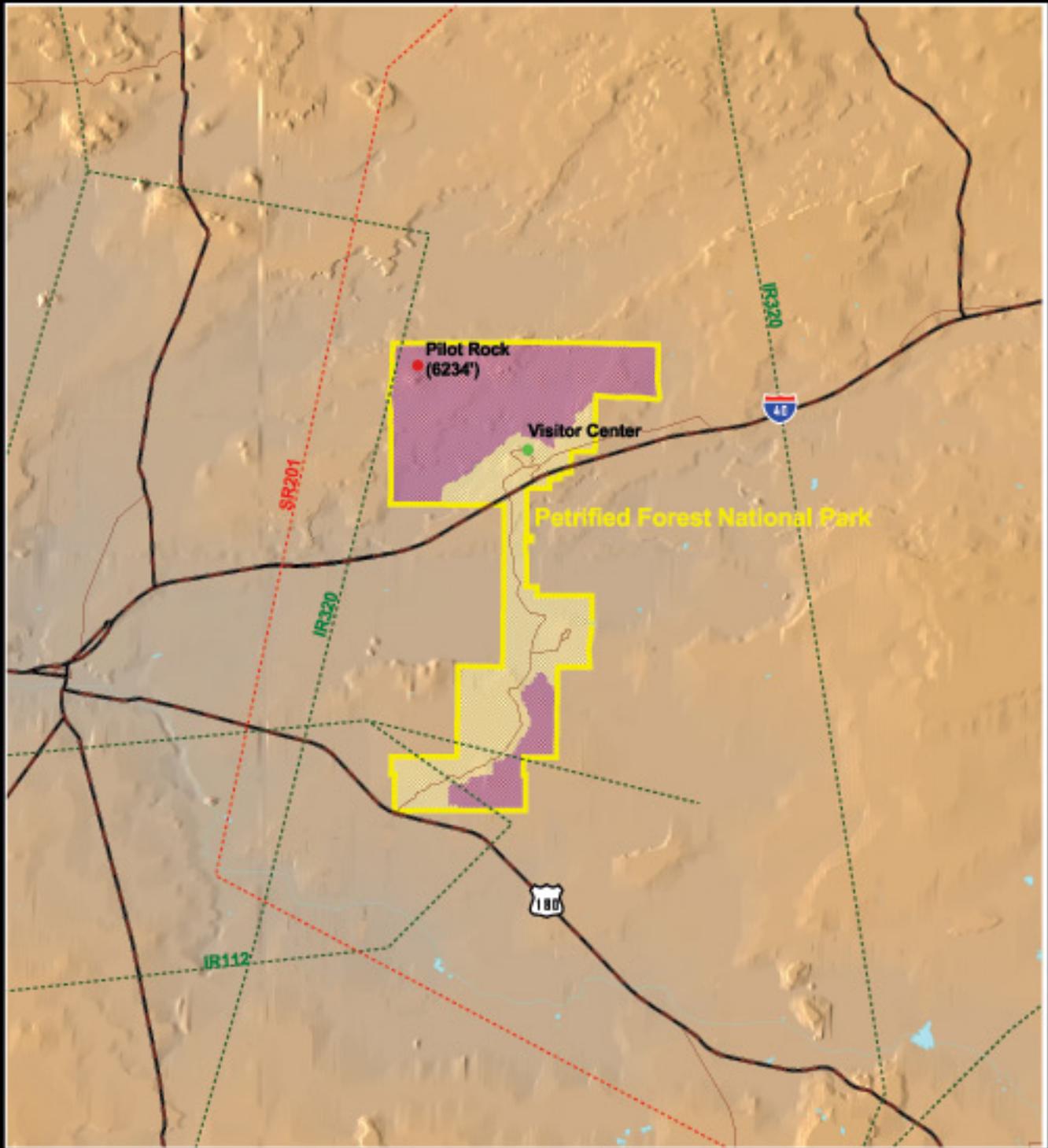
Air Force Installations with Airspace Near the Park. Please refer to the Luke AFB narrative and map for information about Air Force/military use of the airspace.



Petrified Forest National Park

National Park Units

National Park Service
U.S. Department of the Interior



PETRIFIED FOREST NATIONAL PARK

Arizona

CONTACTS

Petrified Forest NP

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Petrified Forest, AZ 86028-2217
(928) 524-6228

Superintendent

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pefo_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

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Wilderness Coordinator

(928) 524-6228 ext. 263

Park Acronym: PEFO

Park Website:

<http://www.nps.gov/pefo>

Background and National Significance. Petrified Forest is a surprising land of scenic wonders and fascinating science. One of the world's largest and most colorful concentrations of petrified wood is only part of the park's globally significant fossil remains. The petrified logs and other fossils of plants and creatures that lived in the area more than 200 million years ago, and the rocks locking them in place, are contributing significant information about the Triassic period of Earth's history. In some places, up to 300 feet of fossil-bearing material remains.

The human history of the area can be traced back to archaic times. Evidence of human habitation is present throughout the area in the form of potsherds, stone tools, petroglyphs, and ruins.

Abundant deposits of petrified wood were recorded south of the present park by the Whipple Expedition in 1853. By 1900, removal of the wood led to calls for preserving areas with large deposits. Petrified Forest, which exists for this purpose, was first established as a national monument in 1906. Congress redesignated the monument as a national park in 1962. Unfortunately, the illegal removal of fossil wood deposits continues to be a problem in the park, which encompasses 93,533 acres, all federal land.

Park Features and Values. The fossil remains preserved in the park indicate that what is now a high, dry tableland was once a vast floodplain crossed by many streams. To the south, tall, stately pine-like trees grew along the headwaters. Crocodile-like reptiles, giant fish-eating amphibians, and small dinosaurs lived among a variety of ferns, cycads, and other plants and animals. The giant trees, now so elegantly and abundantly represented in the park, fell and were washed by swollen streams into the floodplain. There they were covered by silt, mud, and volcanic ash, and this blanket of deposits cut off oxygen and slowed the logs' decay. Gradually silica-bearing groundwater seeped through the logs and encased the original wood tissues with silica deposits. The silica crystallized into the mineral quartz, and the logs were preserved as petrified wood. Minerals and impurities deposited while the wood was petrifying add the bright colors and interesting patterns to the wood.

The multi-hued badlands of the Chinle Formation have come to be known for their scenic beauty as the Painted Desert. The Painted Desert Inn is a national historic landmark dating from the period of early tourism in this region.

A number of archeological sites scattered throughout the park tell of human occupation in the area for more than 2,000 years. The park's archeological resources document a cultural transition from wandering families to settled agricultural villages, pueblos, and trading ties with neighboring villages.

In 1970, 50,000 acres within the park were designated as wilderness.

Visitor Use and Enjoyment. The park was visited by approximately 580,000 people during fiscal year 2001. The Painted Desert visitor center, Rainbow Forest Museum, and displays in the Painted Desert Inn use a number of different media to explain the area's geology, paleontology, and cultural history. Along the 28-mile park road are overlooks, entries to hiking trails, and the wilderness area trailhead. Petrified wood can be bought from commercial dealers who collect it outside the park.

Noise-Sensitive Areas/Resources.

Wilderness: Approximately 50,000 acres of this park are congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Airspace Over/Near the Park. The park is occasionally overflowed by what appear to be military helicopters flying low along a broad corridor parallel to I-40, as well as by low-flying private aircraft in the same general area. Some private aircraft seem to detour over the park, presumably for sightseeing purposes, as do some military aircraft.

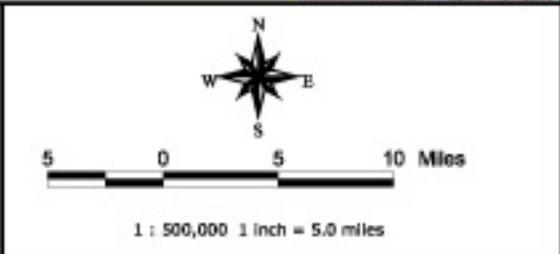
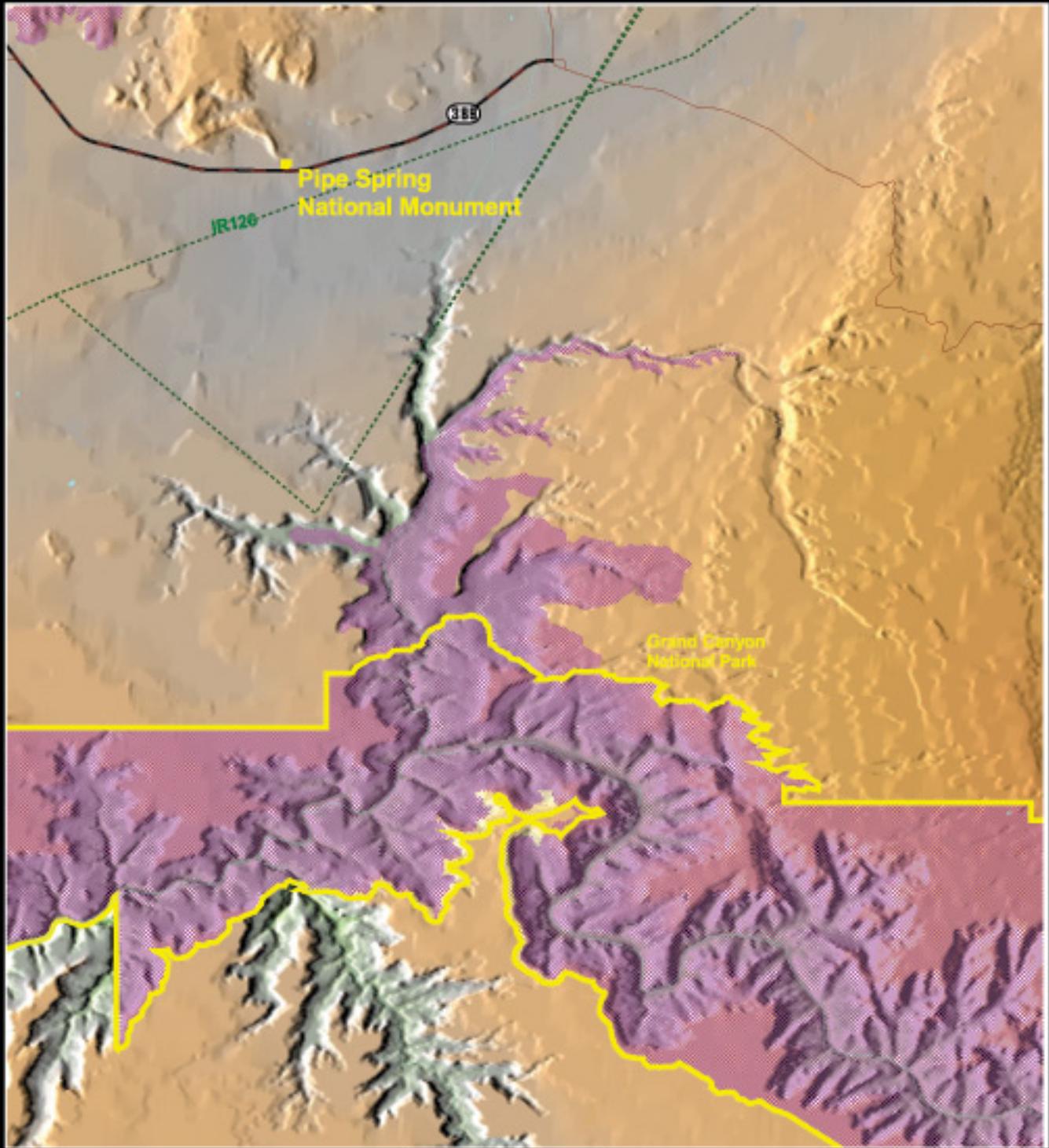
Air Force Installations with Airspace Near the Park. None.



Pipe Spring National Monument

National Park Units

National Park Service
U.S. Department of the Interior



PIPE SPRING NATIONAL MONUMENT

Arizona

CONTACTS

Pipe Spring NM

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Superintendent

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Chief Ranger (primary contact for airspace issues)

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Wilderness Coordinator

(928) 643-7105

Park Acronym: PISP

Park Website:

<http://www.nps.gov/pisp>

Background and National Significance. Pipe Spring National Monument, a little-known 40-acre gem of the National Park System, is rich with American Indian, early explorer, and Mormon pioneer history. The water of Pipe Spring has made it possible for plants, animals, and people to live in this dry, desert region. Ancestral puebloans and Kaibab Paiute Indians gathered grass seeds, hunted animals, and raised crops near the spring for at least 1,000 years. In the 1860s, Mormon pioneers brought cattle to the area, and by 1872, they had built a fort over the main spring. The fort, called Winsor Castle after the first ranch manager, was built by the Mormon Church to be the headquarters of a large cattle-ranching operation. This isolated outpost served as a way station for people traveling across the Arizona Strip, that part of Arizona separated from the rest of the state by the Grand Canyon. It also served as a refuge for polygamists' wives during the 1880s and 1890s. Although their way of life had been greatly impacted, the Paiute Indians continued to live in the area, and in 1907, the Kaibab Paiute Indian Reservation was established, surrounding the privately owned Pipe Spring Ranch. In 1923, the Pipe Spring Ranch was purchased and set aside as a national monument.

Park Features and Values. Pipe Spring Ranch preserves homes, bunkhouses, work sheds, and corrals typical of 19th century ranches. While the cattle raised here were used by the Mormon Church and did not have to be driven hundreds of miles to the railroad, other activities, skills, and equipment represented at the ranch would have been similar to those of open-range cattle ranches throughout the West.

Visitor Use and Enjoyment. The park is visited by approximately 50,000 people annually. A visitor center, tours of the fort (Winsor Castle), summer living history demonstrations, an orchard and garden, and a half-mile loop walking trail offer a glimpse of pioneer and Kaibab Paiute Indian life in the Old West.

Noise-Sensitive Areas/Resources.

Cultural Landscape: All visitor activities on the Monument grounds, including living history demonstrations, are designed to impart a feeling of 1870s life. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time. There is also concern that the vibrations from low-flying aircraft could damage the architectural components of the historic masonry structures.

The Kaibab Paiute reservation surrounds the 40-acre monument. The tribe's headquarters, a residential village, and a public campground are all within a 1/2-mile radius of the Monument, and the tribe has expressed its desire to have these noise-sensitive areas avoided by military flights. In addition, the tribe has a 1-mile loop natural and archeological trail immediately adjacent to the north side of the monument. Noise disturbance in this pristine isolated slickrock canyon is also extremely intrusive to visitors' experience.

Airspace Over/Near the Park. Park management, in partnership with the Kaibab Paiute Tribe, approached the Air Force to request that the latter avoid, to the maximum extent practicable, flying over the monument and noise-sensitive tribal lands.

Air Force Installations with Airspace Near the Park. There are no Air Force installations in the Western Pacific Region which have airspace over the park. A military training route does go over the park, but its use is scheduled by Barksdale Air Force Base, Louisiana.

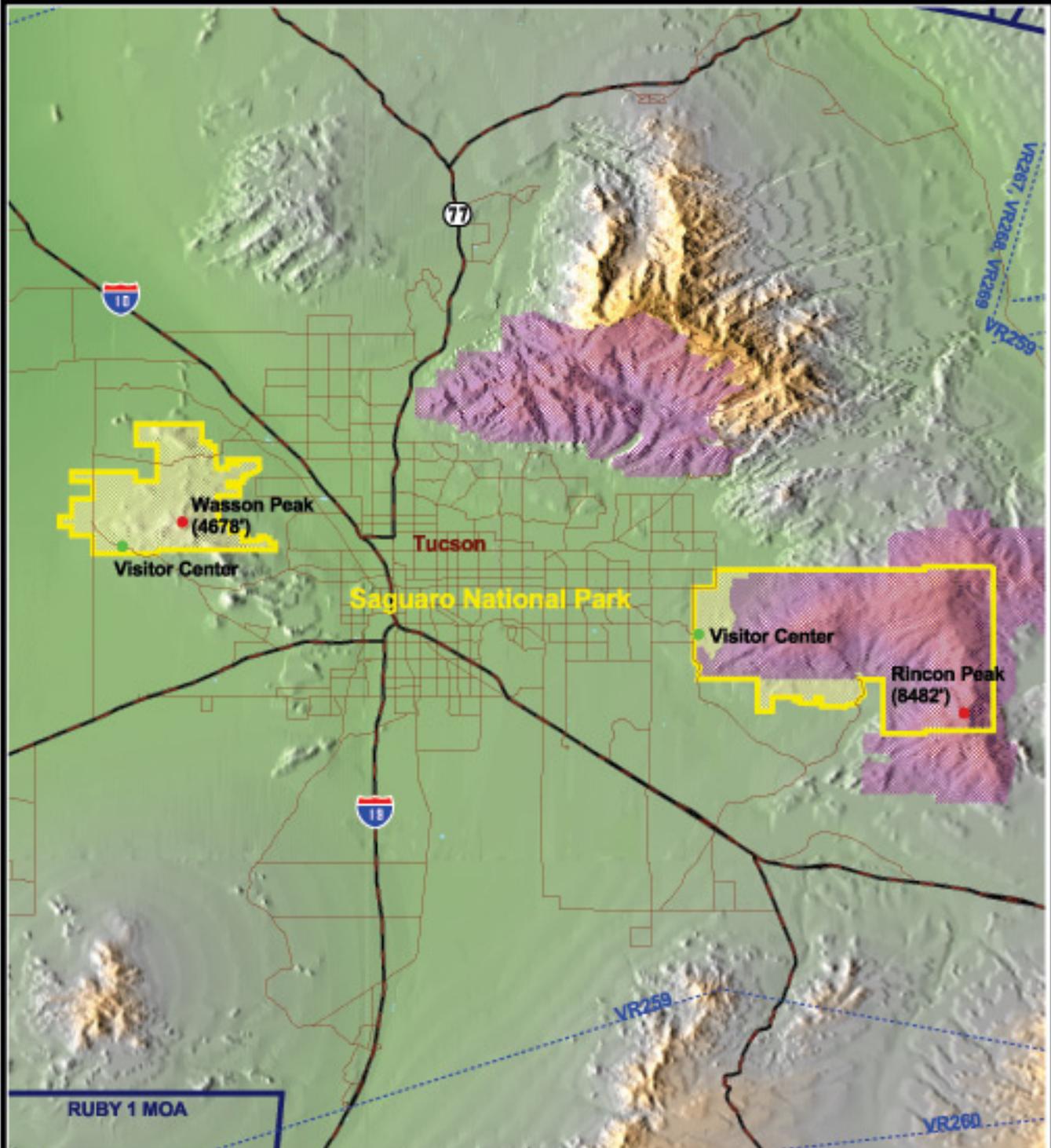


Saguaro National Park

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads ● Developed Areas ● Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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2002

SAGUARO NATIONAL PARK

Arizona

CONTACTS

Saguaro NP

3693 South Old Spanish Trail
Tucson AZ 85730
(520) 733-5100

Superintendent

(520) 733-5101
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Chief Ranger and Wilderness Coordinator (primary contact for airspace issues)

(520) 733-5110

Chief, Science & Resource Mgmt.

(520) 733-5170 or 5171

Park Acronym: SAGU

Park Website:

<http://www.nps.gov/sagu>

Background and National Significance. The saguaro has been described as the monarch of the Sonoran Desert, as a prickly horror, as the supreme symbol of the American Southwest, and as a plant with personality. It is renowned for the variety of odd, all-too-human shapes it assumes, shapes that inspire wild and fanciful imaginings. Since 1933, this extraordinary giant cactus has been protected within Saguaro National Park. Preserved along with it are many other members of the Sonoran Desert community. In lushness and variety of life, the Sonoran Desert far surpasses all other North American deserts. And yet, paradoxically, it is one of the hottest and driest regions on the continent. Summer midday temperatures commonly climb above 100 degrees. Less than 12 inches of rain falls in a typical year. Between the summer and winter rainy seasons it is not unusual for months to pass without a drop of rain. The plants and animals able to survive in this environment make up one of the most interesting and unusual collections of life in the United States. Saguaro National Park consists of two districts separated by the city of Tucson. Together they preserve 91,327 acres of the Sonoran Desert landscape.

Park Features and Values. Five biotic life zones are represented in the park, from desert to ponderosa pine forest. Congress has designated 71,400 acres of the park as wilderness.

Majestic saguaros cover the valley floors and rise into the neighboring mountains. These plants interrelate in complex and interesting ways with other desert life. Saguaro cacti provide their sweet fruits to hungry desert animals. They also provide homes to a variety of birds, such as the Harris hawk, Gila woodpecker, and the tiny elf owl. For their survival the saguaros depend upon their relationships with other desert plants. During the first few years of a very long life, a young saguaro needs the shade and protection of a nurse plant, such as the palo verde tree. With an average life span of 150 years, a mature saguaro may grow to a height of 50 feet and weigh over 10 tons.

Ancient petroglyphs are the most notable evidence of human occupation. For centuries peoples of the Sonoran Desert have used the natural products of the saguaro. In the summer the saguaro provides a nourishing bounty of juicy, fig-like fruits. Native Tohono O Odham Indians harvested them by knocking them off the tall cacti with long poles. From the fresh fruit the Indians made jam, syrup, and wine for their religious ceremonies. So important was the fruit to the Tohono O Odhams that the season of its harvest marked the beginning of their new year.

Visitor Use and Enjoyment. The park has about 3.4 million annual users, of whom about 750,000 are traditional visitors here to enjoy the resources and the remaining 2.6 million are driving through on the highway. Both

Saguaro East and Saguaro West have visitor centers, scenic drives, trails, and picnic areas. Saguaro East also allows backcountry camping at designated sites.

While most visitors to Saguaro National Park choose a leisurely drive on one of its scenic loop drives, those eager for an escape from the rigors of city life often opt to explore the park on one of its many trails. More than 150 miles of hiking trails, ranging from flat and easy strolls in the Sonoran Desert to steep and rugged hikes into the Rincon Mountains, provide opportunities for visitors of every ability to get out of their cars and explore on foot or horseback.

Noise-Sensitive Areas/Resources.

Wilderness: Approximately 78 percent of this park is congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. Many visitors come here to escape urban sounds, so airplane noise is a serious distraction from the wild experience they seek.

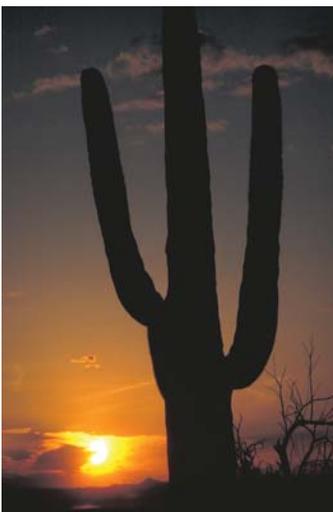
Sensitive wildlife habitat: Threatened, endangered, and other species of special concern, because of their tenuous populations, may be particularly vulnerable to stress caused by unnatural noise. This park is home to four threatened or endangered species of wildlife. At times, aircraft noise has interfered with cactus pygmy owl surveys conducted between January and June. The surveys of this endangered species require very careful sound detection, which is disrupted by any aircraft noise. Reducing overflights at dawn and dusk from January to June, especially over the Tucson Mountain District, would help in conducting these surveys.

Airspace Over/Near the Park. Saguaro National Park utilizes rotary and fixed-wing aircraft as part of normal operations, including search and rescue, fire control, and supplying materiel to backcountry sites. Operations are primarily conducted under 1,500 feet AGL. Temporary flight restrictions are rare and only requested for large operations.

Commercial airlines are seen over both districts of the park daily, but at such high altitudes that there is rarely noise detected.

Air Force Installations with Airspace Near the Park.

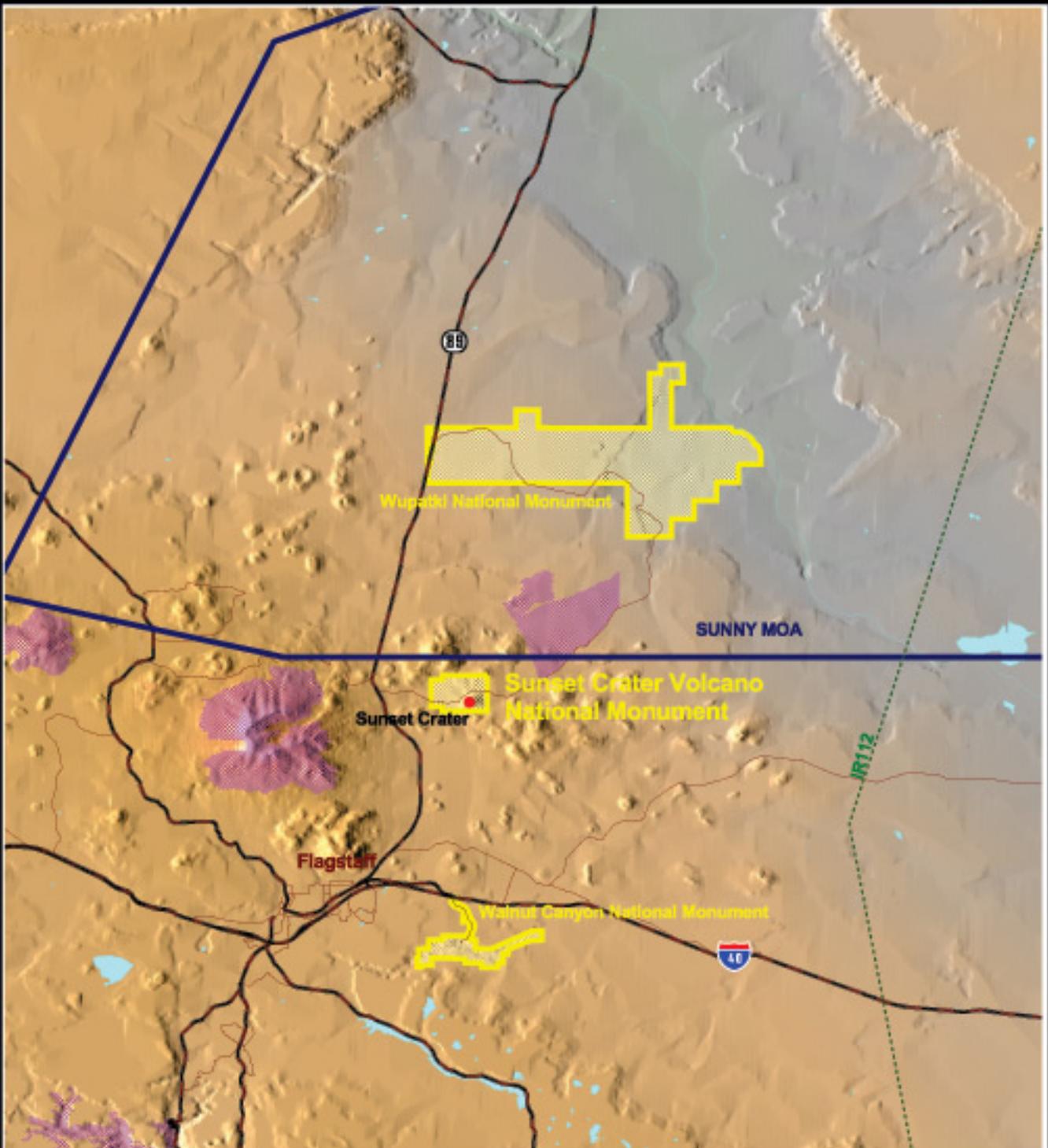
Generally, the Air Force's many daily training flights avoid the park. Please refer to the Davis-Monthan AFB narrative and map for specific information about Air Force/military use of the airspace.



Sunset Crater Volcano National Monument

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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2002

SUNSET CRATER VOLCANO NATIONAL MONUMENT

Arizona

CONTACTS

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Chief Ranger (primary contact for airspace issues)

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Park Acronym: SUCR

Park Website:

<http://www.nps.gov/sucr>

Background and National Significance. Sunset Crater Volcano is one of the longest-lived cinder cone volcanoes known. Its eruption beginning in the winter of 1064-65 was the most recent in a 6-million-year history of volcanic activity in the region. The park's volcanic features are important in the context of southwestern U.S. and world geology, providing insight into plate tectonics and ongoing geologic and ecological processes

The volcanic activity that occurred here profoundly affected the people living in the area and left a unique archeological and ethnographic record of human adaptation, response, and recovery. Sunset Crater Volcano National Monument encompasses 3,040 acres and was established in 1930, to preserve and protect geological formations, features, and resources for scientific interests and research, and for public interest, including scenic, educational, and recreational pursuits.

Park Features and Values. The Sunset Crater cinder cone is a reminder of the powerful forces that shape the Earth, including those that shaped the more than 600 hills and mountains in the San Francisco volcanic field. These mountains have in turn affected the climate and habitat for all things living in this region. The eruptions that created what is now the 1,000-foot-high Sunset Crater continued over 100 years and covered an 800-square-mile area with ash. Perhaps as spectacular as the original eruption were two lava flows: the Kana-A flow in 1064 and the Bonito Flow in 1180. They destroyed all living things in their path. In a final burst of activity, around 1250, red and yellow oxidized cinders shot out of the vent and fell onto the rim. The colorful glow from these cinders, reminiscent of a sunset, eventually led to the volcano's name.

Prehistoric farmers, known to archeologists as the Sinagua, witnessed the eruptions of Sunset Crater Volcano and moved out of harm's way as ash and cinders blanketed their fields. As they moved north, they discovered that a thinner cinder layer could act as mulch, allowing dry lands to produce crops. Most archeologists believe that the creation of this new farmland by the Sunset Crater eruptions was a primary reason for the development of the complex culture in what is today Wupatki National Monument. Sunset Crater Volcano and its natural resources continue to have cultural significance to contemporary Native American tribes.

In geologic terms, Sunset Crater Volcano is very young. After 800 years, the process of succession has just begun. The microhabitat and climate of Sunset Crater Volcano support an unusual mix of species, including lichens, molds, and endemic species that are highly visible examples of the scientific concepts of succession and adaptation. The park is a very small natural area entirely surrounded by Coconino National Forest. Preserving the integrity of the park's natural systems therefore requires close coordination across agency boundaries.

Visitor Use and Enjoyment. The park is visited by approximately 180,000 people annually, often in conjunction with a visit to Wupatki National Monument (the two are connected by a 36-mile scenic loop drive). The Sunset Crater Volcano visitor center has information, a film, exhibits, a bookstore, and a seismograph station. The 1-mile Lava Flow Trail at the volcano's base allows visitors to see a variety of features. Sunset Crater Volcano is closed

to climbing to protect its fragile resources, but visitors may climb other cinder cones in the area, such as nearby Lenox Crater and Doney Mountain at Wupatki. Numerous features and facilities, including the visitor center and much of the loop drive, are located outside park boundaries on U.S. Forest Service lands and managed by the National Park Service under a cooperative agreement.

Noise-Sensitive Areas/Resources.

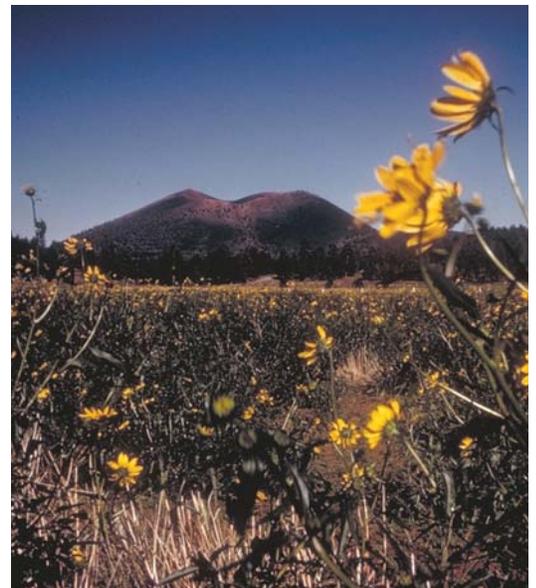
Cultural Landscape: A fundamental goal for this park is to immerse visitors in the time frame of the 11th century eruptions of Sunset Crater and the rehabilitation of the region by prehistoric farmers over the next few centuries. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Some features and facilities critical to visitor understanding of the interrelationships between the natural and cultural features of the prehistoric environment are located along the scenic loop drive across national forest lands connecting Sunset Crater and Wupatki National Monuments. The national forest segments of the loop drive should be considered as noise-sensitive as the related parklands, since they are integral to visitors' park experiences.

Sensitive wildlife habitat: The Mexican spotted owl, an endangered species, is known to occur on nearby U.S. Forest Service lands, although no critical habitat has been designated. Golden eagles, for which there is suitable nesting habitat on nearby U.S. Forest Service lands, are known to be sensitive to human presence. Noise disturbance may cause eagles to abandon, at least temporarily, their nest sites, eggs, and/or chicks.

Airspace Over/Near the Park. No formal data are available on existing use of airspace over the park. Staff observations indicate occasional overflights by sightseeing aircraft.

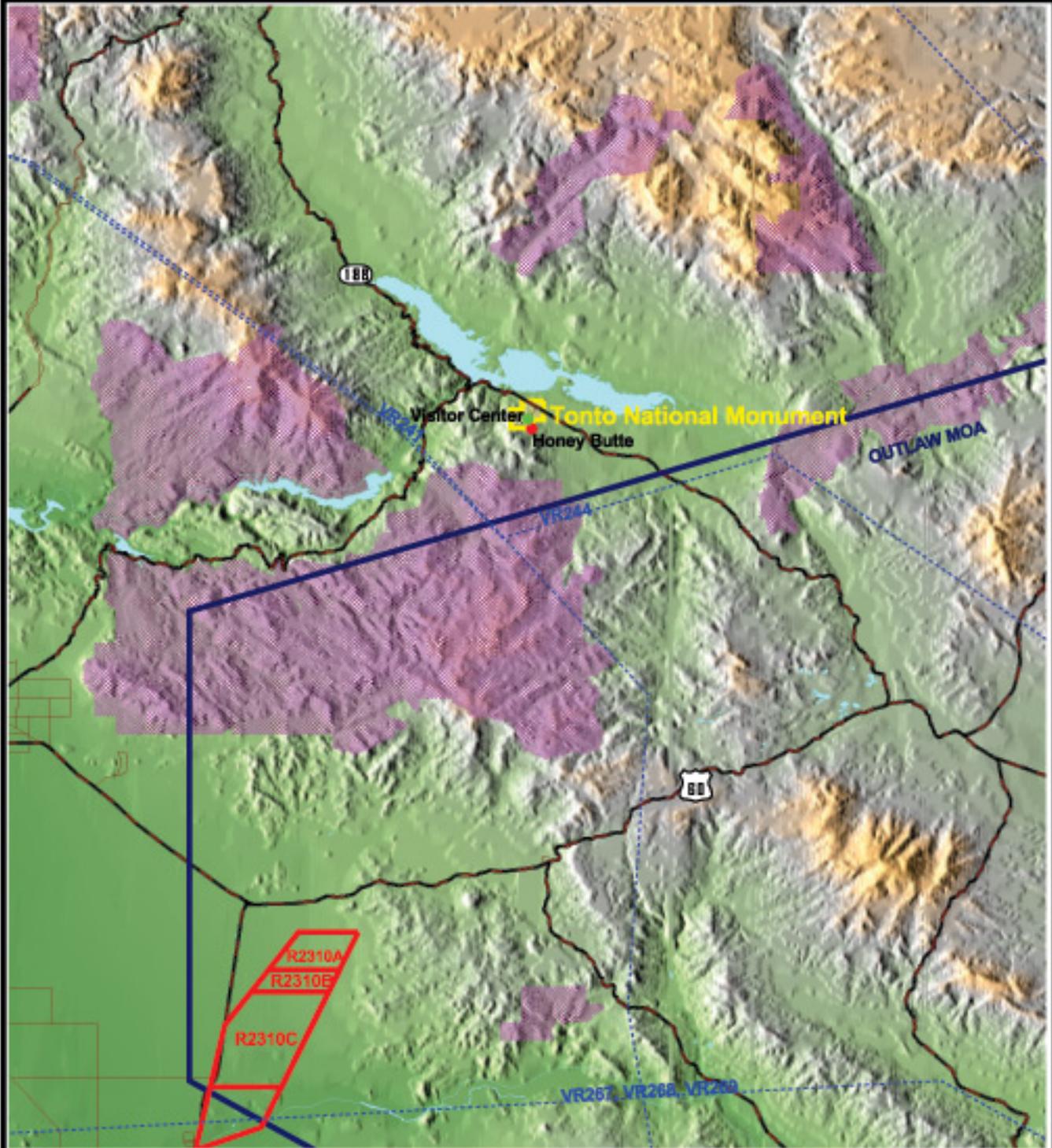
Air Force Installations with Airspace Near the Park. Please refer to the Davis-Monthan AFB narrative and map for information about Air Force/military use of the airspace.



Tonto National Monument

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<p>Military Training Routes</p> <ul style="list-style-type: none"> IR VR SR <p>Special Use Airspace</p> <ul style="list-style-type: none"> Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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TONTO NATIONAL MONUMENT

Arizona

CONTACTS

Tonto NM

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(928) 467-2241

Superintendent

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tont_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

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Resource Manager

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Park Acronym: TONT

Park Website:

<http://www.nps.gov/tont>

Background and National Significance. Tonto National Monument protects well-preserved cliff dwellings that were occupied by the Salado people, who farmed the Salt River Valley and supplemented their diet by hunting and gathering during the 13th, 14th, and early 15th centuries. Built in shallow caves perched more than 1,000 feet above the river valley, the cliff dwellings are representative of the final phase of Salado occupation in this area.

Distance and rugged terrain isolated the cliff dwellings from the modern world until the mid-1870s, when ranchers and soldiers came to the Tonto Basin. In 1906 construction began on Roosevelt Dam, bringing increased attention to the cliff dwellings. The following year, recognizing the need to protect the area from vandals and pothunters, President Theodore Roosevelt set aside a 1,120-acre area as a national monument. Today these cliff dwellings are raising and answering questions about the Salado people and their way of life.

Park Features and Values. The visitor center museum displays many of the objects excavated from the site. The Salado were fine craftsmen, producing some of the most exquisite polychrome pottery and intricately woven textiles to be found in the Southwest. The park's collection of objects created by the Salado for their own use or obtained through trade, combined with the fact that a good many of the plants and animals that made up their natural environment still thrive here, contribute to the larger picture of Salado culture.

The park is located in the Upper Sonoran Desert ecosystem, known primarily for its characteristic saguaro cactus. Early spring brings an amazing variety of colorful wildflowers. A lush riparian area supports large Arizona black walnut, sycamore, and hackberry trees.

Visitor Use and Enjoyment. The park is visited by approximately 80,000 people annually. The visitor center

houses exhibits on the culture and crafts of the Salado people and an audiovisual program introducing the park. A self-guiding foot trail climbs 350 vertical feet to the lower cliff dwelling. Visitors must be accompanied by park staff to visit the upper cliff dwelling.

Noise-Sensitive Areas/Resources.

Cultural Landscape: Most of this park is zoned and managed to preserve and immerse visitors into a landscape evocative of the historic time frame of the Salado culture. The park's historic setting is a powerful tool for helping people appreciate and understand this period of America's history. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. The cliff dwellings in this park are irreplaceable archeological resources that are potentially susceptible to such sonic damage from low-flying and/or loud aircraft. The structures are greatly affected by vibrations induced by close-flying aircraft, especially hovering helicopters.

Airspace Over/Near the Park. Noise disturbances at this small cultural site affect the experience of visitors throughout the whole monument. For long range protection, limiting the distance that aircraft are allowed to pass by the cliff dwellings would reduce the vibration and structural damage risk to these irreplaceable archeological structures.

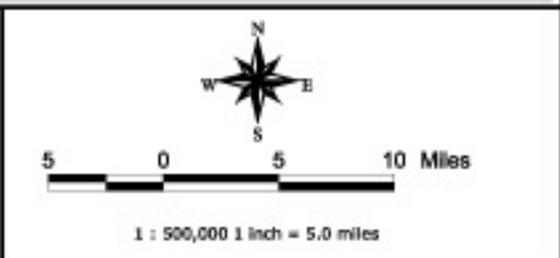
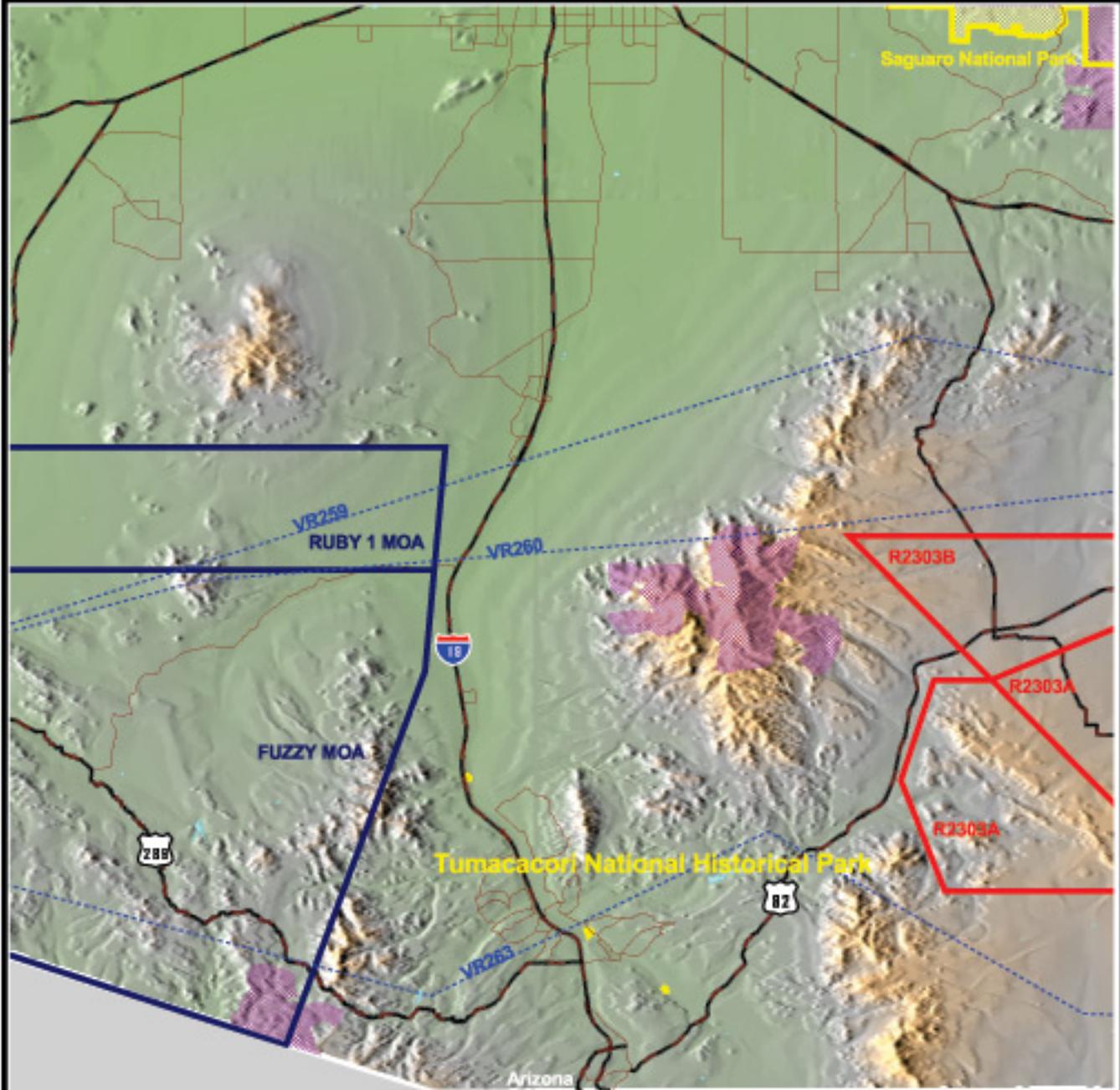
Air Force Installations with Airspace Near the Park. Please refer to the Luke AFB and Tucson IAP narratives and maps for specific information about Air Force/military use of the airspace.



Tumacacori National Historical Park

National Park Units

National Park Service
U.S. Department of the Interior



TUMACACORI NATIONAL HISTORICAL PARK

Arizona

CONTACTS

Tumacacori NHP

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Superintendent

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tuma_superintendent@nps.gov

Park Acronym: TUMA

Park Website:

<http://www.nps.gov/tuma>

Background And National Significance. Tumacacori National Historical Park preserves the ruins of three 18th and 19th century Spanish colonial missions. The park, which encompasses 45 acres in three separate units, was established in 1908 as Tumacacori National Monument. In 1990 Congress added the missions of Guevavi and Calabazas to the park and it was renamed Tumacacori National Historical Park. The park tells the story of the first Europeans who came to southern Arizona and of the native people who lived there.

Park Features and Values. The extant historic Spanish Catholic mission building known as Mission San Jose de Tumacacori was built between 1800 and 1821 to replace a modest Jesuit structure, Mission San Cayetano de Tumacacori, founded by Father Eusebio Francisco Kino in 1691. The newer building stands across the river from the mission founded by Father Kino. When Kino and his party approached the Pima settlement of Tumacacori in January 1691, they were riding the wave of a century of expansion northward along New Spain's west coast corridor. But the tide carried them no further north than the Pimeria Alta, home of the upper Pima Indians. It was here that Kino founded Mission San Cayetano de Tumacacori on the east bank of the Santa Cruz River. The next day a mission was founded at Guevavi, 15 miles upriver. San Cayetano de Tumacacori and Los Santos Angeles de Guevavi were the two oldest missions in Arizona. Kino crisscrossed the Pimeria Alta for 24 years, establishing missions, blazing new supply routes, and mapping the area for New Spain. When he died in 1711, Spain lost one of its greatest missionaries.

Very little remains of the churches that Father Kino built. The churches that are seen at the missions today are the work of the Franciscans. The extant mission ruins at Guevavi are the remains of a church built in 1751. The third mission included in the park, San Cayetano de Calabazas, was established in 1756. San Jose de Tumacacori, the youngest of the three extant mission church buildings, has been partially restored and is still used to celebrate special events.

Visitor Use and Enjoyment. The park is visited by approximately 60,000 people annually. Visitors appreciate this special place for the opportunity to tour the Mission San Jose de Tumacacori church, cemetery, and outlying structures and grounds in a peaceful and quiet atmosphere reminiscent of the 19th century mission landscape. Photographers especially enjoy the earth colors and shadows of the mission buildings. The mission courtyard and garden just off the visitor center provide a peaceful, quiet place to relax and reflect. Many bird species are seen at the mission due to its proximity to the Santa Cruz River. A short hike to the river is rewarding for bird-watching enthusiasts and a welcome break from the summer desert heat.

Visitation to the Guevavi and Calabazas units is available only by reservation during winter monthly tours guided by the park staff.

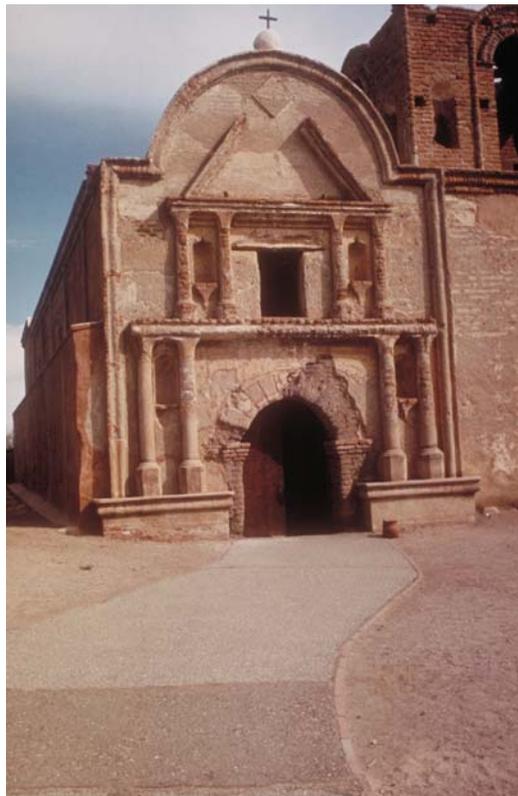
Noise-Sensitive Areas/Resources.

Cultural Landscape: A fundamental goal for this park is to immerse visitors in the historic time frame of the Spanish mission era. The park's historic setting is a powerful tool for helping people appreciate and understand this period of America's history. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. The mission buildings at all three sites are potentially susceptible to sonic damage from low-flying and/or loud aircraft. Helicopters flying too close to the missions have caused concern on occasion.

Airspace Over/Near the Park. The primary use of airspace over/near the park is by the Border Patrol. That agency uses helicopters and fixed-wing small aircraft to track illegal alien and drug traffic.

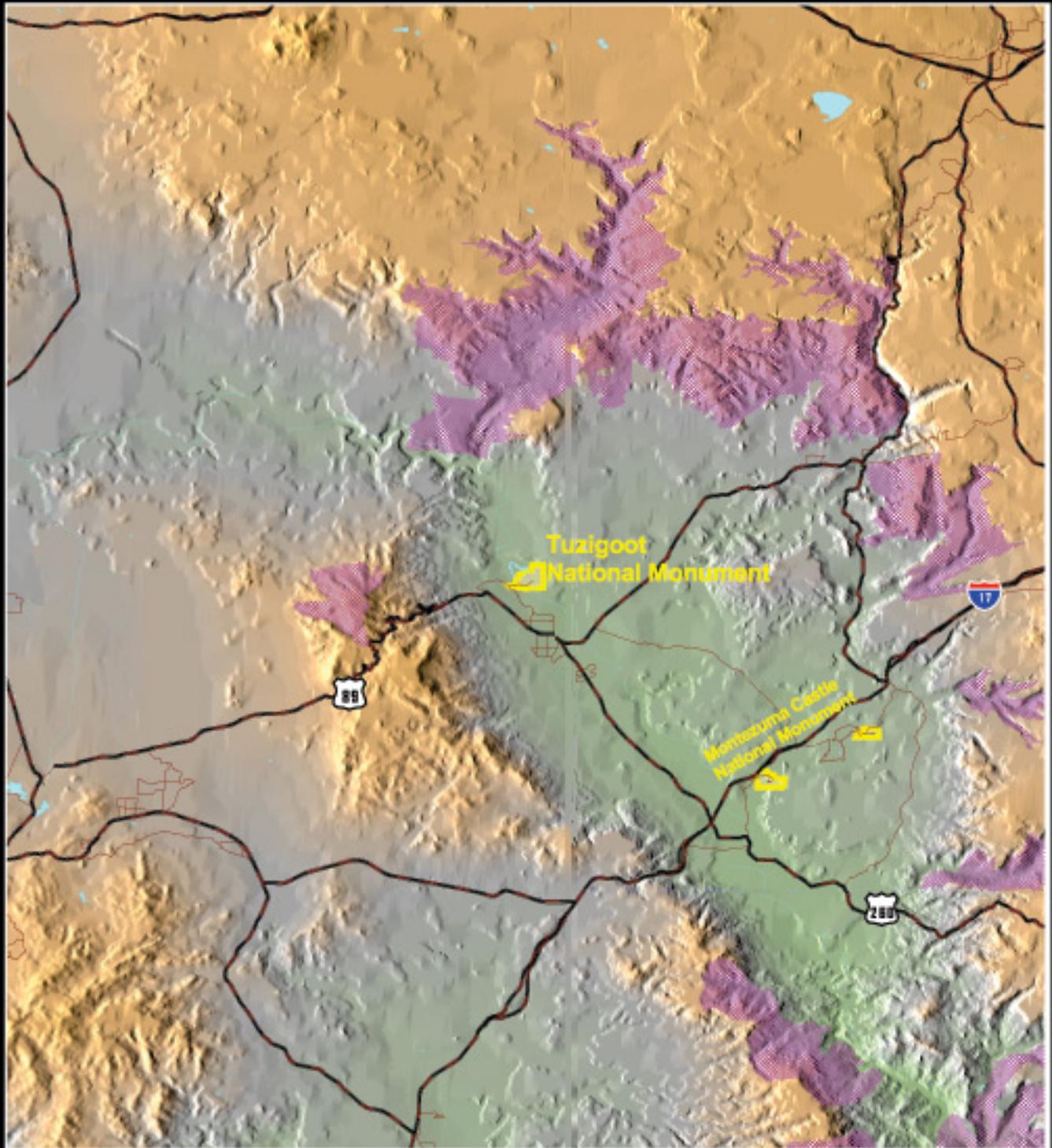
Air Force Installations with Airspace Near the Park. Please refer to the Tucson IAP narrative and map for specific information about Air Force/military use of the airspace.



Tuzigoot National Monument

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	Military Training Routes <ul style="list-style-type: none"> IR VR SR Special Use Airspace <ul style="list-style-type: none"> Warning Alert MOA Prohibited Restricted 	Map Location 	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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TUZIGOOT NATIONAL MONUMENT

Arizona

CONTACTS

Tuzigoot NM

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Chief Ranger (primary contact for airspace issues)

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Wilderness Coordinator

(928) 567-5276

Park Acronym: TUZI

Park Website:

<http://www.nps.gov/tuzi>

Background and National Significance. Tuzigoot National Monument, along with Montezuma Castle National Monument, preserves remnants of the Hohokam and Sinagua cultures, distinctive groups that flourished in the Verde Valley between A.D. 1100 and 1450. The monument was proclaimed in 1939 and encompasses 800 acres, all but 58 of which are nonfederal land.

Park Features and Values. Tuzigoot (Apache for crooked water) is the remnant of a Sinagua village built between 1125 and 1400. It crowns the summit of a long ridge that rises 120 feet above the Verde Valley. The original pueblo was two stories high in places and had 77 ground-floor rooms. There were few exterior doors; entry was by way of ladders through openings in the roofs. The village began as a small cluster of rooms that was inhabited by about 50 people for a hundred years. In the 1200s the population doubled and doubled again as refugee farmers, fleeing drought in outlying areas, settled here. In the early 1400s, the Sinagua abandoned the entire valley. No one can say why: perhaps too much pressure on the land, perhaps conflict with the Yavapai, who were living here when the Spanish entered the valley in 1583. Whatever the reason(s), the survivors were probably absorbed into pueblos to the north.

Visitor Use and Enjoyment. Tuzigoot National Monument is visited by approximately 125,000 people

annually. The park has a visitor center with exhibits on the prehistoric Sinagua people who lived in this region and short walking trails to the ruins.

Noise-Sensitive Areas/Resources.

Cultural Landscape: Most of this park is zoned and managed to preserve and immerse visitors into a landscape evocative of the historic time frame of the Sinagua culture. The park's historic setting is a powerful tool for helping people appreciate and understand this period of America's history. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. The prehistoric village ruins in this park are potentially susceptible to such sonic damage from low-flying and/or loud aircraft.

Airspace Over/Near the Park. Tuzigoot experiences an occasional flyover by private and commercial aircraft.

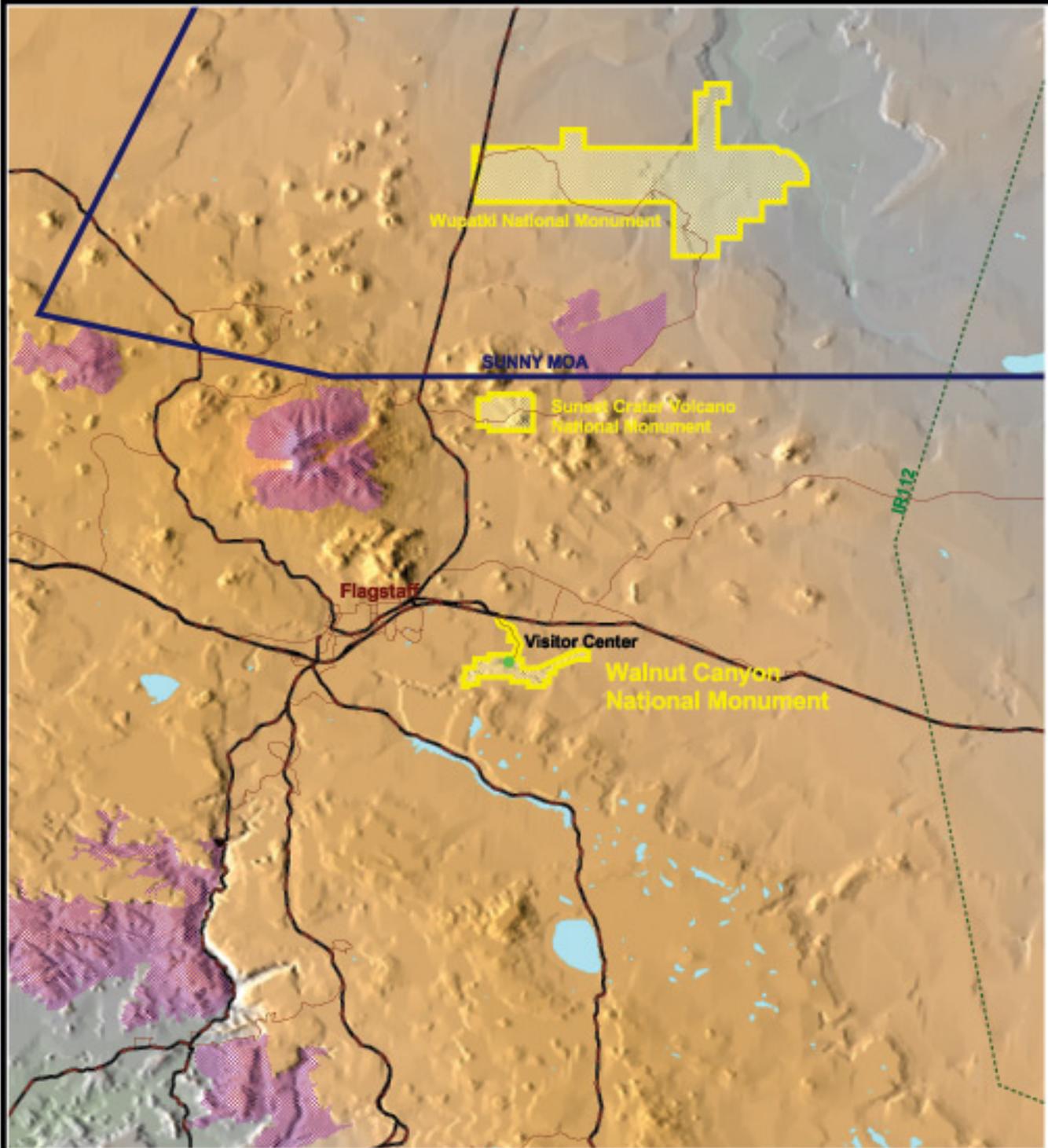
Air Force Installations with Airspace Near the Park. None.



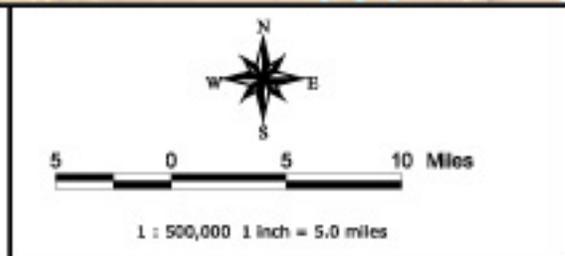
Walnut Canyon National Monument

National Park Units

National Park Service
U.S. Department of the Interior



- | | |
|-----------------|--------------------------|
| Park Boundary | Military Training Routes |
| Wilderness | IR |
| Roads | VR |
| Highways | SR |
| Secondary Roads | Special Use Airspace |
| Developed Areas | Warning Alert |
| Major Peak | MOA |
| | Prohibited |
| | Restricted |



WALNUT CANYON NATIONAL MONUMENT

Arizona

CONTACTS

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Superintendent

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Chief Ranger (primary contact for airspace issues)

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Park Acronym: WACA

Park Website:

<http://www.nps.gov/waca>

Background and National Significance. Walnut Canyon National Monument preserves the only known cliff dwelling architecture of the Northern Sinagua culture. Walnut Canyon and Walnut Creek provide vivid evidence of the Sinaguans' ability to procure sufficient water to sustain life and grow crops. The dwellings had been abandoned by the end of the 13th century, and they remained largely undisturbed until the 19th century.

Historic railroad settlements, such as Flagstaff, contributed to Walnut Canyon becoming one of the first archeological areas to be heavily visited. Some sites record the extensive looting of the period. Theft and destruction prompted local efforts to preserve the canyon and soon drew national support. The park, which encompasses 3,579 acres, was established in 1915 to protect ancient cliff dwellings and associated resources that are of great ethnographic, scientific, and educational interest. Today, owing to management that emphasizes preservation, Walnut Canyon National Monument provides scientific opportunities to study irreplaceable cultural and natural resources. The natural and cultural resources within the park remain significant to contemporary Native American tribes.

Park Features and Values. The cave-sheltered cliff dwellings in Walnut Canyon are testimony to the people who lived here more than 800 years ago. Inside the canyon and throughout the pine forests on its rims, these people made their living by farming, hunting deer and small game, gathering an assortment of useful plants, and trading. Their name, Sinagua (Spanish for "without water"), is a tribute to their ability to turn a relatively dry region into a homeland.

The Sinagua lived in the cliff dwellings for little more than 100 years, then they departed for reasons that are still unclear. By about 1250 they occupied new villages a few miles southeast along Anderson Mesa. It is generally believed that the Sinagua were eventually assimilated into Hopi culture. The Hopi today call their ancestors the Hisatsinom ("people of long ago"). Their tradition suggests that the early migrations of the ancestral Puebloan peoples were part of a religious quest to have all clans come together.

Walnut Canyon supports an unusual array of biological communities, each characterized by different temperatures and plant life determined largely by the amount of sunlight the community receives. These plant life zones are miniature versions of the zones spanning the western part of the continent from Mexico to Canada, all within the canyon's 20-mile length and 400-foot depth. They range from communities associated with the upper Sonoran Desert, with yucca and prickly pear cactus, to cooler, moister Pacific Northwest forests of shade-tolerant shrubs and mixed conifers (including Douglas-fir). Elsewhere in the canyon and on the rims are pinyon/juniper woodland and ponderosa pine/gambel oak forest, which are found throughout the southwestern United States. The riparian community in the canyon bottom includes box elder and Arizona black walnut, for which the canyon was named. The biodiversity supported by these habitats includes a high concentration of sensitive species and is thought to have contributed to the decision of the prehistoric people to settle here.

Visitor Use and Enjoyment. The park is visited by approximately 138,000 people annually. The visitor center has an information desk, exhibits, a bookstore, and a panoramic view. Two paved foot trails, the 1-mile Island Trail and the Rim Trail, begin at the visitor center. Together with adjacent forestlands, the park serves as a significant component of the designated greenbelt and natural sanctuary surrounding the city of Flagstaff.

Noise-Sensitive Areas/Resources.

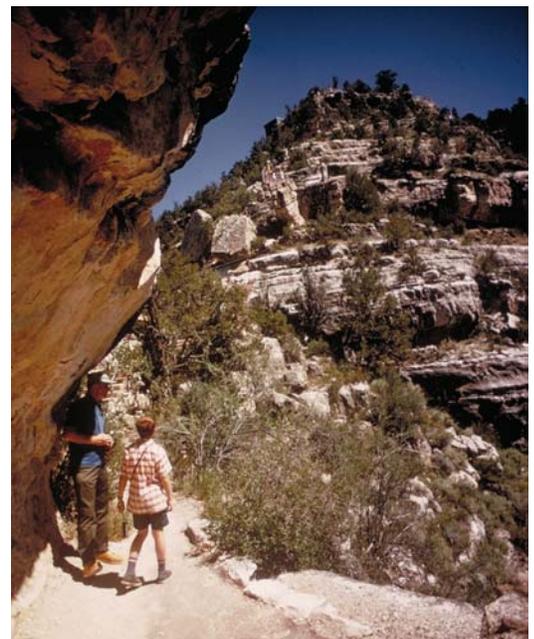
Cultural Landscape: A fundamental goal for this park is to immerse visitors in the historic time frame of the Sinagua culture. The park's historic setting is a powerful tool for helping people appreciate and understand this period of America's history. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. The cliff dwellings in this park are potentially susceptible to such sonic damage from low-flying and/or loud aircraft.

Sensitive wildlife habitat: The Mexican spotted owl, a federally listed threatened species, is known to nest in the park, and critical habitat has been designated by the U.S. Fish and Wildlife Service. The peregrine falcon, recently removed from the endangered species list, has established two breeding aeries in the park. The northern goshawk, a species of concern, also nests in the park. For all three species, there is concern about disturbances from recreational use and noise.

Airspace Over/Near the Park. No formal data are available on existing use of airspace over/near the park. Staff observations indicate occasional overflights by sight-seeing aircraft. Possible future boundary expansion could place parts of the park within the flight path of Flagstaff's Pulliam Airport.

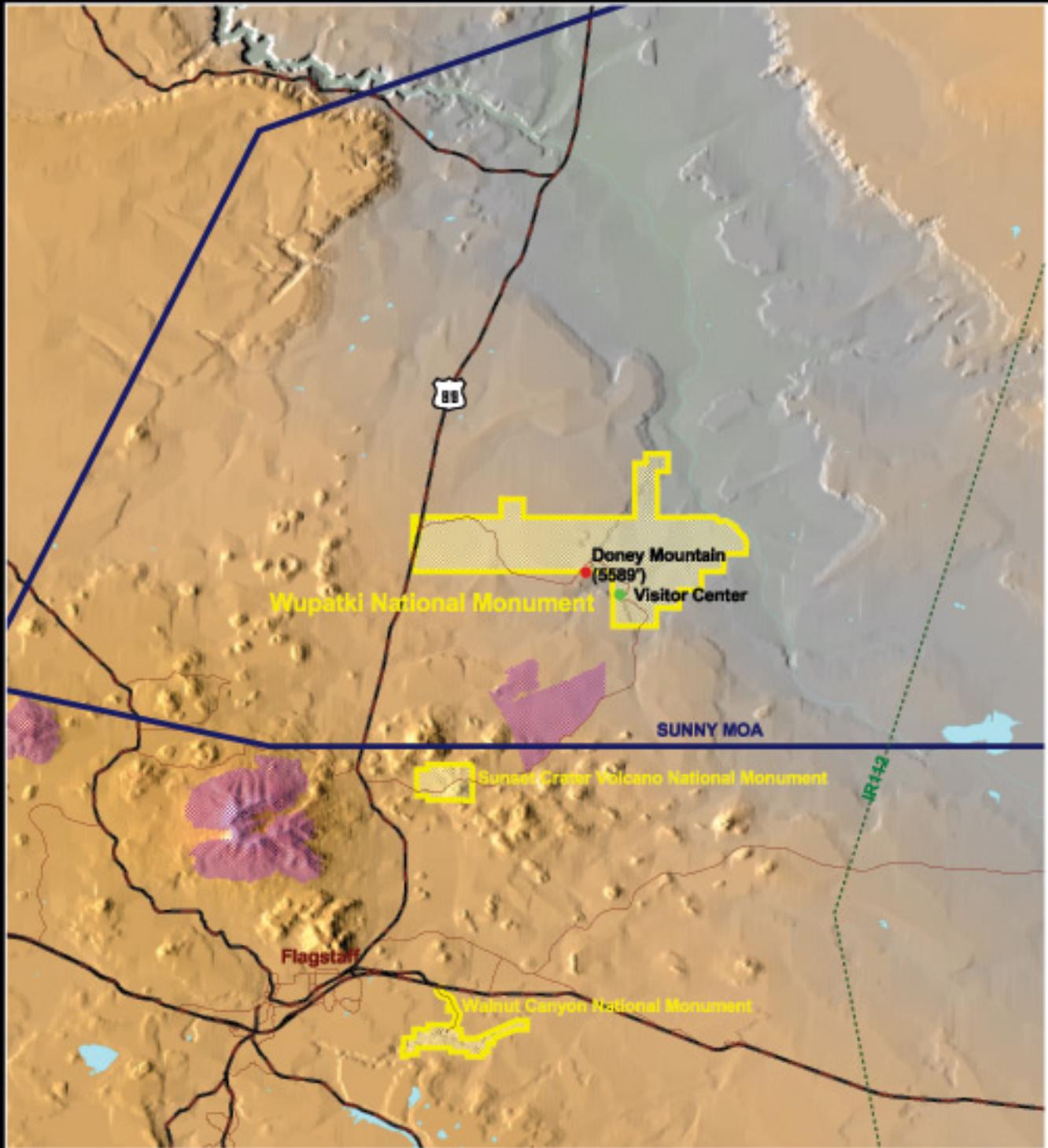
Air Force Installations with Airspace Near the Park. None.



Wupatki National Monument

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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WUPATKI NATIONAL MONUMENT

Arizona

CONTACTS

Flagstaff Area NM

6400 N. Highway 89
Flagstaff, AZ 86004

Superintendent

(928) 526-1157, ext. 227

(928) 526-4259 fax

E-mail:

FLAG_superintendent@nps.gov

Chief Ranger (primary contact
for airspace issues)

(928) 679-2365

Park Acronym: WUPA

Park Website:

<http://www.nps.gov/wupa>

Background and National Significance. Wupatki National Monument is the only known location in the Southwest where physical evidence from at least three archeologically separate but concurrent ancestral puebloan cultures—Sinagua, Cohonina, and Kayenta Anasazi—coexists. According to puebloan oral tradition, Wupatki represents one ancestral puebloan group. The natural and cultural resources within the park remain significant to contemporary Native American tribes. Wupatki National Monument was established in 1925 to preserve, protect, care for, and manage the ancestral Hopi sites, other prehistoric remains, and cultural and natural resources of historic, ethnographic, and scientific interest. The park encompasses 35,400 acres.

Park Features and Values. The park contains thousands of exceptionally well-preserved archeological sites dating from the eruption of Sunset Crater Volcano in 1064 until about 1275. The ash fall from Sunset Crater was beneficial to farmers, and a large agricultural community spread across this volcanic landscape. Nevertheless, farming at Wupatki during the 1100s was decidedly marginal. Only the diligent succeeded, and trade with others was vital. Located at the crossroads between Sinagua, Cohonina, and Kayenta Anasazi cultural traditions, Wupatki exhibits a unique cultural brew. The exchange of ideas is represented by homes built the Anasazi way but furnished with Sinagua-style pottery, textiles, and tools.

The landscape that shaped the lives of people 800 years ago appears unchanged in many ways since the eruptions. The undeveloped terrain, unpolluted air, extensive scenic vistas, and natural quiet offer a setting much like that experienced by the original inhabitants. From a distance the pueblos at Wupatki look as though they could still be occupied.

In the relatively short distance between Sunset Crater Volcano and Wupatki, the environment changes from mountain to desert. The related ecosystem changes greatly increase the biodiversity of the area—a diversity that was indispensable to early residents. Today, Wupatki protects one of the few native grasslands in the Southwest that is not being domestically grazed, and its integrity is essential to perpetuating native species, such as pronghorn, and natural ecosystem processes.

In historical times lands within the park have supported more than 150 years of occupation by Navajo families, who have been joined by ranchers, sheepherders, prospectors, Mormons, the Civilian Conservation Corps, park custodians, and the Museum of Northern Arizona. The activities of these diverse groups, combined with environmental changes, have created a rich mosaic of cultural landscapes within the park.

The setting of Wupatki, undeveloped and largely unpolluted, provides the exceedingly rare opportunity to see more than 60 miles, view the night sky, and encounter quiet—an experience comparable to that experienced by prehistoric peoples. These qualities are a baseline against which change can be monitored, managed, and mitigated.

Visitor Use and Enjoyment. The park is visited by approximately 250,000 people annually, often in conjunction with a visit to Sunset Crater Volcano National

Monument. The two parks are connected by a 36-mile scenic loop drive, much of which is located outside park boundaries on U.S. Forest Service land and managed by the National Park Service under a cooperative agreement. Information, exhibits, and a bookstore are available at the Wupatki visitor center. Short trails lead to nearby Wupatki Pueblo and to three other major pueblo areas.

Noise-Sensitive Areas/Resources.

Cultural Landscape: A fundamental goal for this park is to immerse visitors in the historic time frame of the ancestral puebloan cultures that occupied this region in the 12th and 13th centuries. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time. The opportunity to experience natural quiet as it would have been experienced by prehistoric peoples has been specifically identified as an element of Wupatki's national significance.

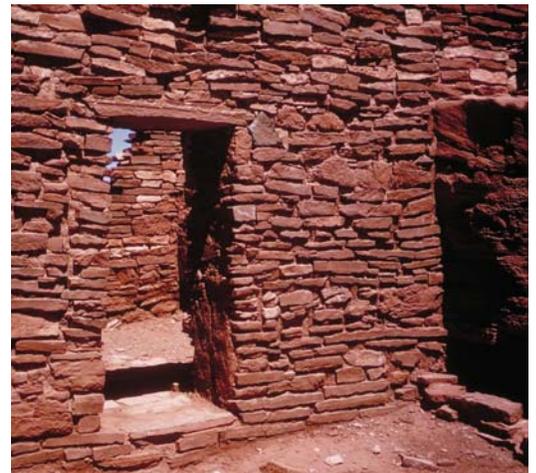
Some features and facilities critical to visitor understanding of the interrelationships between the natural and cultural features of the prehistoric environment are located outside park boundaries on U.S. Forest Service lands. These areas should be considered equally noise-sensitive to preserve the expected parklike visitor experience.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. The prehistoric pueblos in this park, some of which rise to several stories in height, are potentially susceptible to such sonic damage from low-flying and/or loud aircraft.

Sensitive wildlife habitat: Golden eagles, which have nested historically within the park, are known to be sensitive to human presence. Noise disturbance may cause eagles to abandon, at least temporarily, their nest sites, eggs, and/or chicks. Because some biologists recommend a 1/4- to 2-mile buffer zone around nests, one popular area is closed to visitor use during breeding season.

Airspace Over/Near the Park. No formal data are available on existing use of airspace over/near the park. Staff observations indicate occasional overflights by sight-seeing aircraft.

Air Force Installations with Airspace Near the Park. Please refer to the Luke AFB narrative and map for information about Air Force/military use of the airspace.

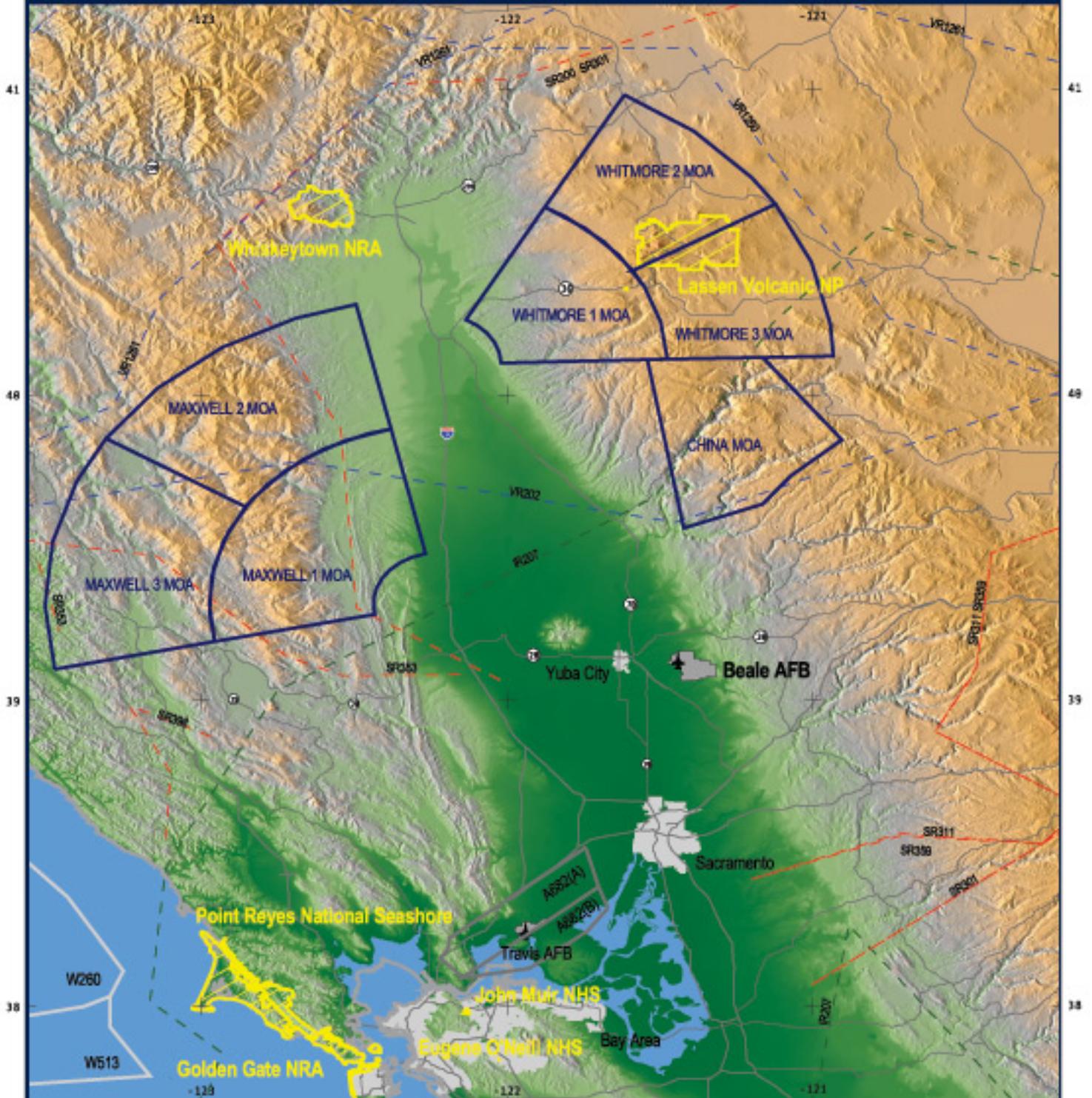




Beale Air Force Base

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



Park Boundary	Military Training Routes
Air Force Base	IR
AF Guard/Reserve Base	SR
	VR
	Special Use Airspace
	Warning
	Alert
	MOA
	Prohibited
	Restricted



10 0 10 20 30 40 50 Miles

BEALE AIR FORCE BASE

California

CONTACTS

Public Affairs

9th RW/PA
6000 C. Street
Beale AFB, CA 95903-1616
(C) 530-634-8891
DSN: 530-368-8891

Environmental Management

9th CES/CEV
6601 B. Street
Beale AFB, CA 95903-1616
(C) 530-634-2844
DSN: 368-2844

Airspace Management

9th OSS/OSAA
7900 Arnold Ave.
Beale AFB, CA 95903-1616
(C) 530-634-8653
DSN: 368-8653

Wing Commander

9th RW/CC
5950 C. Street
Beale AFB, CA, 95903-1616
(C) 530-634-3905
DSN: 368-2692

About the Installation: In 1940, the Camp Beale area consisted of 86,000 acres of grassland and the abandoned mining town of Spenceville, which the U.S. government purchased in 1942 as a training post for the 13th Armored Division and the 81st and 96th Infantry Divisions. Beale AFB, named for the 19th century pioneer Edward Fitzgerald Beale (1822-1893), opened in October 1948 after ownership was transferred to the Air Force from the Army. The 23,000-acre base is today home to the 9th Reconnaissance Wing (RW), which provides the Air Force with high-altitude reconnaissance.

Aircraft:

- Recon: U-2, Global Hawk UAV
- Tankers: KC-135
- Trainers: T-38

Threatened and Endangered Species:

- Birds:**
 - Bald Eagle
 - American Peregrine Falcon
- Crustaceans:**
 - Vernal Pool Fairy Shrimp
 - Vernal Pool Tadpole Shrimp
- Fish:**
 - Central Valley Steelhead Trout
- Insects:**
 - Valley Longhorn Elderberry Beetle

National Parks Under/Near the Airspace:

- Lassen Volcanic NP
- Whiskeytown NRA

USAF SUA & MTR AIRSPACE DETAILS

Airspace Scheduled By & Effective Times:

9th OSS/OSAA
7900 Arnold Ave.
Beale AFB, CA 95903-1616
(C) 530-634-8653 / DSN: 368-8653

MAXWELL 1,2, & 3 MOA	1300Z-0400Z++Mon-Fri, OT By NOTAM
WHITMORE 1, 2, & 3 MOA	1530Z-0030Z++ Mon-Fri, OT By NOTAM
CHINA MOA	1600Z++SS

129th RQS/DOF
P.O. Box 103
Moffett Federal Airfield, CA 94035-0103
(C) 650-603-9356 / DSN: 359-9356

SR300, SR301, SR311, SR353, SR359, & SR398	Continuous
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60th OSS/OSO
401 Burgan Blvd.
Travis AFB, CA 94535-5020
(C) 707-424-3059 / DSN: 837-3059

A682 (A)	Mon-Fri 1600-0500Z++
A682 (B)	Mon-Fri 1600-0500Z++

SUA & MTR AIRSPACE DETAILS [Not Scheduled by the USAF but in proximity]

Airspace Scheduled By & Effective Times:

Commander Strike Fighter Wing
U.S. Pacific Fleet
001 (K) Street, Room 121
NAS Lemoore, CA 93246-5022
(C) 559-998-1034 / DSN: 949-1034

IR207, VR202, VR1250 & VR1261	Daylight hrs., OT by NOTAM
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United States Navy
Fleet Area Control and
Surveillance Facility (FACSFAC)
North Island NAS
San Diego, CA 92135
(C) 619-545-1758 / DSN: 735-1758

W260 & W513	Mon-Fri 1300-0500Z++, OT by NOTAM
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Channel Islands Air National Guard Station

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



National Park	Military Training Routes
Air Force Base	IR
AF Guard/Reserve Base	SR
	VR
	Special Use Airspace
	Warning
	Alert
	MOA
	Prohibited
	Restricted



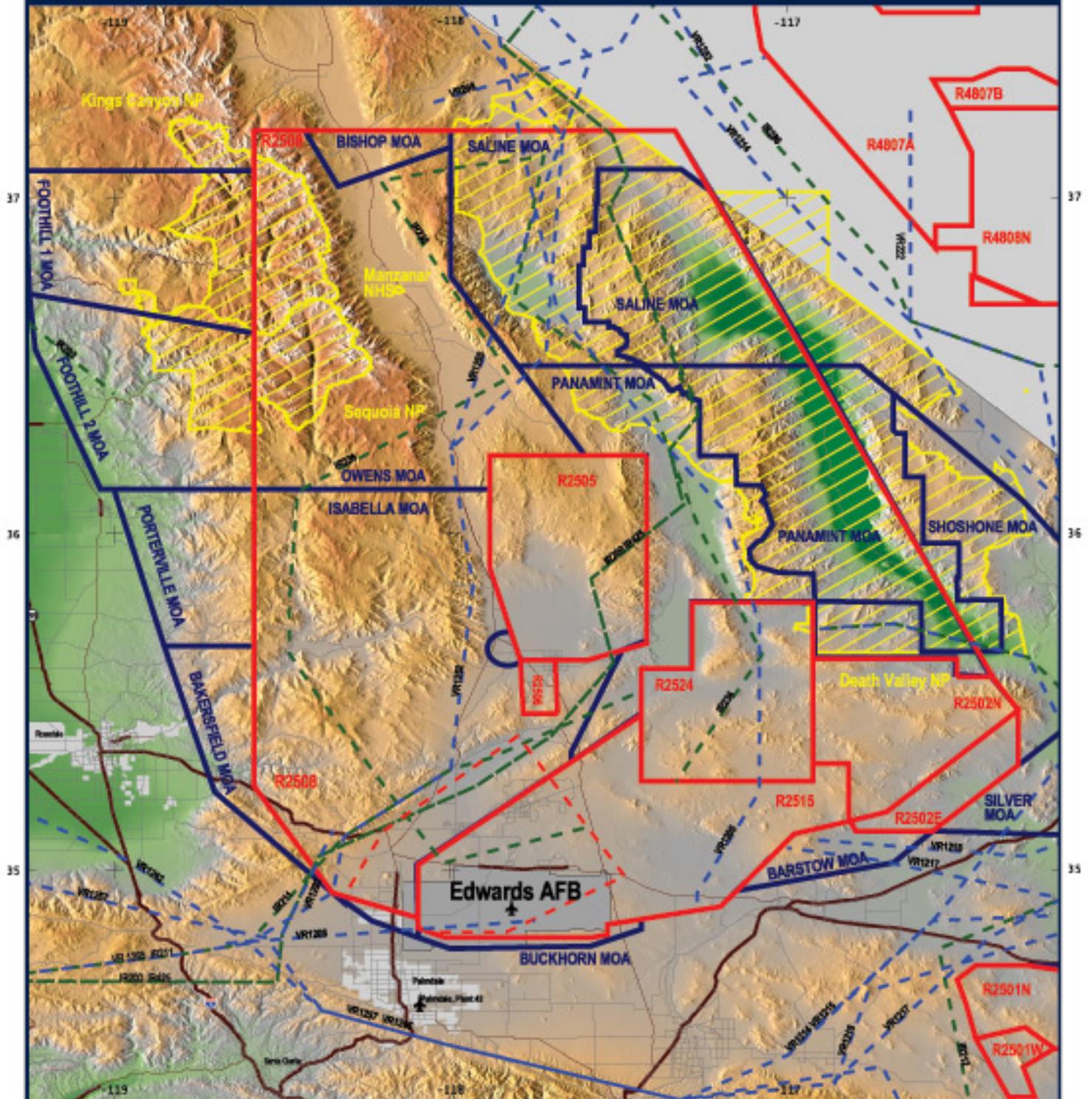
6 0 6 12 18 24 Miles

2002

Edwards Air Force Base

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



	National Park		Military Training Routes
	Air Force Base		IR
	AF Guard/Reserve Base		SR
			VR
			Special Use Airspace
			Warning
			Alert
			MOA
			Prohibited
			Restricted



W N E S

10 0 10 20 30 40 Miles

EDWARDS AIR FORCE BASE

California

CONTACTS

Public Affairs

1 S. Rosamond Blvd.
Edwards AFB, CA 93524
(C) 661-277-3510
DSN: 527-3510

Environmental Management

Director of Environmental
Management
5 East Popson, Building 2650A
Edwards AFB, CA 93524
(C) 661-277-1402
DSN: 527-1402

Airspace Management

AFFTC
412th OSS/OSR
300 East Yeager Blvd.
Edwards AFB, CA 93524
(C) 661-277-4110
DSN: 527-4110

R-2508 Complex
Central Coordinating Facility
100 Sparks Drive
Building 2580
Edwards AFB, CA 93524
(C) 661-277-2508
DSN: 527-2508

412th OSS/OSAA
235 S. Flightline Road
Edwards, AFB CA 93524
(C) 661-277-2446
DSN: 527-2446

Wing Commander

95th ABW/CC
1 S. Rosamond Blvd
Edwards AFB, CA 93524
(C) 661-277-3010
DSN: 527-3010

412th TW/CC
195 E. Popson Ave
Edwards, AFB CA, 93524
(C) 661-275-4000
DSN: 525-4000

About the Installation: The military base began as a stark and remote bombing range in 1933 but became a major bomber training base in World War II, during which time the Air Force Flight Test Center (AFFTC) originated. The AFFTC is the Air Force Material Command (AFMC) center of excellence for research, development, and test and evaluation of aerospace systems. It also operates the USAF Test Pilot School and supports non-military government agencies. The AFFTC is home to a variety of natural resources and has the stewardship for a diverse ecosystem including more than 400 plant and bird species.

Aircraft:

- Bombers: B-1B, B-2, B-52
- Cargo: C-12, C-17,
- Helicopters: CH-53, CH-46, CV-22
- Fighters: F-15, F-16, F-22, F-117, F-18
- Tankers: KC-135
- Trainers: T-38, T-39

Threatened and Endangered Species:

- *Reptiles & Amphibians:* Desert Tortoise

National Parks Under/Near the Airspace:

- Death Valley NP
- Sequoia & Kings Canyon NP

USAF SUA & MTR AIRSPACE DETAILS

Airspace Scheduled By & Effective Times:

R-2508 Complex
Central Coordinating Facility
100 Sparks Drive
Building 2580
Edwards, CA 93524
(C) 661-277-2508 / DSN: 527-2508

R2502E, R2502N, R2505,
R2506, R2508, & R2524 Continuous
BAKERSFIELD MOA,
BARSTOW MOA, BISHOP MOA,
BUCKHORN MOA
ISABELLA MOA, OWENS MOA
PANAMINT MOA,
PORTERVILLE MOA,
SHOSHONE MOA, &
SALINE MOA 1300Z-0500Z++Mon-Fri,
OT By NOTAM

Commander AFFTC
412th OSS/OSR
300 East Yeager Blvd
Edwards AFB, CA 93524
(C) 661-277-4110 / DSN: 527-4110

IR234 & IR235 Daylight hrs. by NOTAM
IR236 0600-2200 local daily
IR237 & IR238 Daylight hrs. by NOTAM
IR425 Sunrise-Sunset by NOTAM
VR1205, VR1206 VR1214 Continuous
VR1215, VR1217 & VR1218 Sunrise-Sunset daily
VR1293 Continuous

412th OSS/OSAA
235 S. Flightline Road
Edwards AFB, CA 93524-6460
(C) 661-277-2446 / DSN: 527-2446

R2515 Continuous

98th RANW OSS/OSO
3770 Duffer Drive
Nellis AFB, NV 89191
(C) 702-653-4710 / DSN: 348-4710

R4807 A & B Continuous
R4808 N & S Continuous
R4809 Continuous

57th OSS/OSOS
4450 Tyndall Ave.
Nellis AFB, NV 89191
(C) 702-652-7891 / DSN: 682-7891

SILVER MOA Continuous
IR286 & VR222 Continuous

SUA & MTR AIRSPACE DETAILS [Not Scheduled by the USAF but in proximity]

Airspace Scheduled By & Effective Times:

Commander Strike Fighter Wing
U.S. Pacific Fleet
001 (K) Street, Room 121
NAS Lemoore, CA 93246-5022
(C) 559-998-1034 / DSN: 949-1034

FOOTHILL 1 & 2 MOA BY NOTAM
IR203 Daylight hrs,
OT by NOTAM
0800-1630 local
VR208
VR1252, VR1255
VR1257 & VR1262 Daylight hrs,
OT by NOTAM

Naval Air Warfare Center Weapons Division
Point Mugu NAS
Building 53
575 I. Avenue Suite #1
Point Mugu, CA 92042
(C) 805-989-7545 / DSN: 351-7545

IR200 Sunrise-Sunset by NOTAM

Commanding General
3rd Marine Aircraft Wing (G-3)
MCAS Miramar
San Diego, CA 92145
(C) 858-577-7237 / DSN: 267-7237

IR211 & IR212 Continuous
VR1265 Continuous

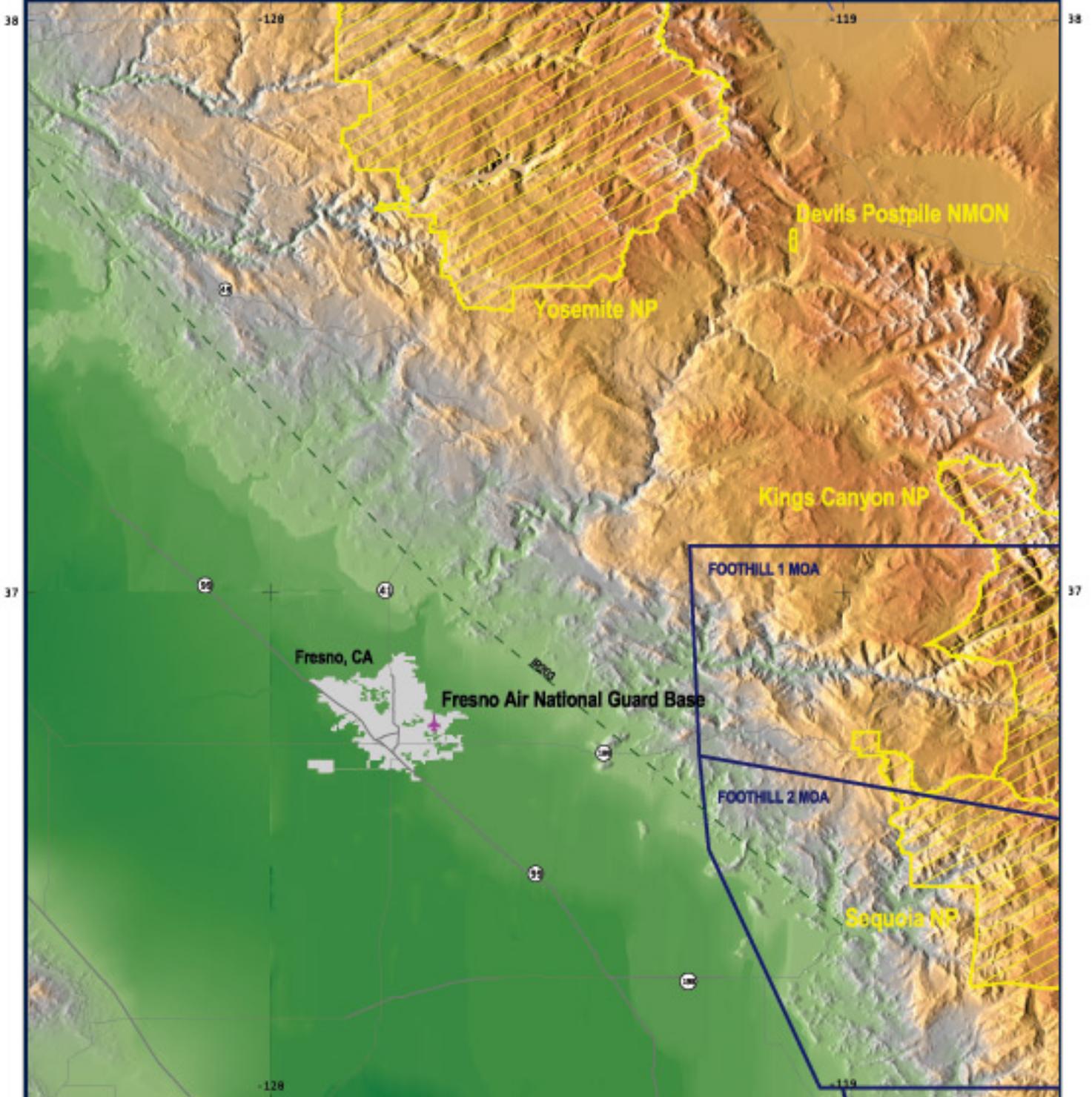
Range Scheduling Chief
HQ Battalion A Company
29 Palms, CA 92278
(C) 760-830-6313 / DSN: 230-6313

R2501 N & W Continuous

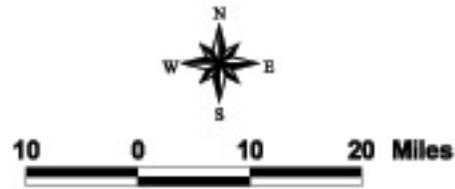
Fresno Air National Guard Base

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



Park Boundary	Military Training Routes
Air Force Base	IR
AF Guard/Reserve Base	SR
	VR
	Special Use Airspace
	Warning
	Alert
	MOA
	Prohibited
	Restricted



2002

FRESNO AIR NATIONAL GUARD BASE

California

CONTACTS

Public Affairs

144th FW/PA
5323 E. McKinley Ave.
Fresno ANGB, CA 93727
(C) 559-454-5154
DSN: 839-5154

Environmental Management

144th FW/SGPB
5323 E. McKinley Ave.
Fresno ANGB, CA 93727
(C) 559-454-5236
DSN: 839-5236

Airspace Management

Fresno is not the Scheduling
Agency for any airspace

Wing Commander

144th FW/CC
5323 E. McKinley Ave.
Fresno ANGB, CA 93727
(C) 559-454-5144
DSN: 839-5144

About the Installation: The Fresno ANGB is home to the 144th Fighter Wing (FW) whose origin dates back to April of 1948, barely six months after the formation of the ANG. On that date, the 61st FW received federal recognition in Alameda, California, and were later redesignated as the 144th Fighter Bomber Wing on November 1, 1950. Today its descendent, the 144th FW, has a mission to provide air defense protection for California from the Mexican border to Ukiah utilizing the F-16 Fighting Falcon. Additionally, the 144th FW supports the nation's counter-drug program and assists in state emergencies when requested.

Aircraft:

- Fighters: F-16
- Cargo: C-26

Threatened and Endangered Species: None.

National Parks Under/Near the Airspace: None.

USAF SUA & MTR AIRSPACE DETAILS

Airspace Scheduled By & Effective Times:

Commander Strike Fighter Wing
U.S. Pacific Fleet
001 (K) Street, Room 121
NAS Lemoore, CA 93246-5022
(C) 559-998-1034 / DSN: 949-1034

FOOTHILL 1 & 2 MOA	By NOTAM
IR203	Daylight hrs., OT by NOTAM

Los Angeles Air Force Base

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



National Park	Military Training Routes
Air Force Base	IR
AF Guard/Reserve Base	SR
	VR
	Special Use Airspace
	Warning
	Alert
	MOA
	Prohibited
	Restricted

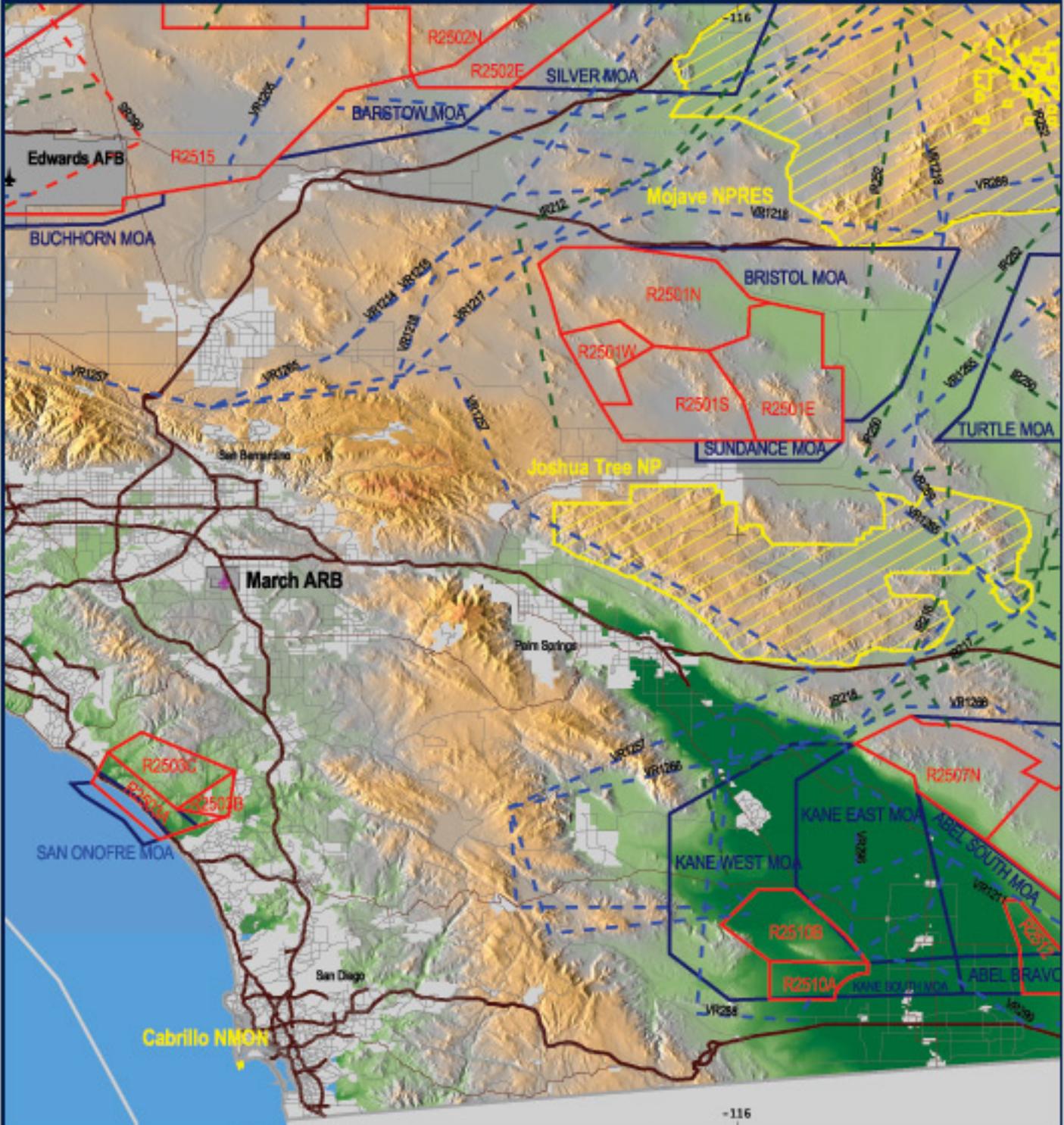


6 0 6 12 18 24 Miles

March Air Reserve Base

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



National Park	Military Training Routes
Air Force Base	IR
AF Guard/Reserve Base	SR
	VR
	Special Use Airspace
	Warning
	Alert
	MOA
	Prohibited
	Restricted



MARCH AIR RESERVE BASE

California

CONTACTS

Public Affairs

452nd AMW/PA
2145 Graeber Street, Suite 211
March ARB, CA 92518-1671
(C) 909-655-4137
DSN: 447-4137

Environmental Management

452nd STPG/CEV
610 Meyer Drive
March ARB, CA 92518-2166
(C) 909-655-3653
DSN: 447-3653

Airspace Management

452nd OSS/OSAA
2645 Graeber Street, Suite 6
March ARB, CA 92518-1650
(C) 909-655-4404
DSN: 447-4404

Wing Commander

452nd AMW/CC
2145 Graeber Street, Suite 117
March ARB, CA 92518-1667
(C) 909-655-4520
DSN: 447-4520

About the Installation: In response to German efforts to build a fleet of flying machines before WWI, the War Department approved construction of an airport at Alessandro Field located near Riverside, CA. On March 20, 1918, Alessandro Flying Training Field became March Field, named in honor of Second Lieutenant Peyton C. March, Jr., son of the Army Chief of Staff, who had been killed in a flying accident in Texas the previous month. On April 1, 1996, March officially became March Air Reserve Base (ARB) and today is home to the 452nd Air Mobility Wing (AMW) whose responsibilities include airlift and refueling duties.

Aircraft:

- Cargo: C-141
- Fighters: F-16
- Tankers: KC-135

Threatened and Endangered Species:

- *Mammals:* Stephens Kangaroo Rat

National Parks Under/Near the Airspace:

- Joshua Tree NP
- Mojave N Pres.

USAF SUA & MTR AIRSPACE DETAILS

Airspace Scheduled By & Effective Times:

452nd OSS/OSAA
2645 Graeber Street, Suite 6
March ARB, CA 92518-1650
(C) 909-655-4404 / DSN: 447-4404
VR288, VR289, VR296,
VR299 & VR1211 Continuous

R-2508 Complex
Central Coordinating Facility
100 Sparks Drive, Building 2580
Edwards, CA 93524
(C) 661-277-2508 / DSN: 527-2508
R2502E, R2502N & R2508 Continuous
BARSTOW MOA
& BUCKHORN MOA 1300Z-0500Z++Mon-Fri,
OT By NOTAM

Commander AFFTC
412th OSS/OSR
300 East Yeager Blvd
Edwards AFB, CA 93524
(C) 661-277-4110 / DSN: 527-4110
VR1205 & VR1214 Continuous
VR1215, VR1217 & VR1218 Sunrise-Sunset daily

412th OSS/OSAA
235 S. Flightline Road
Edwards AFB, CA 93524-6460
(C) 661-277-2446 / DSN: 527-2446
R2515 Continuous

146th AW/DOXT
Channel Islands ANG5
106 Mulcahey Dr.
Port Hueneme, CA 93041-4003
(C) 805-986-7590 / DSN: 893-7590
SR390 Continuous

57th OSS/OSOS
4450 Tyndall Ave.
Nellis AFB, NV 89191
(C) 702-652-7891 / DSN: 682-7891
SILVER MOA Continuous

SUA & MTR AIRSPACE DETAILS

[Not Scheduled by the USAF but in proximity]

Airspace Scheduled By & Effective Times:

Range Scheduling Chief
HQ Battalion A Company
29 Palms, CA 92278
(C) 760-830-6313 / DSN: 230-6313
R2501 N, E, S, & W Continuous
BRISTOL MOA Continuous
SUNDANCE MOA Continuous

HQ NTC & Ft Irwin
Attn: AFZJ-PTA
Building 6212 West Brook
PO Box 105084
Ft. Irwin, CA 92310-5084
(C) 760-380-4167/DSN: 470-4167
R2502 E Continuous

Assistant Chief of Staff
Operations and Training (ROD)
P.O. Box 555021
MCB Camp Pendleton, CA 92055-5021
(C) 760-725-8183 / DSN: 365-8183
R2503 A & B Cont. 1400-1800Z++, OT
by NOTAM
SAN ONOFRE H & L MOA By NOTAM

Yuma MCAS
P.O. Box 99160
Yuma, AZ 85369-9160
(C) 928-269-2326 / DSN: 269-2326
R2507N Continuous
R2512 1400-0700Z++,
OT by NOTAM
KANE W & E MOA Continuous
ABEL S & B MOA Continuous
TURTLE MOA Continuous
VR1266 0700-1800 local

United States Navy
Fleet Area Control and Surveillance Facility (FACSFAC)
North Island NAS
San Diego, CA 92135
(C) 619-545-1758 / DSN: 735-1758
R2510 A & B Cont 1500-0700Z++, OT
by NOTAM

Commander Strike Fighter Wing
U.S. Pacific Fleet
001 (K) Street, Room 121
NAS Lemoore, CA 93246-5022
(C) 559-998-1034 / DSN: 949-1034
VR1257 Daylight hrs., OT by
NOTAM

Commanding General
3rd Marine Aircraft Wing (G-3)
MCAS Miramar
San Diego, CA 92145
(C) 858-577-7237 / DSN: 267-7237
IR212 Continuous
IR216 Even # days, daylight hrs.
only
IR217& IR218 Continuous
IR250 & IR252 Daylight hrs. on even #
days
VR1265 Continuous

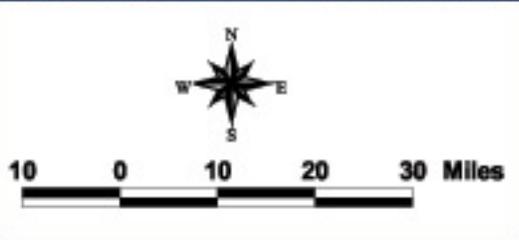
Moffett Federal Field

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



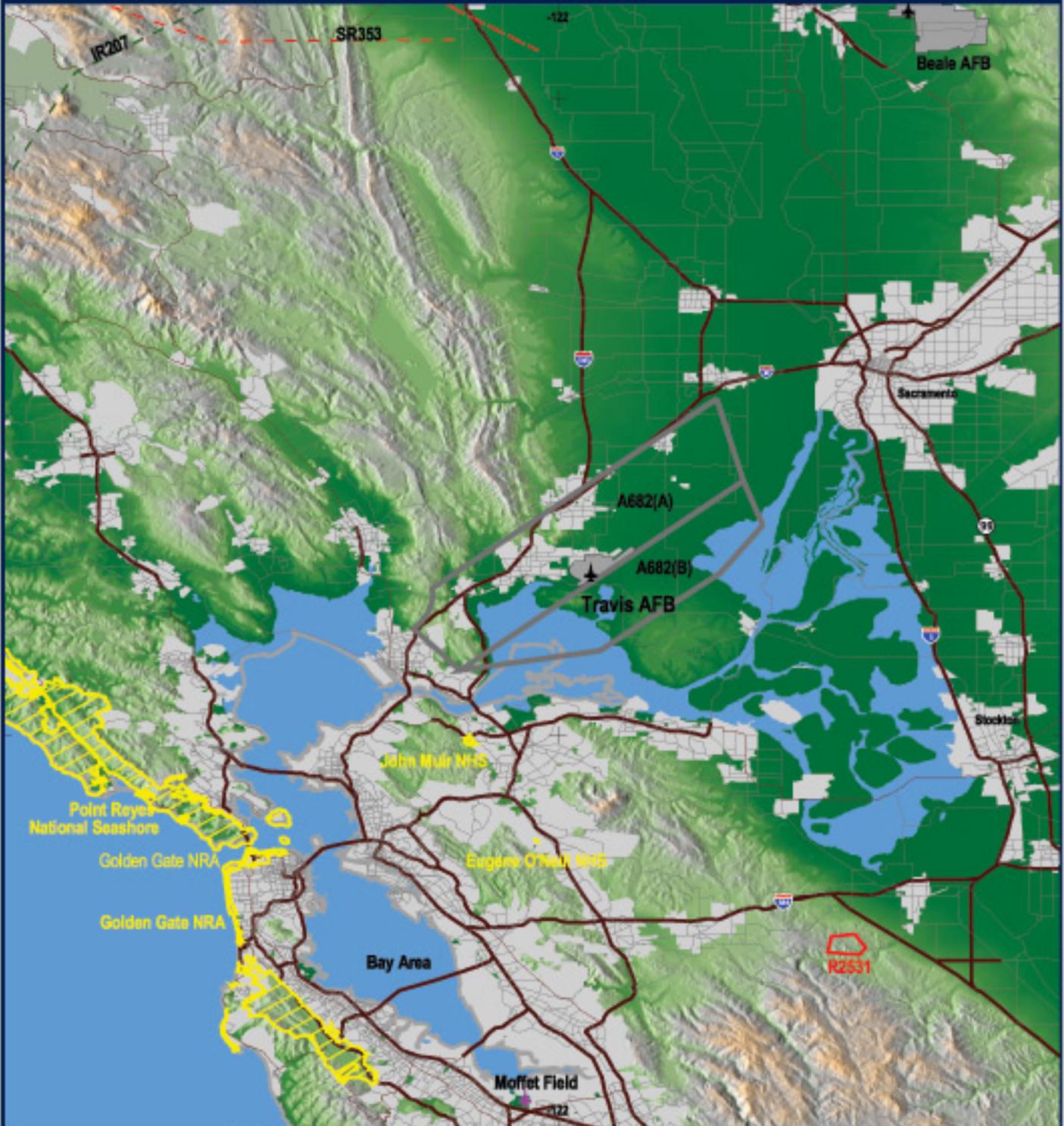
	National Park		Military Training Routes
	Air Force Base		IR
	AF Guard/Reserve Base		SR
			VR
			Special Use Airspace
			Warning
			Alert
			MOA
			Prohibited
			Restricted



Travis Air Force Base

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



	National Park		Military Training Routes
	Air Force Base		IR
	AF Guard/Reserve Base		SR
			VR
			Special Use Airspace
			Warning
			Alert
			MOA
			Prohibited
			Restricted



5 0 5 10 15 20 25 Miles

TRAVIS AIR FORCE BASE

California

CONTACTS

Public Affairs

60th AMW/PA
400 Brennan Circle
Travis AFB, CA 94535
(C) 707-424-2011
DSN: 837-2011

Airspace Management

60th OSS/OSO
401 Burgan Blvd
Travis AFB, CA 94535
(C) 707-424-3059
DSN: 837-3059

Environmental Management

60th CES/CEV
580 Hickam Avenue
Travis AFB, CA 94535
(C) 707-424-3897
DSN: 837-3897

Wing Commander

60th AMW/CC
400 Brennan Circle
Travis AFB, CA 94535-5020
(C) 707-424-2452
DSN: 837-2452

About the Installation: In April 1942, the Army Corps of Engineers authorized expenditure of \$1 million to build a bomber base in the San Francisco Bay Area, which was officially named Fairfield-Suisun Army Air Base on Feb. 8, 1943. It received the name it carries today on Oct. 20, 1950, in honor of its commanding officer, Brig. Gen. Robert Falligant Travis, who died in a B-29 crash during takeoff on Aug. 5 of that year. Today, Travis is home to the 60th Air Mobility Wing (AMW), which is one of the largest airlift organizations in the Air Force. As part of the Air Mobility Command (AMC), the 60th AMW is responsible for strategic airlift missions circling the globe. The wing maintains a work force of approximately 7,000 military and 1,000 civilians to support its global mission. In addition, there are nearly 5,000 reservists assigned to the associate 349th AMW, which combined with active duty and civilian counterparts forms a Travis team capable of deploying anywhere at anytime.

Aircraft:

- Cargo/Transport: C-5, E-6
- Tankers: KC-10

Threatened and Endangered Species:

- *Plants:* Contra Costa Goldfields
- *Crustaceans:* Vernal Pool Fairy Shrimp

National Parks Under/Near the Airspace:

- Eugene O Neil NHS
- John Muir NHS

USAF SUA & MTR AIRSPACE DETAILS

Airspace Scheduled By & Effective Times:

60th OSS/OSO
401 Burgan Blvd.
Travis AFB, CA 94535-5020
(C) 707-424-3059 / DSN: 837-3059

A682 (A) Mon-Fri 1600-0500Z++
A682 (B) Mon-Fri 1600-0500Z++

129th RQS/DOF
P.O. Box 103
Moffett Federal Airfield, CA 94035-0103
(C) 650-603-9356 / DSN: 359-9356

SR353 Continuous

SUA & MTR AIRSPACE DETAILS

[Not scheduled by the USAF but in the proximity]

Airspace Scheduled By & Effective Times:

Commander Strike Fighter Wing
U.S. Pacific Fleet
001 (K) Street, Room 121
NAS Lemoore, CA 93246-5022
(C) 559-998-1034 / DSN: 949-1034

IR207 Daylight hrs., OT by
NOTAM

Department of Energy
Oakland Operations Office
(C) 510-637-1762

R2531 Mon-Fri 1800-0450Z++
Sat-Sun by NOTAM

Vandenberg Air Force Base

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



<ul style="list-style-type: none"> National Park Air Force Base AF Guard/Reserve Base 	<p>Military Training Routes</p> <ul style="list-style-type: none"> IR SR VR <p>Special Use Airspace</p> <ul style="list-style-type: none"> Warning Alert MOA Prohibited Restricted 		<p>10 0 10 20 30 40 Miles</p>
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2002

Cabrillo National Monument

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p> <p>CABR</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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2002

CABRILLO NATIONAL MONUMENT

California

CONTACTS

Cabrillo NM

1800 Cabrillo Memorial Drive
San Diego, CA 92106-3601
(619) 557-5450

Superintendent

(619) 557-5450
(619) 557-5469 fax
E-mail:
cabr_superintendent@nps.gov

Chief Ranger (primary contact
for airspace issues)

(619) 557-5450

Park Acronym: CABR

Park Website:

<http://www.nps.gov/cabr>

Background and National Significance.

On September 28, 1542, Juan Rodriguez Cabrillo landed at San Diego Bay, the first time a European set foot on what later became the western coast of the United States. Cabrillo's expedition to discover the coast of New Spain was the last expedition of Spain's first great era of exploration. Cabrillo had already personally distinguished himself during the conquest of the Aztec capital of Tenochtitlan and the conquest and settlement of Guatemala. During his exploration of the California coast he was mortally wounded during an encounter with Native Americans on one of the Channel Islands. His accomplishments were memorialized in 1913 with the establishment of Cabrillo National Monument, which encompasses 160 acres on the tip of Point Loma, at the entrance to San Diego Bay.

Park Features and Values. Point Loma forms a natural protective barrier at the entrance to San Diego Bay. A sandstone rampart jutting into the sea, the peninsula provides strategic and scenic views of the harbor and ocean. A statue of Cabrillo and a museum in the visitor center commemorate Cabrillo's exploration of the coast of California.

In 1851, the U.S. Coastal Survey selected this headland as the site for a navigational aid. The Old Point Loma Lighthouse, built in 1854, welcomed sailors to San Diego harbor for 36 years. This San Diego icon has been restored to its most active period—the 1880s—and serves as a reminder of a time of sailing ships and oil lamps, and of the men and women who tended these isolated coastal lights.

In 1852, the U.S. government recognized the strategic importance of Point Loma and designated the area as a military reserve. In 1899 the War Department dedicated Fort Rosecrans and, over the years, built a series of gun batteries and support structures. During World Wars I and II, military facilities on the point provided vital coastal and harbor defense systems. The largest guns were at Battery Ashburn, northwest of the park entrance, where two 16-inch guns could fire 2,300-pound shells nearly 30 miles out to sea. An exhibit in a former army radio station tells the story of the coast artillery on Point Loma.

The park protects one of the few remaining protected stands of native coastal sage scrub habitat. This biologically diverse blend of aromatic sages, low-growing shrubs, succulents, flowers, and grasses is home to an abundance of mammals, birds, and reptiles. This ecotype is among the most threatened in the world, and more than 70 percent of this ecotype in southern California is gone.

One of the last rocky intertidal areas open to the public in southern California is preserved on the west side of the park. Here a number of marine plants and animals have adapted to harsh conditions of pounding surf, intermittent exposure to sun and drying wind, and sharp changes in temperature and salinity.

In the winter, migrating gray whales can be seen off the coast from the whale overlook.

Visitor Use and Enjoyment. Approximately 1.2 million people visit the park each year. The visitor center provides information, exhibits, films, and panoramic views of the harbor. It is an easy walk from the visitor center to the Cabrillo statue, Old Point Loma Lighthouse, and the whale overlook. Visitors seek out the quieter west side of the park to escape the pressures of city life.

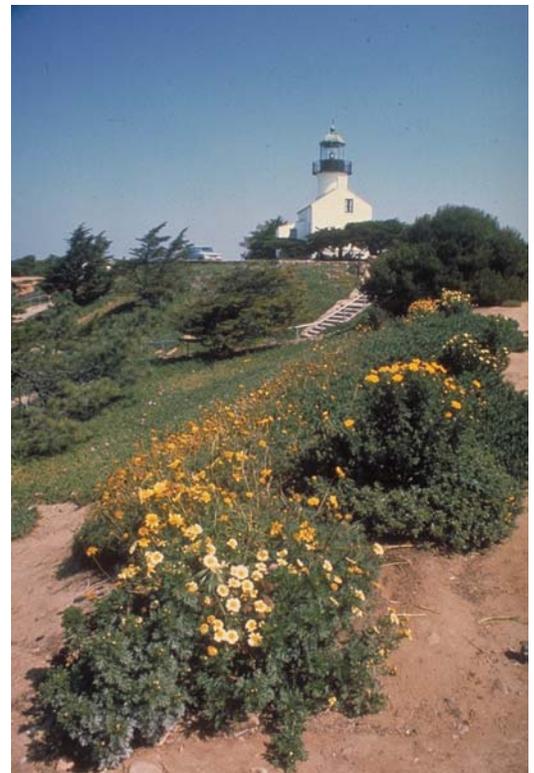
Noise-Sensitive Areas/Resources. The park is at the edge of San Diego, the seventh largest city in the nation, and just west of the U.S. Naval Air Station, North Island, so some mechanical noise is unavoidable. The west side of the park is somewhat shielded from the noise and intrusions associated with the city and the air station, and people are drawn to this location for that reason.

Sensitive wildlife habitat: Gray whales may be vulnerable to noise during periods of migration.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. The Old Point Loma Lighthouse is potentially susceptible to such sonic damage from low-flying and/or loud aircraft.

Airspace Over/Near the Park. The monument is bordered on the north by Naval Base Point Loma and Naval Space and Naval Warfare Systems Center, San Diego, a major Navy research center. Navy aircraft rarely fly over Point Loma when they takeoff or land. Navy helicopters fly over the channel of San Diego Bay.

Air Force Installations with Airspace Near the Park. None.



Channel Islands National Park

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas ● Major Peak 	<p>Military Training Routes</p> <ul style="list-style-type: none"> IR VR SR <p>Special Use Airspace</p> <ul style="list-style-type: none"> Warning Alert MOA Prohibited Restricted 	<p>Map Location</p> <p>CHIS</p>	 <p>1 : 950,000 1 inch = 5.0 miles</p>
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CHANNEL ISLANDS NATIONAL PARK

California

CONTACTS

Channel Islands NP

1901 Spinnaker Drive
Ventura, CA 93001-4354
(805) 658-5730

Superintendent

(805) 658-5700
(805) 658-5799 fax
E-mail:
chis_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(805) 658-5700

Wilderness Coordinator

(805) 658-5700

Park Acronym: CHIS

Park Website:

<http://www.nps.gov/chis>

Background and National Significance. Channel Islands National Park encompasses five of the eight islands in the southern California Bight. The islands of Anacapa and Santa Barbara were designated as a national monument in 1938. Recognizing the islands' great variety of nationally and internationally significant natural and cultural resources, Congress in 1980 designated Anacapa, San Miguel, Santa Barbara, Santa Cruz, and Santa Rosa Islands and the surrounding 1 nautical mile as Channel Islands National Park. The park boundary includes numerous islets that are important habitat for wildlife. Channel Islands was designated a biosphere reserve in 1976, making it part of the international Man and the Biosphere program to conserve genetic diversity and environmental baselines for research and monitoring throughout the world.

Of the 249,354 acres within the park, 178,835 are nonfederal. Anacapa, Santa Barbara, Santa Rosa, and the eastern 25 percent of Santa Cruz Islands are administered by the National Park Service. The remainder of Santa Cruz is owned and managed by The Nature Conservancy. San Miguel is owned by the U.S. Navy and the National Park Service.

Park Features and Values. More than 2,000 species of plants and animals inhabit the park, including 145 taxa that are found nowhere else in the world. The marine life ranges from microscopic plankton to the endangered blue whale, the largest animal to live on Earth. Nesting seabirds, seal and sea lion rookeries, and unique plants abound; however, only four mammals are endemic to the islands.

Archeological and cultural resources span a period of more than 10,000 years.

Visitor Use and Enjoyment. The park is visited by approximately 600,000 people annually. Even though the

islands seem tantalizingly close to the densely populated southern California coast, their isolation has left them relatively undeveloped, making them an exciting place for visitors to explore.

People are encouraged to start their visit at the visitor center in Ventura. The park boat concessioners offer regular trips throughout the year to Anacapa, Santa Barbara, Santa Rosa, Santa Cruz, and San Miguel Islands. Channel Islands Aviation offers public fixed-wing transportation to Santa Rosa Island.

Noise-Sensitive Areas/Resources.

Sensitive wildlife habitat: Wildlife may be particularly vulnerable to noise during periods of migration, mating, or birthing. The park islands and islets provide extensive habitat for seals and sea lions throughout the year. Many of these pinnipeds are dependent on the park islands for breeding and pupping. The vast majority of seabirds in southern California breed on the park islands. The largest breeding colony of California brown pelicans occurs on Anacapa Island.

Airspace Over/Near the Park. To protect nesting seabirds and to avoid disturbing wildlife, the Channel Islands National Marine Sanctuary has a specific regulation and law prohibiting aircraft from flying at altitudes less than 1,000 AGL within the one-nautical-mile boundary of park islands. This regulation is not an advisory and is rare within the National Park System.

Air Force Installations with Airspace Near the Park. None.



DEATH VALLEY NATIONAL PARK

California

CONTACTS

Death Valley NP

PO Box 579
Death Valley, CA 92328-0579
(760) 786-2331

Superintendent

(760) 786-3243
(760) 786-3246 fax
E-mail:
deva_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(760) 786-3245

Park Pilot/Wilderness Coordinator

(760) 786-3248

Park Acronym: DEVA

Park Website:

<http://www.nps.gov/deva>



Background and National Significance. Death Valley is a unique natural landscape with unrivaled scenic, geological, and natural resources. A portion of the region was first protected as a national monument in 1933. The monument was enlarged and changed to Death Valley National Park by the 1994 California Desert Protection Act. Approximately 1.3 million acres of public lands were added, bringing the total acreage of the new park to 3,396,192 acres. Death Valley National Park is now the largest national park unit outside of Alaska. It is managed to protect significant scenic and geologic features, to perpetuate diverse ecosystems of the California Desert in their natural state, and to preserve the historical and cultural resources associated with ancient Indian cultures, patterns of western exploration and settlement, and sites exemplifying the history of the Old West.

Park Features and Values. The park contains the lowest point in North America at 282 feet below sea level. The valley floor receives the least precipitation of any place in the United States (average 1.5 inches per year) and is the site of the nation's highest recorded temperature (134 degrees Fahrenheit). Death Valley is world renowned for its exposed complex and diverse geology and tectonics and for its unusual geologic features, providing a natural geologic museum representing a substantial portion of the Earth's history. The extremely colorful, complex, and highly visible geology, along with steep, rugged mountains and canyons, provides some of the most dramatic visual landscapes of any location in the United States. The park contains one of the nation's most diverse fossil records and most continuous volcanic histories. The valley contains five major sand dune systems representing all types of dune structures, making it one of the few places on Earth where this variety of dune types occurs in such close proximity. It also contains the highest dunes in California, Eureka Sand Dunes.

The landscape supports a large variety of plant and animal species typical of the Mojave Desert. The little rain that falls is the life force of the wildflowers that transform the desert into a vast garden. A variety of little animals, mostly nocturnal, belie the seeming lifelessness of the desert. Larger animals, such as the desert bighorn, live in the cooler, higher elevations with increased moisture.

Nearly 95 percent of the park is designated wilderness, set aside to ensure the maximum protection of wilderness values, including opportunities for solitude in a remote natural setting and opportunities for scientific research in undisturbed ecosystems.

The park contains an unusually high number of well-preserved archeological sites, including rock art and alignments associated with ancestors of contemporary Native American communities. Scotty's Castle, a Provincial Spanish style mansion with a priceless collection of antiques and art objects, built in the early 1900s in a remote, isolated part of the desert, is an icon with immense public appeal.

Visitor Use and Enjoyment. Death Valley National Park is visited by approximately 1.2 million people annually. The distances between the park's major features make the use of an automobile essential. Entrance roads from the west, southwest, northwest, northeast, and east lead to a number of scenic vistas and cultural sites. Once visitors are within the park boundary, they have access to over 600 miles of road requiring four-wheel drive vehicles.

Although the names of many park features sound foreboding (Badwater, Dantes View, Furnace Creek), visitors can find spectacular wildflower displays in the spring, snow-covered peaks, and beautiful sand dunes, as well as the hottest spot in North America dotted with abandoned mines and industrial structures. On clear winter days Mount Whitney at 14,495 feet and Mount Williamson at 14,375 feet can be seen from Dantes View. At night innumerable stars make the vast emptiness vastly enjoyable.

Camping and hiking trails are available in the developed areas and throughout the backcountry.

Noise-Sensitive Areas / Resources.

Wilderness: More than three million acres of this park is congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Sensitive wildlife habitat: The park is home to a number of threatened, endangered, and sensitive animal species, which, because of their tenuous populations, may be particularly vulnerable to stress associated with unnatural noise.

Cultural landscapes: Certain areas of this park are zoned and managed to preserve and immerse visitors into a landscape evocative of the Old West. The park historic setting is a powerful tool for helping people appreciate and understand this period of America's history. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. Scotty's Castle is potentially susceptible to such sonic damage from low-flying and/or loud aircraft.

Airspace Over/Near the Park. The western half of the park lies under the R-2508 Complex, special use airspace that is critical to providing training, research and development for the U.S. Armed Forces and its allies, covered under the California Military Lands Withdrawal and Overflights Act of 1994. Aircraft are permitted to fly at speeds exceeding 250 knots and at altitudes of 200 AGL or higher in the Saline, Panamint, and Shoshone MOA. In 1976, Death Valley NM signed an agreement with the Joint Policy Board, consisting of the commanders of Edwards Air Force Base, China Lake and Fort Irwin, which manages the R-2508 Complex, stating that pilots would be instructed to fly at least 3,000 AGL while within the park boundary.

The park utilizes rotary and fixed-wing aircraft as part of normal operations, including search and rescue, fire control, wildlife monitoring, and the burro removal program, as well as supplying materiel to remote locations. Operations are primarily conducted under 1,500 feet above ground level. Temporary flight restrictions are rare and only requested for large operations.

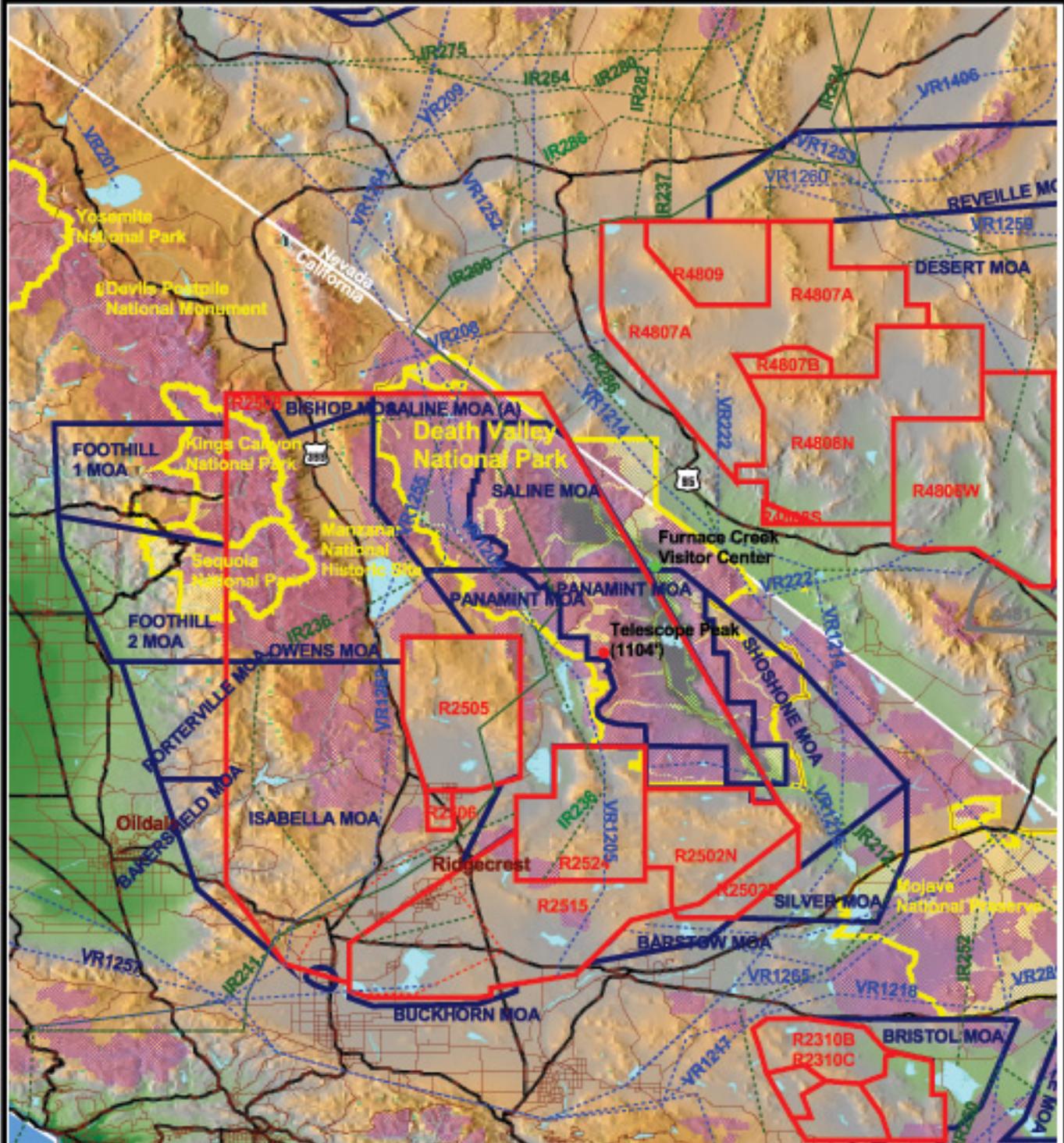
Air Force Installations with Airspace Near the Park. Please refer to the Edwards AFB and Nellis AFB narratives and maps for additional information about Air Force/military use of the airspace.

Death Valley National Park

National Park Service
U.S. Department of the Interior



National Park Units



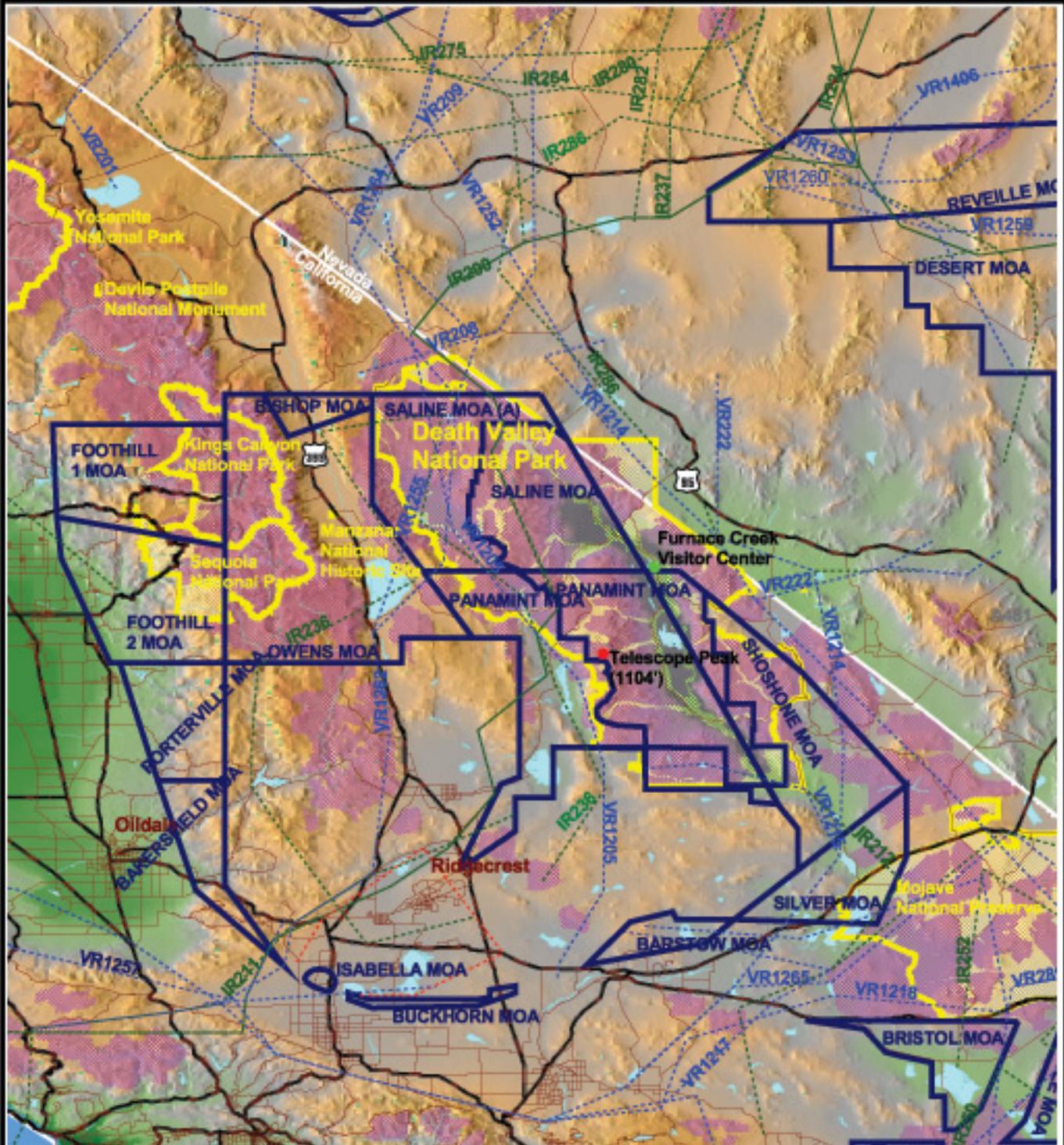
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Death Valley National Park

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<p>Military Training Routes</p> <ul style="list-style-type: none"> IR VR SR <p>Special Use Airspace</p> <ul style="list-style-type: none"> Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	<p>North arrow</p> <p>1 : 2,500,000 1 inch = 10.0 miles</p>
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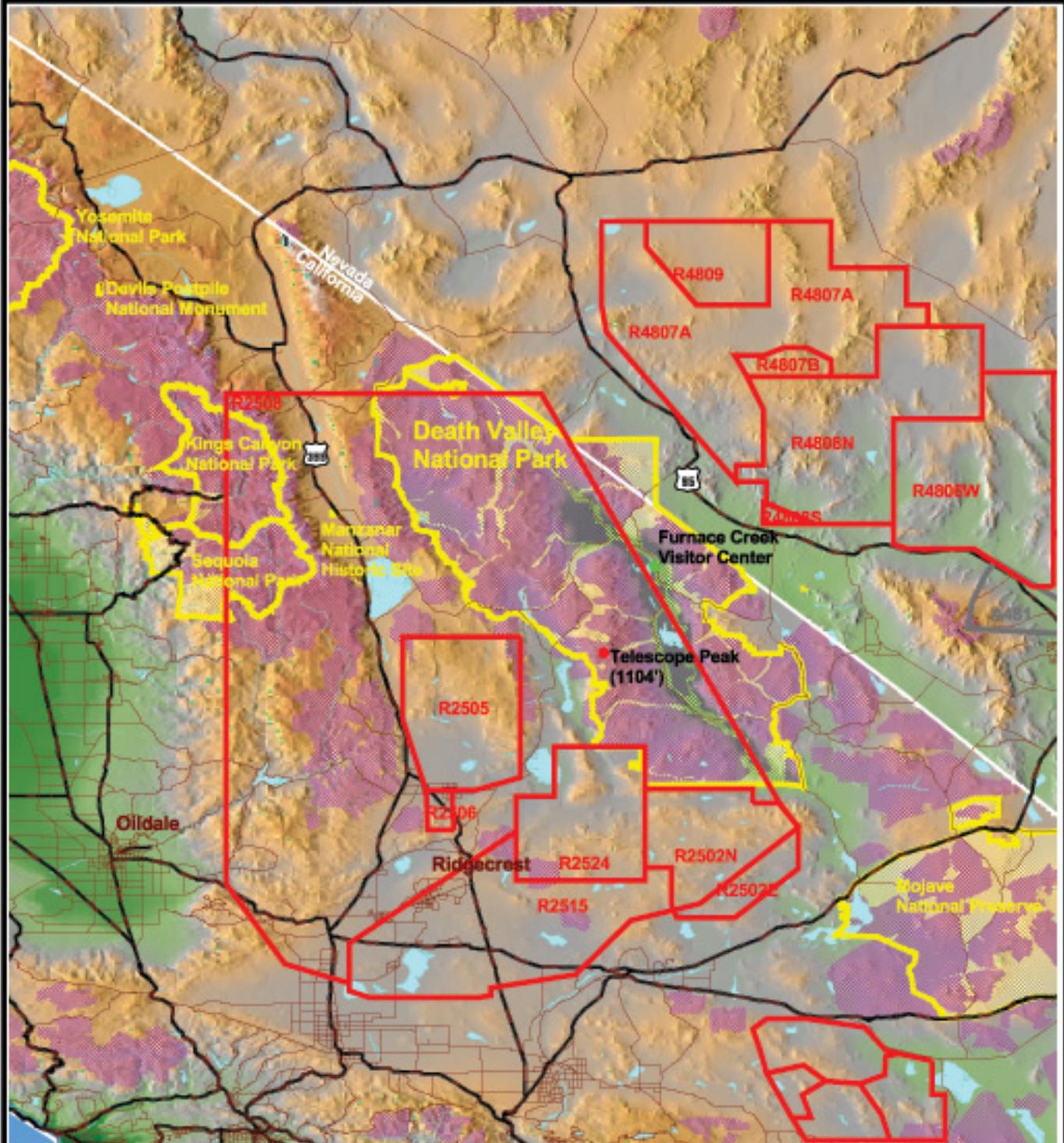
2002

Death Valley National Park

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 2,500,000 1 inch = 10.0 miles</p>
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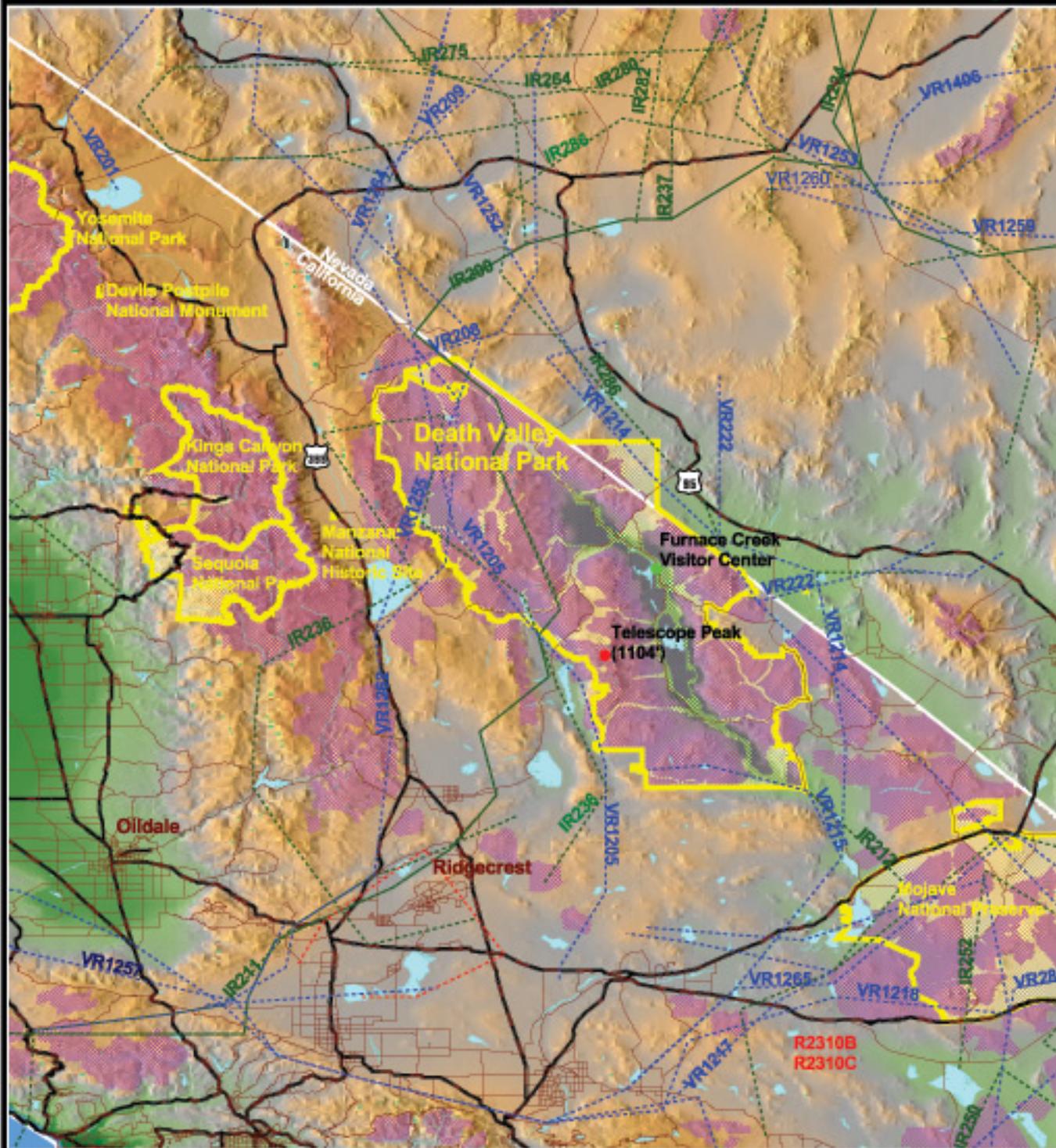
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Death Valley National Park

National Park Service
U.S. Department of the Interior



National Park Units



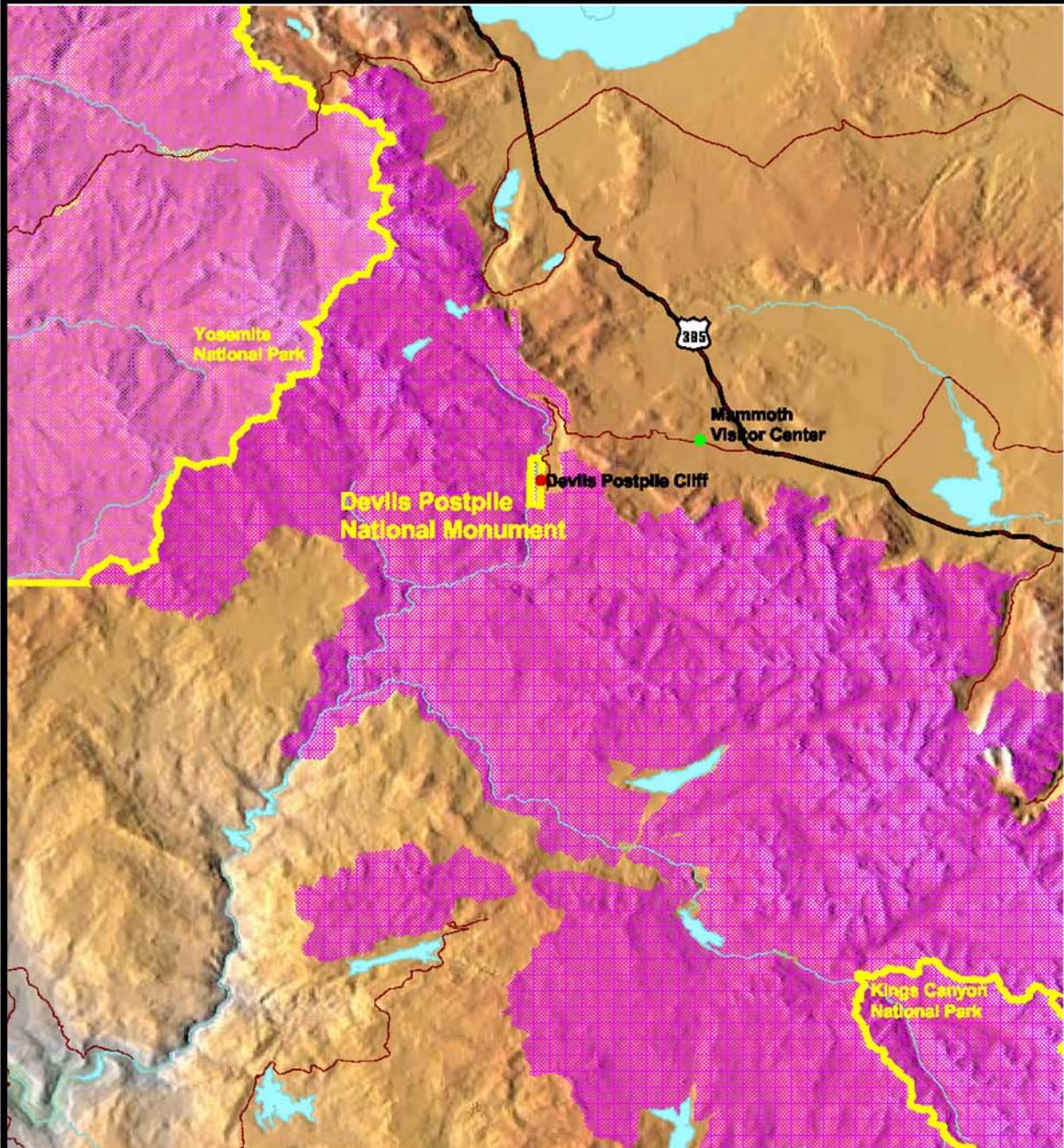
<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 2,500,000 1 inch = 10.0 miles</p>
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2002

Devils Postpile National Monument

National Park Units

National Park Service
U.S. Department of the Interior



Park Boundary	Wilderness	Military Training Routes IR VR SR	Map Location	 1 : 500,000 1 Inch = 5.0 miles
Highways Secondary Roads Developed Areas Major Peak	Special Use Airspace Warning Alert MOA Prohibited Restricted			

2002

DEVILS POSTPILE NATIONAL MONUMENT

California

CONTACTS

Devils Postpile NM

P.O. 3999
Mammoth Lakes CA 93546
(760) 934-8170

Superintendent

June-October (760) 934-8100
November-May (760) 937-2931
Fax: Call first
Email:
depo_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(559) 565-3110
(Sequoia-Kings Canyon)

Wilderness Coordinator

(559) 565-3137
(Sequoia-Kings Canyon)

Park Acronym: DEPO

Park Website:

<http://www.nps.gov/depo>

Background and National Significance. Devils Postpile National Monument was established in 1911 to preserve two natural features: the formation of columnar basalt known as the Devil's Postpile, and 101-foot-high Rainbow Falls. The park encompasses 800 acres.

Park Features and Values. Devils Postpile is the world's finest example of unusual columnar basalt. Its columns of lava, with their four to seven sides, display a honeycomb pattern of order and harmony. The process of its creation began almost 100,000 years ago, when molten basalt lava flowed from the earth 1 mile upstream from the modern-day park. The mass of lava, 400 feet deep, flowed like a river for 3 miles. As the lava slowly cooled from the outside toward the middle of the flow, ideal conditions caused the lava to crack into long post-like columns. During the last major ice age, which ended about 10,000 years ago, a glacier sculpted away the top layers of lava. It revealed the internal fractured lava mass and exposed a wall of columns 40 to 60 feet high.

Another jewel in the park is the lovely San Joaquin River. The river is lined with old-growth red-fir forest, mixed with new growth rejuvenated by fire. Meadows filled with flowers nourish deer, birds, and butterflies. On the lower reaches of the park's 2.5 miles of river course, rainbows frequently sparkle over their namesake Rainbow Falls.

Nearby mineral springs are evidence of recent local volcanic activity. The Soda Springs lie on a San Joaquin River gravel bar north of the Postpile. Gases driven upward from hot areas deep in the earth combine with groundwater to produce cold and highly carbonated mineralized springs. Iron in the water oxidizes on exposure to air and stains gravel a reddish brown.

The park is also a portal to the great Sierra backcountry. Some 94 percent of the park is part of the Ansel Adams Wilderness.

Visitor Use and Enjoyment. The park, near the resort community of Mammoth Lakes, is visited by approximately 160,000 people per year. Visitors enjoy nature and wildlife watching, natural sounds and quiet, camping, fishing, and hiking on the Rainbow Falls, King Creek, John Muir, and Pacific Crest Trails. Hikers can follow a trail from here all the way to Mexico or Canada. The portion of the San Joaquin through the park is a designated wild trout river, where both novice and expert can ply the waters for four species of trout.

Noise-Sensitive Areas /Resources.

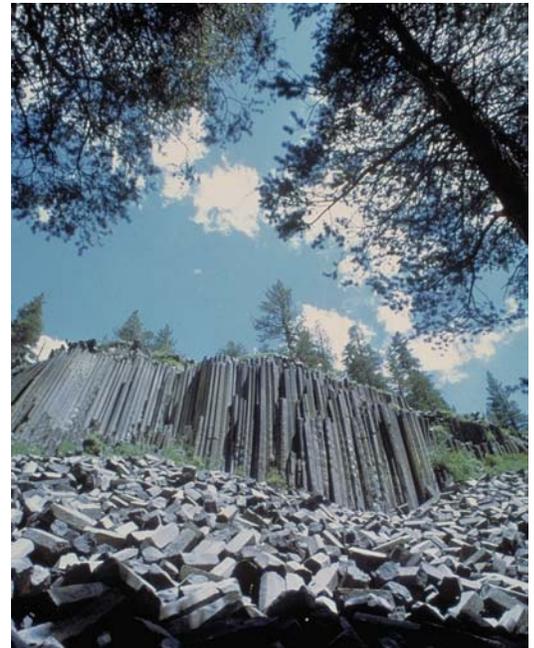
Fragile geologic features: Loud noises, such as sonic booms, potentially could impact the fractures in the Postpile, damaging this rare geological formation and leading to falling rocks.

Wilderness: Almost the entire park is congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude. Park managers restrict traffic with a mandatory shuttle bus system to provide for a quality visitor experience where natural soundscapes predominate.

Sensitive wildlife habitat: Wildlife may be particularly vulnerable to noise during periods of migration, mating, or birthing. Several raptors and sensitive species, such as goshawks, nest nearby and may be stressed by low-flying aircraft.

Airspace Over/Near the Park. There are no normal aerial operations except for potential emergency evacuations or search and rescue operations. Occasionally, in winter, there are interagency flights from the Mono County Sheriff's Office and the Inyo National Forest to patrol for snowmobile trespass. The park has provided written comments to the FAA identifying concerns about commercial aircraft traffic over the monument.

Air Force Installations with Airspace Near the Park. None.



Eugene O'Neill National Historic Site

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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2002

**EUGENE O NEILL
NATIONAL HISTORIC
SITE**

California

CONTACTS

Eugene O Neill NHS

P.O. Box 280
Danville, California 94526-0280
(925) 838-0249

Superintendent

(925) 943-1531
(925) 925-838-9471 fax
E-mail:
euon_superintendent@nps.gov

Park Acronym: EUON

Park Website:

<http://www.nps.gov/euon>

Background and National Significance. Eugene Gladstone O Neill, the only Nobel Prize winning playwright from the United States and the architect of modern American theater, lived at Tao House in the hills above Danville from 1937 to 1944. It was at this site that he wrote his final and most successful plays: *The Iceman Cometh*, *Long Day's Journey into Night*, and *A Moon for the Misbegotten*.

By the time he came to California in 1935, O Neill had written nearly 60 plays, and 35 of them had been produced. He was awarded the Nobel Prize for Literature in 1936. With the stipend, he was able to build the home that he came to call his final harbor. O Neill completed his last play in 1943. A worsening tremor in his hands slowly robbed him of the ability to write, and he found himself blocked when he was unable to set pencil to paper. Suffering from a rare degenerative disease, O Neill had to leave his sanctuary and move to Boston, where he died in 1953. The 13-acre Eugene O Neill National Historic Site was designated in 1976.

Park Features and Values. Since 1980, the National Park Service has been restoring Tao House, its courtyard, and orchards and telling the story of O Neill, his work, and his influence on American theater.

Visitor Use and Enjoyment. The park is visited by approximately 5,000 people annually.

Noise-Sensitive Areas/Resources. None.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

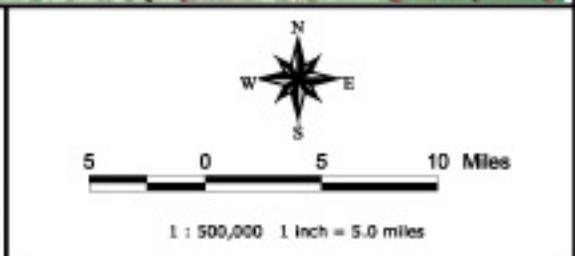
Air Force Installations with Airspace Near the Park. None.



Fort Point National Historical Site

National Park Units

National Park Service
U.S. Department of the Interior



FORT POINT NATIONAL HISTORIC SITE

California

CONTACTS

Fort Point NHS

P.O. Box 29333
Presidio of San Francisco,
California 94129-0333
(415) 556-1693

Superintendent

(415) 556-1693
(415) 561-4390 fax
E-mail:
fopo_superintendent@nps.gov

Chief Ranger (primary contact
for airspace issues)
(415) 556-1693

Park Acronym: FOPO

Park Website:

<http://www.nps.gov/fopo>

Background and National Significance. This classic brick-and-granite 19th century coastal fort is the only one of its style on the west coast of the United States. Fort Point was constructed by the U.S. Army Corps of Engineers between 1853 and 1861 to prevent entrance of a hostile fleet into San Francisco Bay. The fort never saw action. It survives as a monument to a bygone era and a place where visitors can learn about life at a coastal defense garrison in the 1860s. Designated in 1970, the site encompasses 29 acres, all federal land.

Park Features and Values. Fort Point is an excellent example of a third system coastal fortification, a system adopted after the War of 1812 to protect major U.S. harbors. The fort was designed to mount 126 massive cannons. Rushed to completion at the beginning of the Civil War, the massive brick walls of this key to the whole Pacific coast looked to be impenetrable. But even as its praises were being sung, new rifled artillery were making the fort obsolete. In 1886 the troops were withdrawn, and the last cannons were removed about 1900.

Between 1933 and 1937 the fort was used as a base of operations for the construction of the Golden Gate Bridge. During World War II, Fort Point was occupied by about 100 soldiers who manned searchlights and rapid-fire cannon mounted atop the fort as part of the protection for a submarine net strung across the entrance to the San Francisco Bay.

The fort features a lighthouse, the third one built at this site to guide mariners through waters that can be treacherous in fog. The present lighthouse was used from 1864

until 1934, when the foundation for the Golden Gate Bridge blocked its light.

Visitor Use and Enjoyment. Visitor activities include a brief introductory film, cannon-loading demonstrations, guided and self-guiding tours, and an audio tour. The park, which is a unit of the Golden Gate National Recreation Area, receives approximately 1.25 million visitors annually.

Noise-Sensitive Areas/Resources.

Cultural Landscape: Most of this park is zoned and managed to preserve and immerse visitors into a landscape evocative of the historic time frame of a Civil War era coastal fortification. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. The masonry fort and the lighthouse are potentially susceptible to such sonic damage from low-flying and/or loud aircraft.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

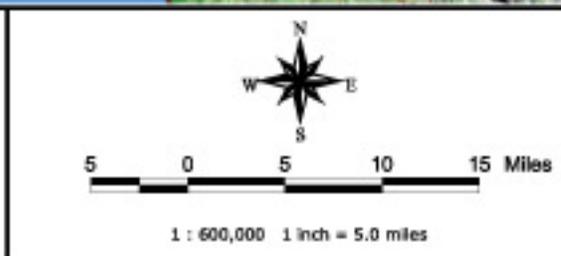
Air Force Installations with Airspace Near the Park. None.



Golden Gate National Recreation Area

National Park Units

National Park Service
U.S. Department of the Interior



2002

GOLDEN GATE NATIONAL RECREATION AREA

California

CONTACTS

Golden Gate NRA

Fort Mason, Building 201
San Francisco, CA 94123-1308

Superintendent

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E-mail:
goga_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(415) 561-4745

Natural Resources Contact

(415) 331-5160

Park Acronym: GOGA

Park Website:

<http://www.nps.gov/goga>

Background and National Significance. Golden Gate National Recreation Area (GGNRA) extends along approximately 59 miles of coastline (75,500 acres) within the San Francisco Bay Area, encompassing ocean, beaches, redwood forests, lagoons, marshes, military properties, a cultural center at Fort Mason, and Alcatraz Island. The GGNRA boundary overlaps with the Gulf of the Farallones National Marine Sanctuary and the Monterey Bay National Marine Sanctuary.

The mission of GGNRA, which was established as a national recreation area in 1972 and designated a biosphere reserve in 1978, is to preserve and enhance the natural environment and cultural resources of the coastal lands north and south of the Golden Gate for the inspiration, education, and recreation of people today, and for future generations. In the spirit of bringing national parks to the people, GGNRA reaches out to a diverse urban community, bringing the richness and breadth of the national park experience to all, including those who may never have the opportunity to visit other national parks. The park staff also works to protect the integrity of GGNRA's fragile resources in the challenging context of an urban setting. Park management is committed to forging partnerships with the community to strengthen the park's relevance to its metropolitan neighbors and to engage the public in stewardship of the park's history and ecology.

After the death of U.S. Representative Phillip Burton of San Francisco in 1983, the U.S. Congress dedicated Golden Gate National Recreation Area in his memory. In doing so, Congress recognized a distinguished leader in conservation and park issues while he was chair of the House Subcommittee on National Parks and Insular Affairs.

Park Features and Values. GGNRA begins where the Pacific Ocean meets San Francisco Bay. Here at the Golden Gate, the park surrounds the narrow entrance to the city's harbor, offering a spectacular blend of natural beauty, historic features, and urban development. To the north and south of the Golden Gate, GGNRA follows the Pacific shoreline, creating a vast coastal preserve.

Specific sites include Alcatraz, Marin Headlands, Fort Funston, Fort Mason, Muir Woods National Monument, Fort Point National Historic Site, and the Presidio of San Francisco. Each unit, none of which is more than an hour's drive from San Francisco, has its own unique natural, cultural, and military histories.

Redwood forests, beaches, grassy hillsides, marshes, and rocky shoreline provide a natural retreat from the city. The park is a home for abundant wildlife—hawks, deer, and seabirds are often seen, along with occasional bobcats and whales.

The park's forts, coastal defense batteries, and other historic buildings tell the stories of Bay Area maritime commerce, wartime defense, agriculture, recreation, and immigration.

Visitor Use and Enjoyment. Approximately 13.4 million people visited GGNRA in fiscal year 2001.

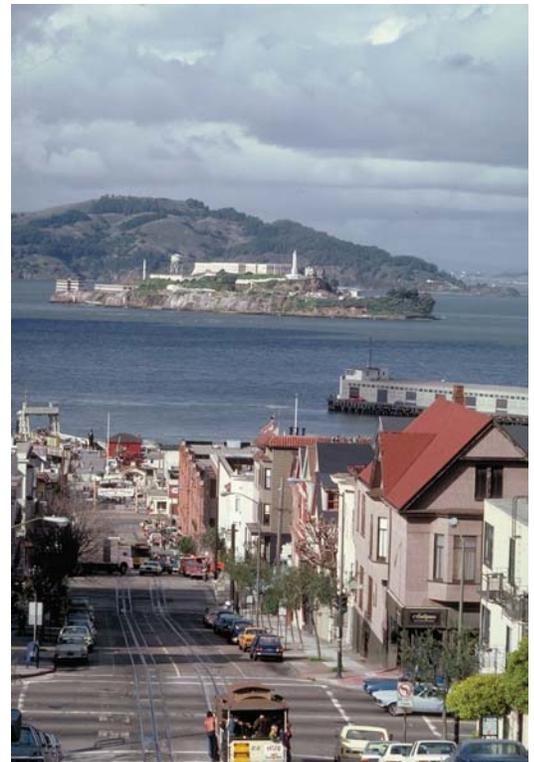
Noise-Sensitive Areas/Resources.

Outstanding educational and recreational features: Much of the park encompasses natural landscapes and soundscapes that create a haven for visitors in the midst of one of the largest cities in the United States. These include Muir Woods National Monument, where about 1.5 million visitors come from around the world every year to experience the primeval coast redwood forest, and the Marin Headlands, where hikers can spend the night in remote campgrounds.

Sensitive wildlife habitat: Large areas of the park are noise-sensitive wildlife habitat. The entire coastline provides habitat for marine mammals and nesting seabirds. In particular, Ocean Beach is a nesting area for the snowy plover, federally listed as threatened; Alcatraz has colonial nesting seabirds; and the park's natural forested areas are habitat for the spotted owl, also federally listed as threatened. Wildlife may be particularly vulnerable to noise during periods of migration, mating, or birthing. Threatened, endangered, and other species of special concern, because of their tenuous populations, may be vulnerable to stress at any time.

Airspace Over/Near the Park. Commercial airlines, private pilots, military aircraft, and Coast Guard aircraft use the airspace over/near the park.

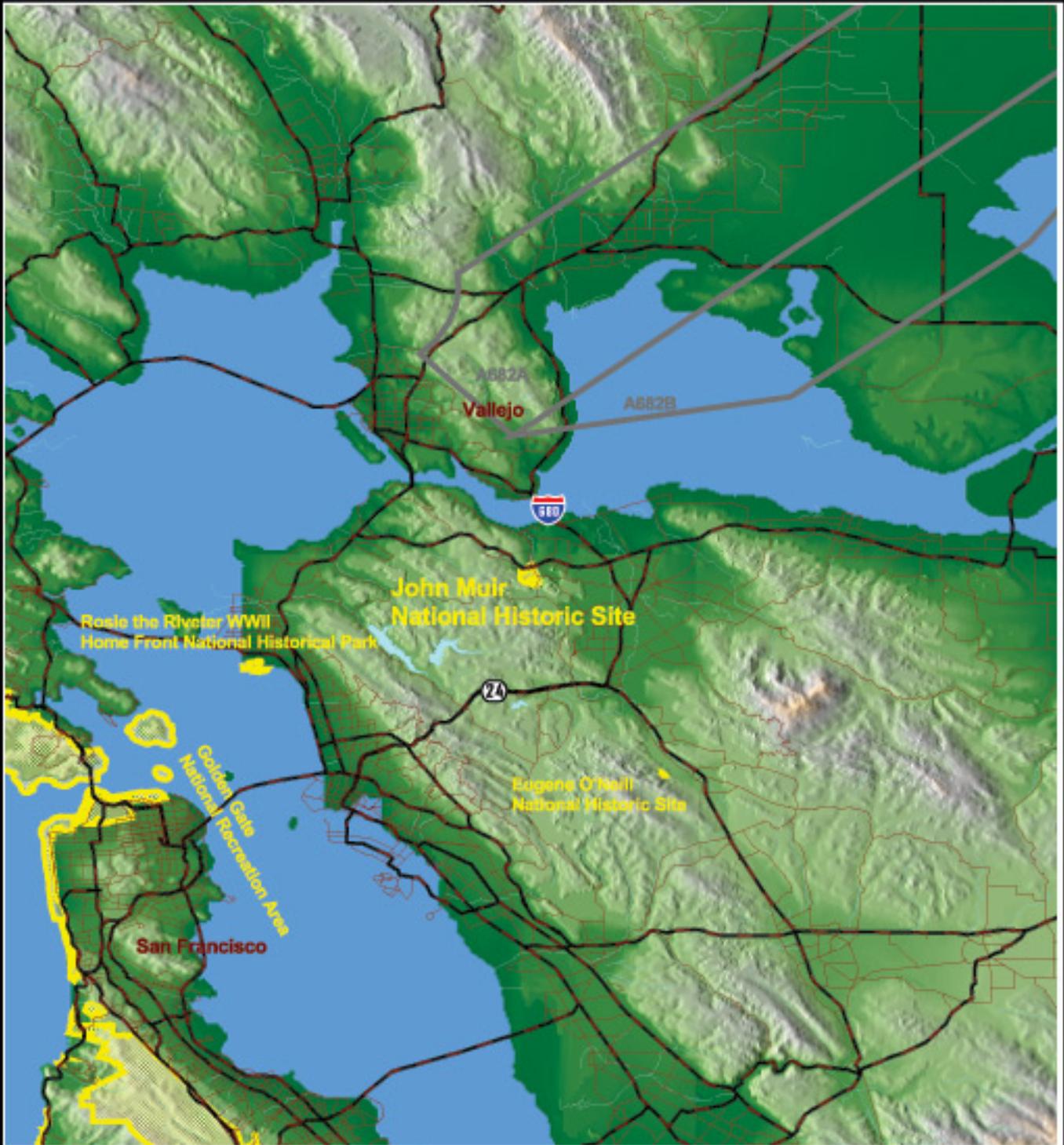
Air Force Installations with Airspace Near the Park. None.



John Muir National Historic Site

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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JOHN MUIR NATIONAL HISTORIC SITE

California

CONTACTS

John Muir NHS

4202 Alhambra Avenue
Martinez, CA 94553-3883
(925) 228-8860

Superintendent

(925) 228-8860
(925) 228-8192 fax
email:
jomu_superintendent@nps.gov

Park Acronym: JOMU

Park Website:

<http://www.nps.gov/jomu>

Background and National Significance. This site commemorates the contributions to American society of John Muir, who successfully established wilderness preservation as a national land policy. Muir's message was this:

Wilderness is a necessity. Mountain parks and reservations are useful not only as fountains of timber and irrigating rivers, but as fountains of life. Before Muir transformed land policy, preserves had been set aside to protect natural oddities or timber and water supplies. At Muir's urging, Yosemite was set aside in 1890 specifically to preserve its wilderness character, a precedent-setting action. Muir was one of the founders of the Sierra Club and served as its president from 1892 until he died in 1914. His work laid the foundations for the creation of the National Park Service in 1916.

The Muir house and gravesite and the adjacent Martinez adobe became part of the National Park System in 1964. In 1992, a 325-acre tract of oak woodland and grassland historically owned by the Muir family was added to the park, bringing it to 345 acres.



Park Features and Values. The park preserves the 14-room mansion where Muir lived from 1890 until his death, his gravesite, and the historic Martinez adobe. While living in Martinez, Muir accomplished many things. He battled to prevent Yosemite National Park's Hetch Hetchy Valley from being dammed, served as the first president and one of the founders of the Sierra Club, played a prominent role in the creation of several national parks, and wrote hundreds of newspaper and magazine articles and several books expounding the virtues of conservation and the natural world.

Visitor Use and Enjoyment. The park is visited by approximately 30,000 people annually. Activities include a film about Muir's life and philosophy and self-guiding tours of his home.

Noise Sensitive Areas/Resources.

The cultural landscape: This park is zoned and managed to commemorate a man who dedicated his life to conservation of the natural world. The sounds and sights of low-flying and/or loud aircraft can diminish the story to be told here.

Historic structures: The vibrations set in motion by loud noises can cause structural damage to buildings. The Muir home and Martinez adobe are potentially susceptible to such sonic damage from low-flying and/or loud aircraft.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

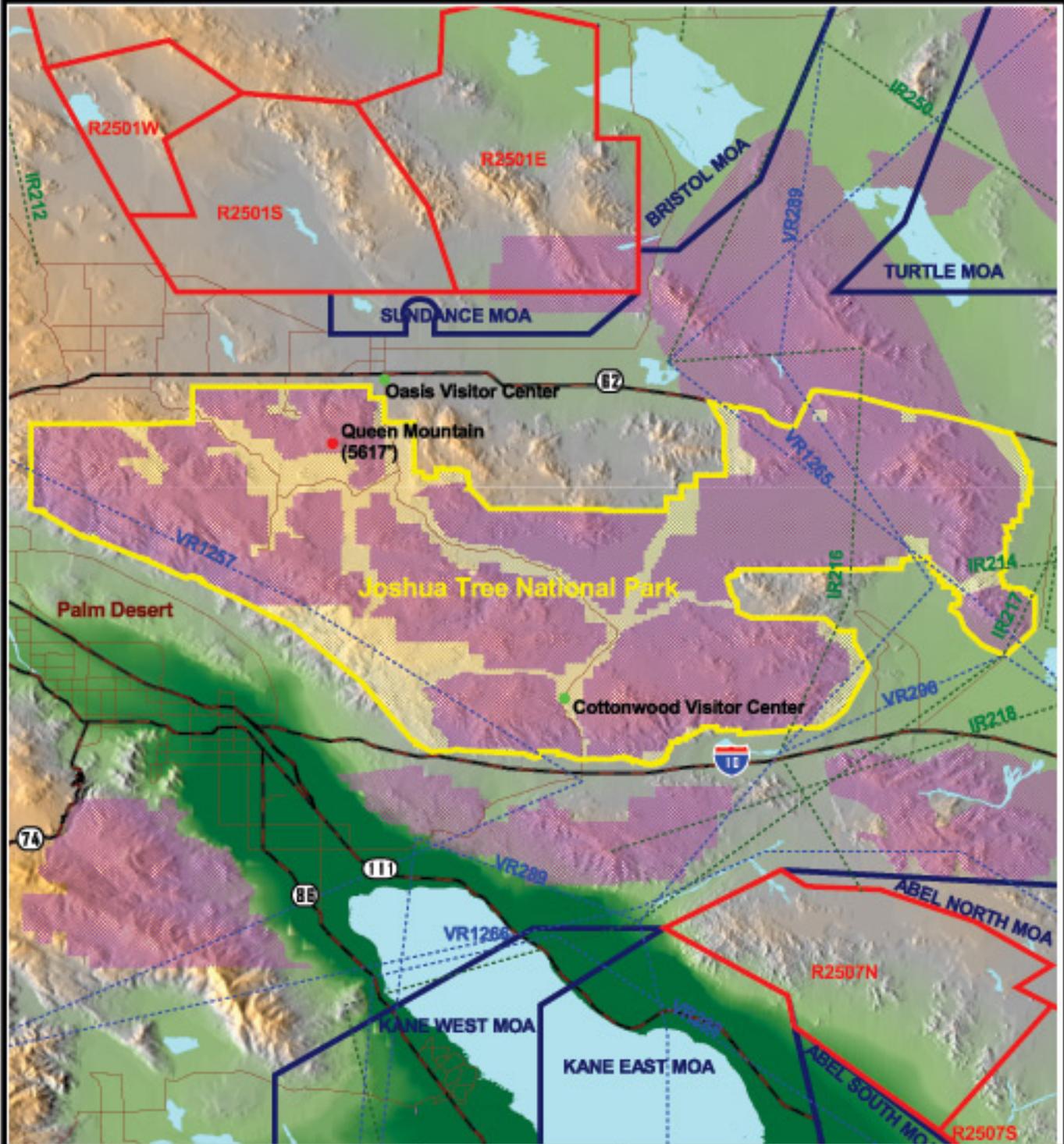
Air Force Installations with Airspace Near the Park. Please refer to the Travis AFB narrative and map for information about Air Force/military use of the airspace.

JoshuaTree National Park

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas ● Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	<div style="text-align: center;"> </div> <div style="text-align: center;"> </div> <p style="text-align: center;">1 : 750,000 1 inch = 5.0 miles</p>
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2002

JOSHUA TREE NATIONAL PARK

California

CONTACTS

Joshua Tree NP

74485 National Park Drive
Twenty Nine Palms, CA
92277-3597
(760) 367-5500

Superintendent

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E-mail:
jotr_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(760) 367-5540

Wilderness Coordinator

(760) 367-5543

Public Information Officer

(760) 367-5520

Park Acronym: JOTR

Park Website:

<http://www.nps.gov/jotr>

Background and National Significance. Two desert ecosystems, whose characteristics are determined primarily by elevation, come together at Joshua Tree National Park. Below 3,000 feet, the Colorado Desert encompasses the eastern part of the park and features natural gardens of creosote bush, ocotillo, and cholla cactus. The higher, moister, and slightly cooler Mojave Desert is the special habitat of the Joshua tree. In addition to Joshua tree forests, the western part of the park also includes some of the most interesting geologic formations found in California's deserts. Five fan palm oases dot the park, indicating those few areas where water occurs naturally and wildlife abounds.

Joshua Tree National Monument was established in 1936 to protect this desert landscape from the devastation caused by cactus gathering, which was becoming a common weekend activity of Californians. The original public law passed by Congress set aside 838,000 acres as Joshua Tree National Monument. In 1950 the monument was reduced to 558,000 acres. The 1994 Desert Protection Act redesignated the monument as a national park and increased its size to 793,000 acres. Joshua Tree was designated a biosphere reserve in 1984.

Park Features and Values. The Joshua tree, a giant member of the lily family, is an important part of the Mojave Desert ecosystem, providing habitat for numerous birds, mammals, insects, and lizards. Joshua tree forests tell a story of survival, resilience, and beauty through adaptation to one of North America's harshest climates. The tallest Joshua tree in the park looms 40 feet high and is estimated to be over 500 years old. These trees do not have growth rings as would be found in an oak or pine. This makes determining age difficult, but scientists believe that most mature trees are from 150 to 300 years old.

More than 585,000 acres of the park is congressionally designated wilderness.

Visitor Use and Enjoyment. The park is visited by approximately 1.25 million people annually. Many people come to the park seeking the clear skies, clean air, natural quiet, and stark beauty that only deserts offer.

The peak visitation period is March-May and October-December. Each season adds its signature qualities to the desert's character. The park has two visitor centers (Oasis and Cottonwood). Ranger-led activities—walks, hikes, and campfire talks—are conducted mainly in the spring and fall. Nine campgrounds offer opportunities to spend the night in the park.

Noise-Sensitive Areas/Resources.

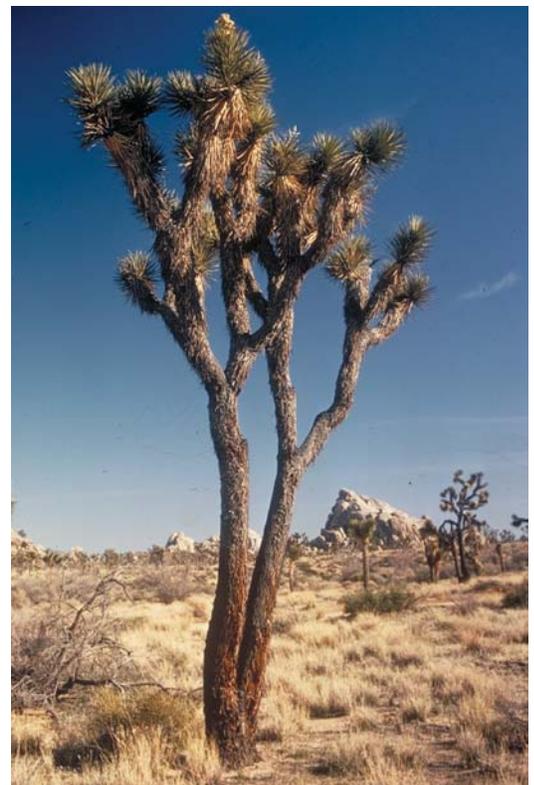
Wilderness: Approximately 70 percent of this park is congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Sensitive wildlife habitat: The desert tortoise, federally listed as endangered, and the state-protected desert bighorn sheep inhabit the area. The tenuous populations of these species may make them particularly vulnerable to stress caused by loud or low-flying aircraft.

Outstanding educational and recreational features: Most visitor use is concentrated in the northwestern and central parts of the park, which contain a major scenic roadway, seven of the park's nine campgrounds, and six of the eight picnic areas. In these areas the sounds and sights of overhead aircraft can distract people's attention from learning experiences, make it difficult to converse with each other or the park staff, or diminish the enjoyment of scenery and natural sounds.

Airspace Over/Near the Park. The park is frequently used by commercial aircraft on approaches to Palm Springs, Ontario, and Los Angeles Airports. Private planes commonly use airspace over the park as well. Helicopter overflights for park search-and-rescue operations and resources surveys are frequent occurrences. Fixed-wing and rotary military aircraft operating out of the Marine Corps Air Ground Combat Center north of Twentynine Palms, the Marine Corps Yuma Air Station, and Camp Pendleton often overfly Joshua Tree. Several VR and IR flight routes traverse the park. Each route is identified on aeronautical charts.

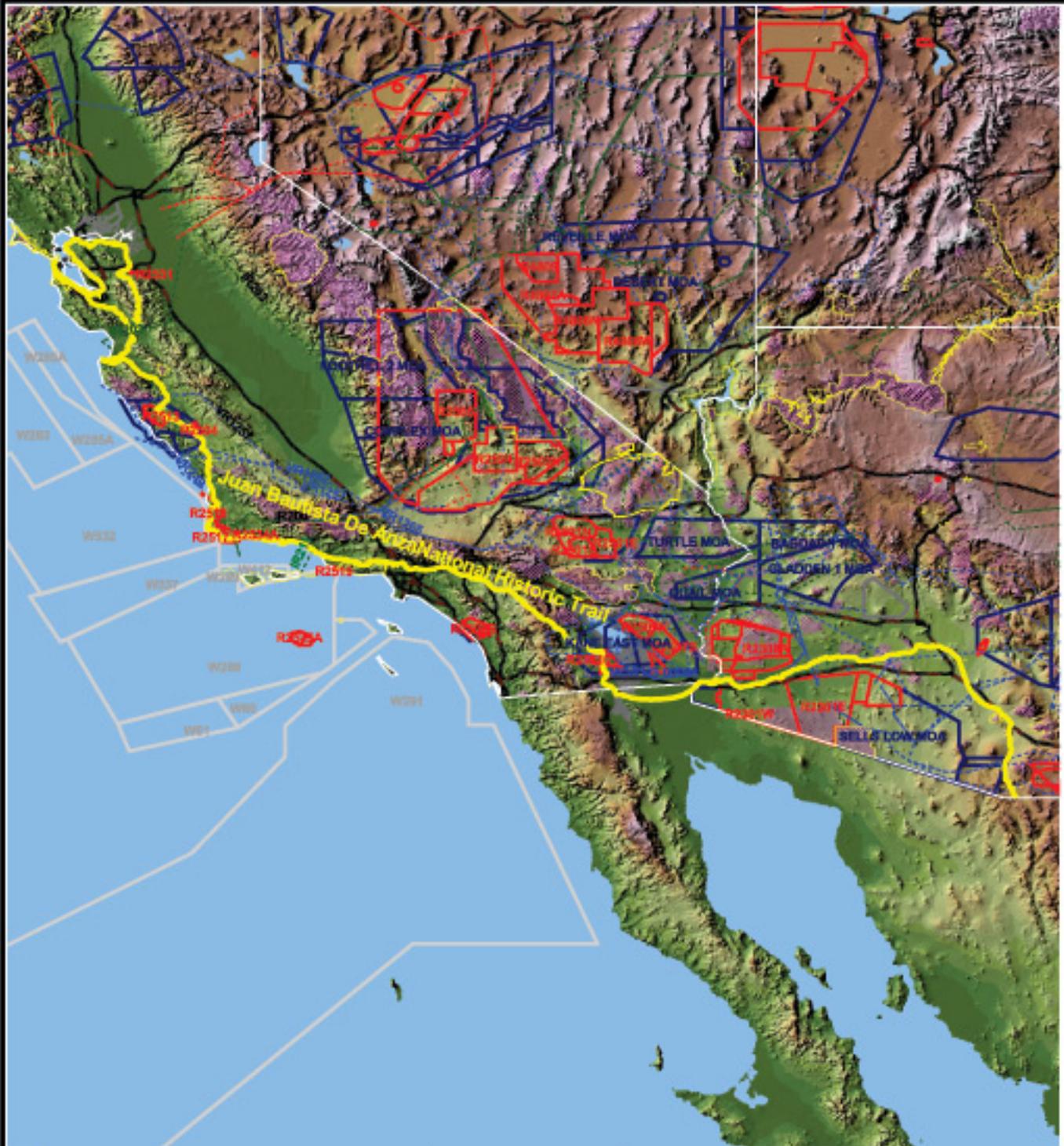
Air Force Installations with Airspace Near the Park. Please refer to the March Air Reserve Base narrative and map for specific information about Air Force/military use of the airspace.



Juan Bautista De Anza National Historic Trail

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p> <p>JUBA</p>	<p>100 0 100 Miles</p> <p>1 : 7,700,000 1 Inch = 100.0 miles</p>
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JUAN BAUTISTA DE ANZA NATIONAL HISTORIC TRAIL

California

CONTACTS

Anza-Borrego Desert State Park

P.O. Box 428
Borrego Springs, CA 92004
(619) 767-5311

Henry W. Coe State Park

5750 Obata Way, Suite A
Gilroy, CA 95020
(831) 848-4006

Park Acronym: JUBA

Park Website:

<http://www.nps.gov/juba>

Background and National Significance. On the eve of the American Revolution, the Spanish sought to control the Pacific coast of today's United States against British and Russian incursions. Juan Bautista de Anza, a third-generation frontier soldier of New Spain, shepherded 198 emigrants, their escorts, and 1,000 head of livestock on the first overland colonizing expedition from Sonora, Mexico, into Alta (Upper) California. This expedition led to the founding of the Presidio of San Francisco and the missions San Francisco de Asis (Mission Dolores) and Santa Clara de Asis.

Anza's expedition and the route it established are commemorated by the 1,200-mile-long Juan Bautista de Anza National Historic Trail (Anza Trail), authorized by Congress in 1990. The Anza Trail was selected as one of 16 national millennium trails in 1999. The National Park Service administers the Anza Trail in partnership with other federal, state, and local agencies, interested groups, and private landowners.

Park Features and Values. The Anza Trail links 13 Spanish colonial missions, three presidios, and two pueblos (Los Angeles and San Jose). It tells the story of the settlement of California from south to north in 1775-76, when the colonies on the eastern seaboard were planning their independence. Anza's expedition more than doubled the nonnative population of California and provided the people and livestock to ensure the Spanish presence. The trail reveals the full story of Spanish colonial settlement patterns by connecting a series of religious, military, and secular sites. The Anza Trail also provides the opportunity to tell the stories, from their own perspective today, of the many American Indian tribes who greeted Anza and made his expedition possible. Finally, the Anza Trail brings together two countries (the United States and Mexico), 19 counties, and over 100 cities and towns, tying together the people of these places with a common history.

In some cases, the integrity of the trail route's natural landscape remains intact. These places, which correspond to descriptions in the expedition diaries, are the values NPS trail administrators most want to protect. They are the places where visitors can most easily experience what the expedition may have seen. Most of these landscapes are protected to some degree by other agencies. Examples are Picacho Peak, now a state park in Arizona; the Gila River in Arizona, part of which is protected by the Bureau of Land Management (BLM); San Sebastian Marsh in Imperial County, California (BLM); Coyote Canyon in San Diego County, California, protected in Anza-Borrego Desert State Park; the coastline from Gaviota to Guadalupe, California, partly in private hands and partly

protected by Vandenberg Air Force Base; San Antonio Valley in eastern Santa Clara County, California, in private ownership; and Coyote Creek in eastern Santa Clara County, protected in Henry W. Coe State Park. The trail passes through two USAF bases: March Air Force Base and Vandenberg Air Force Base.

Visitor Use and Enjoyment. More than 27 million people live within a short drive of the trail, about 35 to 40 percent of them of Hispanic/Latino descent. Any number of people may use segments of the recreational trail during their daily rounds, and certainly thousands of people a day travel the highways and roads that make up the auto tour route.

Marking of the auto tour route should be completed in 2002. Over 200 miles of the recreational trail are marked in Arizona and California as of May 2002. Each year more trail segments are certified and marked as official components of the trail. The goal is to complete a continuous recreational trail from Nogales, Arizona, to San Francisco, California. Other planned activities include conducting historical and archeological research; providing resource protection; developing wayside exhibits, trail brochures, guidebooks, and other publications; and working with museums to interpret Anza Trail history. Several local groups in Arizona and California conduct annual celebrations to commemorate the dates that the Anza expedition passed through their areas.

Noise-Sensitive Areas/Resources. The Anza Trail passes through Tumacacori National Historical Park, Casa Grande Ruins National Monument, Santa Monica Mountains National Recreation Area, Channel Islands National Park (visitor center), Golden Gate National Recreation Area (The Presidio of San Francisco), and John Muir National Historic Site. Noise-sensitive resources for those parks are listed separately. In addition, the Anza Trail passes through 25 state parks in Arizona and California. Two of these parks have extensive wilderness areas and several endangered species: Anza-Borrego Desert State Park in northeastern San Diego County and Henry W. Coe State Park in eastern Santa Clara County, California.

Airspace Over/Near the Park. Please refer to the individual narratives of the parks through which the trail passes.

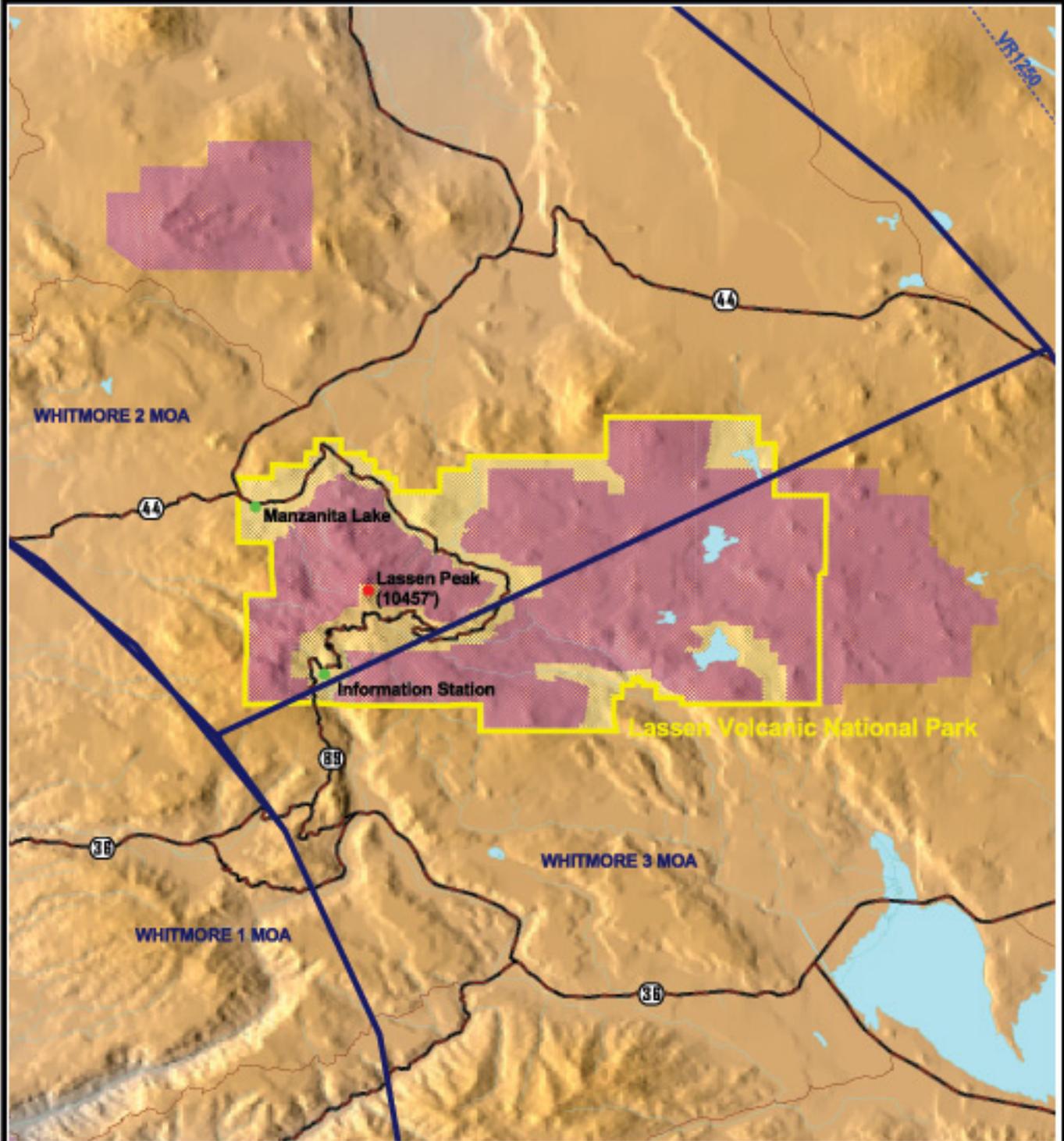
Air Force Installations with Airspace Near the Park. Please refer to the individual narratives of the parks through which the trail passes.



Lassen Volcanic National Park

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 353,000 1 inch = 5.0 miles</p>
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2002

LASSEN VOLCANIC NATIONAL PARK

California

CONTACTS

Lassen Volcanic NP

P.O. Box 100
Mineral, CA 96063-0100
(530) 595-4444

Superintendent

(530) 595-5101 ext. 5101
(530) 595-3252 fax
E-mail:
lavo_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(530) 595-4444 ext. 5150

Wilderness Coordinator

(530) 595-4444 ext. 5170

Park Acronym: LAVO

Park Website:

<http://www.nps.gov/lavo>

Background and National Significance. Lassen Peak, the southernmost volcano in the Cascade Range, is but one of the active, dormant, or extinct volcanoes that extend around the Pacific Ocean in a great Ring of Fire. This zone of volcanoes and earthquakes marks the edges of plates that form the Earth's crust. Volcanic and seismic disturbances occur as these great slabs override or grind past each other.

In 1914, Lassen Peak burst into eruption, beginning a seven-year cycle of sporadic volcanic outbursts. The climax of this episode took place in 1915, when the peak blew an enormous mushroom cloud some 7 miles into the stratosphere. The reawakening of this volcano, which began as a vent on a larger extinct volcano known as Tehama, profoundly altered the surrounding landscape.

The area was made a national park in 1916 because of its significance as an active volcanic landscape. Before the 1980 eruption of Mount Saint Helens in Washington, Lassen Peak was the most recent volcanic outburst in the contiguous 48 states. All four types of volcanoes in the world are found in Lassen's 106,000 acres. The park is a compact laboratory of volcanic phenomena and associated thermal features (except true geysers). Scientists are looking at Lassen Peak to discern possible recovery patterns for Mount Saint Helens.

Park Features and Values. The Lassen geothermal areas—Sulphur Works, Bumpass Hell, Little Hot Springs Valley, Boiling Springs Lake, Devils Kitchen, and Terminal Geyser—encompass bubbling mud pots, steaming fumaroles, and boiling water. Some of these thermal features are getting hotter. Scientists think that Lassen Peak and Mount Shasta are the most likely candidates in the Cascades to join Mount Saint Helens as active volcanoes. The Devastated Area is evidence of the effects of the combined destructive forces of mud flows and gas blasts, which are typical of many volcanic eruptions in the Cascades.

The western part of the park features great lava pinnacles (huge mountains created by lava flows), jagged craters, and steaming sulphur vents. It is cut by spectacular glaciated canyons and is dotted and threaded by lakes

and rushing clear streams. Snow banks persist year-round, and beautiful meadows are covered with wildflowers in spring. The eastern part of the park is a vast lava plateau more than a mile above sea level. Here are found small cinder cones (Fairfield Peak, Hat Mountain, and Crater Butte). Forested with pine and fir, this area is studded with small lakes, but it has few streams. Warner Valley, marking the southern edge of the Lassen Plateau, features hot spring areas (Boiling Springs Lake, Devils Kitchen, and Terminal Geyser). This forested, steep valley also has gorgeous large meadows. Congress designated almost 79,000 acres of the park as wilderness in 1972.

Visitor Use and Enjoyment. The park had approximately 350,000 visitors in fiscal year 2001. The main park road around three sides of Lassen Peak offers access to trails, lakes, and volcanic and geothermal features. The 150 miles of park trails include 17 miles of the Pacific Crest Trail. Park maps and publications can be purchased at park information centers.

Noise-Sensitive Areas/Resources.

Wilderness: More than three-fourths of this park is congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Sensitive wildlife habitat: Wildlife may be particularly vulnerable to noise during periods of migration, mating, or birthing. Threatened, endangered, and other species of special concern, because of their tenuous populations, may be vulnerable to stress at any time. The sensitive wildlife habitats in this park include bald eagles nesting sites at Snag Lake and peregrine falcon nesting sites in the Raker Peak and Blue Lake Canyon areas.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

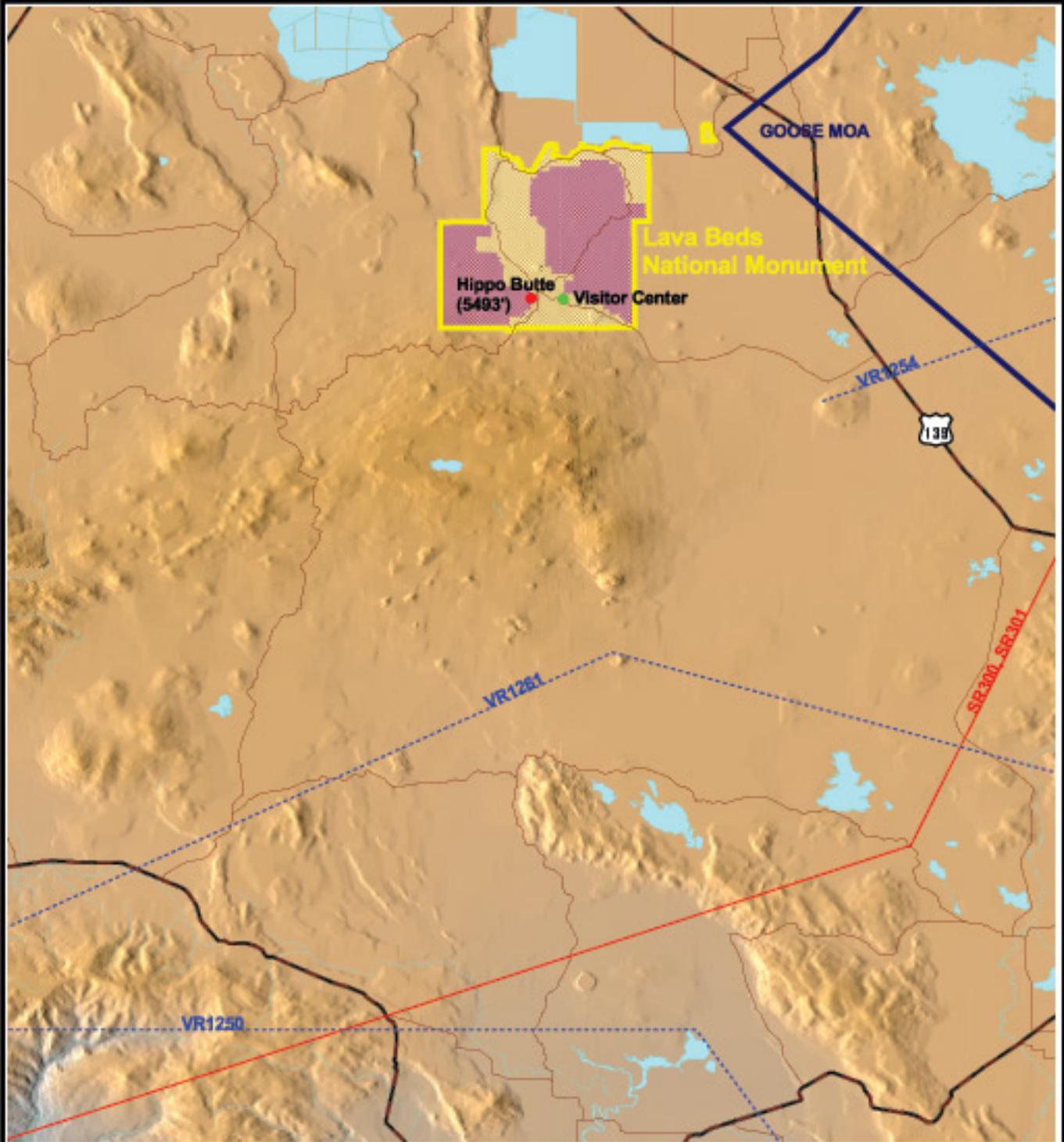
Air Force Installations with Airspace Near the Park. Please refer to the Beale AFB narrative and map for information about Air Force/military use of the airspace.



Lava Beds National Monument

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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2002

LAVA BEDS NATIONAL MONUMENT

California

CONTACTS

Lava Beds NM

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Tulelake, CA 96134-8216
(530) 667-2282

Superintendent

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E-mail:
labe_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(530) 667-2282 ext. 233

Wilderness Coordinator

(530) 667-2282 ext. 229

Park Acronym: LABE

Park Website:

<http://www.nps.gov/labe>

Background and National Significance. Lava Beds National Monument, created in 1925, is geologically outstanding because of its great variety of textbook volcanic formations: lava tube caves, fumaroles, cinder cones, spatter cones, maar volcanoes, and lava flows. The 46,500-acre park encompasses the largest concentration of lava tube caves in the United States and more than 30 separate lava flows ranging in age from 2,000,000 years to only 1,000 years before present. The incredibly rugged volcanic landscape was used as a natural fortress by the Modoc Indians during the Modoc Indian War of 1872-73.

Park Features and Values. The lava tube caves are the most dramatic geologic features in the park. More than 400 of these caves have been discovered so far. The lava tube collapse systems and lava outcrops support a great diversity of plant life, including an impressive variety of lichens, mosses, and, in a few caves, ferns.

Captain Jack's Stronghold is the natural lava fortress from which Captain Jack and 51 Modoc warriors held off a U.S. Army force many times their number for almost 5 months. The warriors were eventually captured and the leaders hanged. The Lava Beds area was the ancestral home to the Modocs, who hunted in the valleys and mountains, fished in the rivers and lakes, and used the tules (reeds) that grew around the lake to make their homes, boats, and other items. The Modoc Indian War was the culmination of repeated confrontations and bloodshed that followed the arrival of European-American settlers in the 1850s. The Modocs were initially required to live on a reservation with Klamath Indian bands who were their traditional enemies. Following the escape of some of their tribe back to the Lava Beds area, and their subsequent recapture, those members of the tribe who had fought the U.S. Army were relocated to a reservation in Oklahoma.

Approximately 28,500 acres of parkland is congressionally designated wilderness.

Visitor Use and Enjoyment. The park is visited by more than 100,000 people annually. Visitors can tour both the geologic and historic features of this unusual landscape. Many of the caves lie off Cave Loop Road, southwest of the visitor center. Mushpot Cave, an extension of the visitor center, is the only cave in which lights have been installed.

Noise-Sensitive Areas/Resources.

Wilderness: Almost two-thirds of this park is congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Cultural Landscape: Portions of this park are zoned and managed to preserve and immerse visitors into a landscape evocative of the historic time frame of the Modoc Indian War. The park's historic setting is a powerful tool for helping people appreciate and understand this period of America's history. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

Air Force Installations with Airspace Near the Park. None.

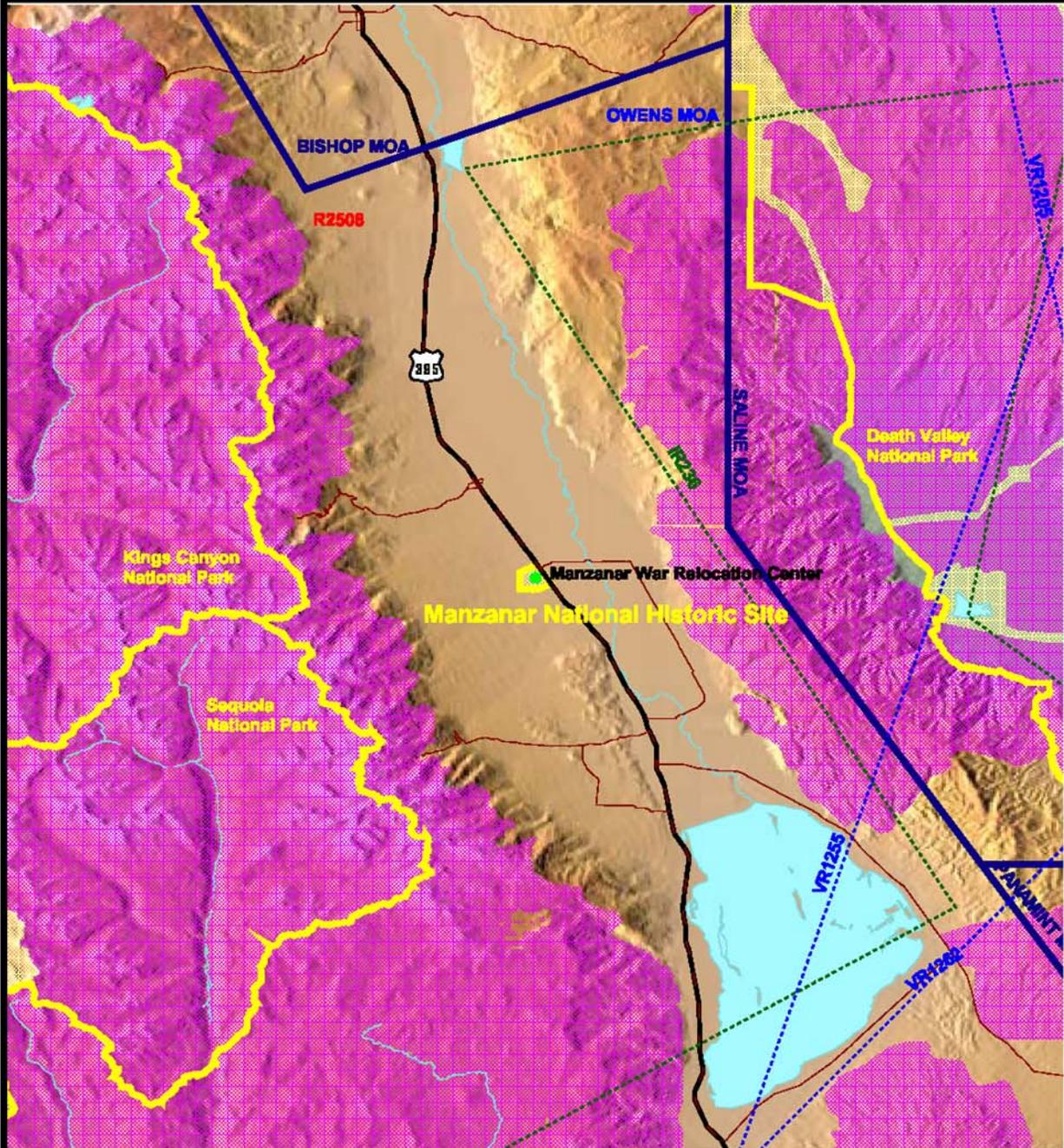


Manzanar National Historic Site

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 Inch = 5.0 miles</p>
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2002

MANZANAR NATIONAL HISTORIC SITE

California

CONTACTS

Manzanar NHS

P.O. Box 426
Independence, CA 93526-0426
(760) 878-2932

Superintendent

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(760) 878-2949 fax
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manz_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(760) 878-2932, ext. 11

Park Acronym: MANZ

Park Website:

<http://www.nps.gov/manz>

Background and National Significance. Manzanar National Historic Site protects and interprets the resources associated with the relocation and internment of Japanese American citizens and resident Japanese aliens during World War II. Two months after the bombing of Pearl Harbor, President Franklin Roosevelt signed Executive Order 9066, which called for all people of Japanese ancestry residing on the West Coast, most of whom were American citizens, to be placed in relocation camps. Manzanar War Relocation Center was the first of 10 such camps and has been identified as the best preserved of them. Manzanar National Historic Site was authorized in 1992 and encompasses 814 acres, all federal land.

Park Features and Values. The entire Manzanar detention facility encompassed some 6,000 acres and at full population was occupied by approximately 10,000 people. The facility consisted of the detention camp, adjacent agricultural areas, a reservoir, an airport, a cemetery, and a sewage treatment plant. Of this area, a rectangle of approximately 550 acres, containing the living area for the internees and various administrative facilities, was enclosed by barbed wire fences and secured by guard towers. This is the area preserved in Manzanar National Historic Site.

Few of the camp's buildings remain today. Among the visible remains is the camp auditorium, a large wood-frame building. In addition, the stonework shells of the pagoda-like police post and sentry house and portions of other buildings in the administrative complex remain, as do concrete foundations and portions of the water and sewer systems throughout the camp.

This site represents three phases of Owens Valley's past: The internment of Japanese-Americans (1942-1945), early agricultural settlement and land use (1910-1930s), and pre-history and history of American Indians in the Manzanar area. The Manzanar area has been used by Paiute and Shoshone people for centuries. American Indian archeological sites are important parts of the Manzanar story. The site also contains remnant trees from orchards planted between 1910 and 1935, when Manzanar was a thriving pear and apple growing center.

Visitor Use and Enjoyment. The site is not yet developed as a park, but plans are underway for facilities to serve visitors. Until then, visitors are invited to explore the remains of the Manzanar War Relocation Center. Significant collections of photos, drawings, paintings, and artifacts associated with Manzanar have been gathered over the years. Many of these can be seen in the Eastern California Museum, located 5 miles north of the camp in Independence. More than 44,000 people visited the park in fiscal year 2001.

Noise-Sensitive Areas/Resources. To be determined through future research and planning.

Airspace Over/Near the Park. The China Lake Naval Air Weapons Station flies frequent missions over the Owens Valley.

Air Force Installations with Airspace Near the Park. None.

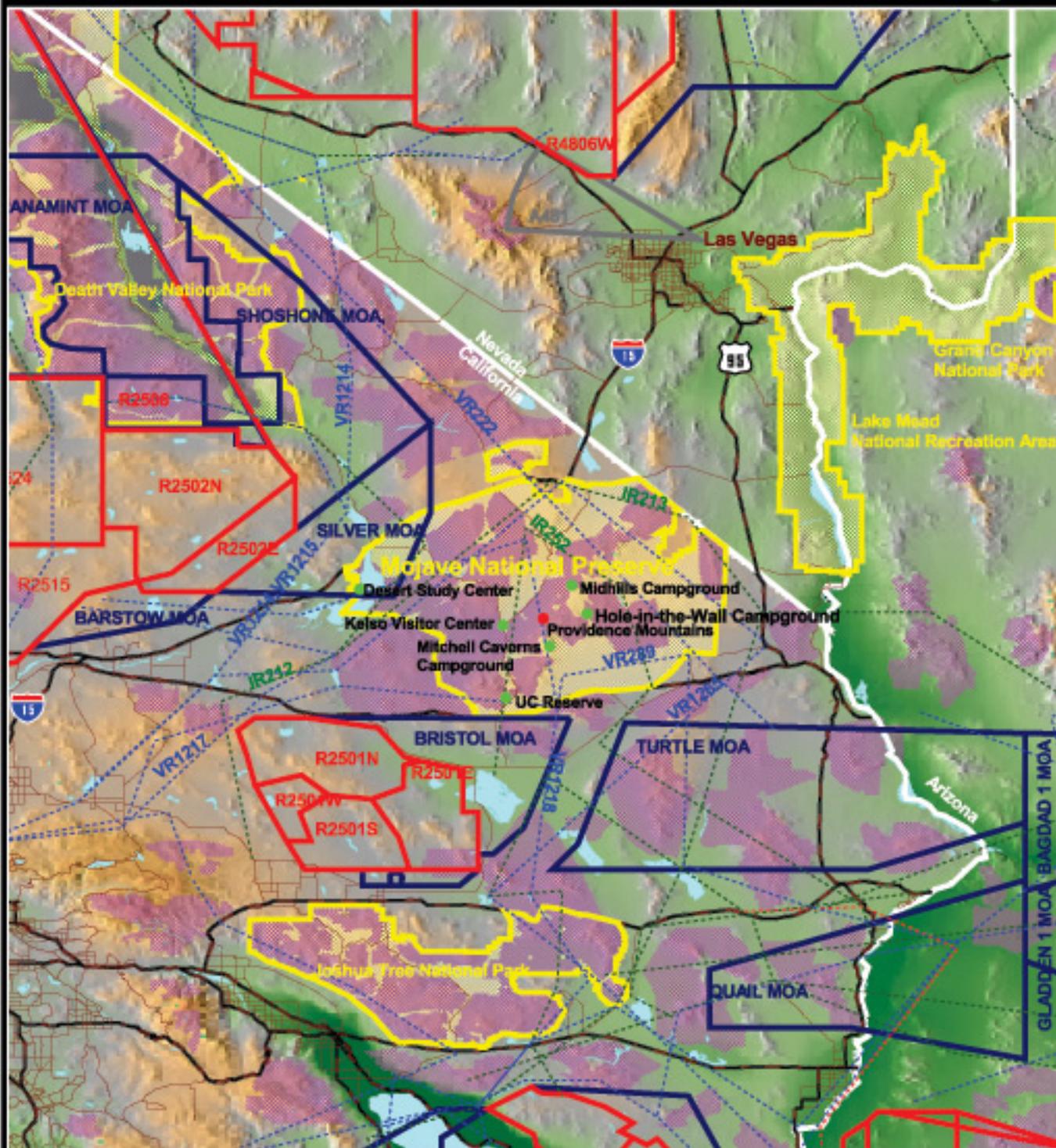


Mojave National Preserve

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 2,000,000 1 inch = 10.0 miles</p>
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MOJAVE NATIONAL PRESERVE

California

CONTACTS

Mojave NPres

222 E. Main Street, Suite 202
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(760) 733-4040

Superintendent

(760) 255-8801
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moja_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(760) 255-8802

Wilderness Coordinator

(760) 255-8802

Park Acronym: MOJA

Park Website:

<http://www.nps.gov/moja>

Federal Interagency Communication Center

(24-hour dispatch center)
(909) 383-5652/53/54
(909) 383-5651 emergency
(909) 383-5587 fax

Background and National Significance. Mojave National Preserve, in the heart of the Mojave Desert, was created by the 1994 Desert Protection Act, which transferred the lands known as the East Mojave National Scenic Area from the Bureau of Land Management to the National Park Service. The 1.59-million-acre park encompasses vast open spaces and historic mining scenes, and nationally significant historic structures, such as the Kelso railroad depot.

Park Features and Values. Rose-colored sand dunes, volcanic cinder cones, Joshua tree forests, mile-high mountains, desert washes, and dry lakes are all part of the scene at Mojave National Preserve. Outdoor enthusiasts appreciate the opportunity for solitude not easily found at other southern California parks.

The park ranges in elevation from less than 1,000 feet to almost 8,000 feet. Plant and animal life varies by elevation. More than 300 different species of animals are found here. The park provides over 700,000 acres of designated critical habitat for the threatened desert tortoise, which typically lives in creosote bush flats.

Desert plants are especially adapted to living in this arid climate. Many have small leaves with waxy coverings to minimize moisture loss, while cacti store large volumes of water. Other plants, such as creosote, have developed extensive or deep root systems that enable them to gather the precious water. Common plants include yucca, creosote, and the Joshua tree.

Evidence of the prehistoric people who lived in the desert, following the natural cycles of plants and animals and gathering and hunting what they needed to survive, is scattered across the region.

Visitor Use and Enjoyment. The park is visited by approximately 500,000 people annually. The Mojave Desert experience changes with the seasons. In winter an infrequent snow may sparkle on the mountains. If the winter rains have watered the desert, wildflowers cover the landscape with a rainbow of colors during April and May. Summers are hot; hikers and campers explore the higher elevations such as Mid-Hills and the New York Mountains. The cooler temperatures of fall mark hunting season. A network of dirt roads offers year-round opportunities to explore by four-wheel-drive vehicle.

Noise-Sensitive Areas/Resources.

Sensitive wildlife habitat: Wildlife may be particularly vulnerable to noise during periods of migration, mating, or birthing. Threatened, endangered, and other species of special concern, because of their tenuous populations, may be vulnerable to stress at any time. The sensitive wildlife habitats in this park include bighorn sheep lambing areas and raptor nesting sites.

There are two developed campgrounds at Midhills and Hole-in-the-Wall. Mitchell Cavens State Park (inside Mojave) also has a campground. One additional noise-sensitive area is the Kelso Depot Visitor Center.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

Air Force Installations with Airspace Near the Park.

Please refer to the March Air Reserve Base narrative and map for information about Air Force/military use of the airspace.



Muir Woods National Monument

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 600,000 1 inch = 5.0 miles</p>
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MUIR WOODS NATIONAL MONUMENT

California

CONTACTS

Muir Woods NM

Mill Valley, CA 94941-2696
(415) 388-2596

Superintendent

(415) 388-2596
(415) 389-6957 fax
E-mail:
muwo_superintendent@nps.gov

Park Acronym: MUWO

Park Website:

<http://www.nps.gov/muwo>

Background and National Significance. Noting that Redwood Creek contained one of the San Francisco Bay Area's last uncut stands of old-growth redwood, U.S. Congressman William Kent and his wife bought 295 acres here for \$45,000 in 1905. To protect the redwoods, the Kents donated the land to the U.S. Government, and in 1908, President Theodore Roosevelt declared a 553-acre national monument. Roosevelt suggested naming the area after Kent, but Kent wanted it named for conservationist John Muir. Muir declared it the best tree-lover's monument that could possibly be found in all the forests of the world.



Park Features and Values. This canyon of redwoods was never logged because it was hard to reach. The surviving forest of mixed-age and dead trees supports a biologically rich community of plants and animals. Each season at Muir Woods has its own character. Fall is warmest: ladybugs swarm, crayfish are active in Redwood Creek, and the leaves of big-leaf maple turn yellow and drop. During winter, steelhead and silver salmon migrate up Redwood Creek to spawn, and toyon berries turn a vibrant red. In spring the birds nest, wildflowers dot Redwood Canyon, and blacktail deer birth spotted fawns. Summer is the season of fog, azaleas, aralias, buckeyes, Steller's jays, and chipmunks.

Visitor Use and Enjoyment. The park is visited by approximately 400,000 people annually. A visitor center provides information, and a self-guiding nature trail and 6 miles of trails through Redwood Canyon provide opportunities to experience the natural abundance and tranquility of the grove.

Noise-Sensitive Areas/Resources.

Outstanding educational and recreational features: Muir Woods is a spectacular natural setting where the ability of visitors to hear the sounds of nature is an important part of the experience. The whole park is considered noise-sensitive.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

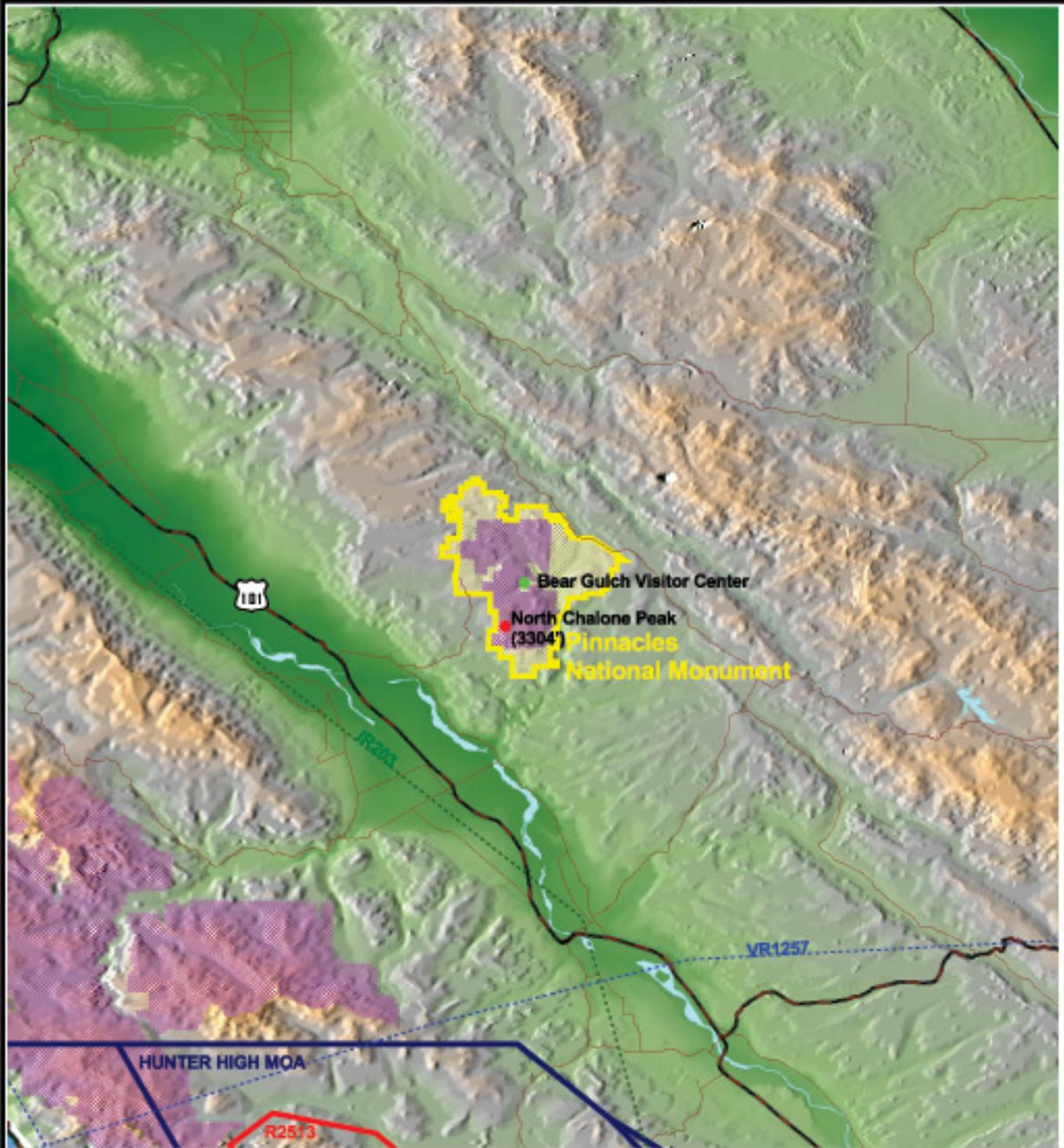
Air Force Installations with Airspace Near the Park. None.

Pinnacles National Monument

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads ● Developed Areas ● Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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2002

PINNACLES NATIONAL MONUMENT

California

CONTACTS

Pinnacles NM

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Paicines, CA 95043-9770
(831) 389-4485

Superintendent

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pinn_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(831) 389-4485

Wilderness Coordinator

(831) 389-4485

Park Acronym: PINN

Park Website:

<http://www.nps.gov/pinn>

Background and National Significance. Pinnacles preserves the spectacular remains of an ancient volcano. Massive monoliths, spires, sheer-walled canyons, and talus passages define millions of years of tectonic plate movement, faulting, and erosion. These distinctive geologic features and the chaparral community surrounding them were first reserved as a national monument in 1908; the monument now preserves 24,000 acres.

Park Features and Values. The spires and crags that rise abruptly from the surrounding hills at Pinnacles are some of the most visible of the remains of an ancient volcano that lie scattered across hundreds of miles. These features attest to the forces of heat, frost, water, and wind that have shaped the face of this landscape near the San Andreas Rift Zone for millions of years.

The park's boundaries also encompass diverse wild lands. The park is renowned for the beauty and variety of its spring wildflowers, and a rich diversity of wildlife can be observed throughout the year. Congress designated more than 13,270 acres of the park as wilderness in 1976.

Initial park development was undertaken by the Civilian Conservation Corps from 1933 through 1942. Examples of the Corps' work can be found throughout the park.

Visitor Use and Enjoyment. The park is visited by more than 170,000 people annually. Pinnacles is a place for rejuvenation and enjoyment. People come to hike the many trails that lace the park, climb the sheer rock walls, explore the caves, and picnic. Pinnacles can be enjoyed at

any time and at any season, but a favorite time for many is spring, when the trees and shrubs turn a lush green and a multitude of colorful wildflowers cover the hills. The hot, dry summer turns the hills a golden brown.

The park is accessible from the east and the west. The east and west districts are connected by a network of more than 30 miles of trails, but not by a vehicle road. Pinnacles is generally a day-use park, but occasionally the rangers lead full-moon hikes and stargazing programs.

Noise-Sensitive Areas/Resources.

Wilderness: Approximately 13,270 acres (55 percent) of this park is congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Sensitive wildlife habitat: In the fall of 2002, California condors will be reintroduced to the park. This federally listed endangered species may be extremely sensitive to noise disturbance.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

Air Force Installations with Airspace Near the Park. None.



Point Reyes National Seashore

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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2002

POINT REYES NATIONAL SEASHORE

California

CONTACTS

Point Reyes NS

Point Reyes, CA 94956-9799
(415) 464-5100

Superintendent

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pore_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(415) 464-5100

Wilderness Coordinator

(415) 464-5100

Park Acronym: PORE

Park Website:

<http://www.nps.gov/pore>

Background and National Significance. Point Reyes National Seashore contains unique elements of biological and historical interest in a spectacularly scenic area of thunderous ocean breakers, open grasslands, bushy hill-sides, and forested ridges. Authorized in 1962, the park encompasses 71,059 acres, mostly federal land. As wild-land habitat is lost elsewhere in California, the peninsula's importance as a protected area with a notably rich biological diversity increases. Over 45 percent of North American avian species and nearly 18 percent of California's plant species are found in the park. Point Reyes was designated an international biosphere reserve in 1988.

The moderate climate and the fertility of the land and its nearness to the sea have made this area attractive to humans for thousands of years. The cultural history of Point Reyes reaches back some 5,000 years to the Coast Miwok Indians who were the first human inhabitants of the peninsula. According to many experts, Sir Francis Drake landed here in 1579, the first European to do so. In response to the many shipwrecks in the treacherous coastal waters, key lighthouse and lifesaving stations were established by the U.S. Government in the late 1800s and early 1900s. In the early 1800s, Mexican land grantees established ranchos. They were followed by a wave of American agricultural operations, which continue to this day in the park's pastoral zone.

Park Features and Values. The impact of Point Reyes is most dramatic at the meeting of land and sea. Limantour Beach and the nearby Estero de Limantour are popular destinations for beach recreation and bird watching. Drakes Beach is another protected beach; however, at Point Reyes Beach the hammering surf, rip currents, and severe undertow provide a scenic backdrop for picnicking, but not for beach activities.

Wildlife abounds throughout the park. About 50 species of native land and marine mammals, including deer, elk, bobcats, coyotes, whales, seals, and sea lions, inhabit the peninsula and the adjacent waters. The biological diversity stems from a favorable location midway up the California coast and from the natural occurrence of many distinct habitats. Twenty-three threatened and endangered species exist within the park.

In 1976, Congress designated 25,370 acres of the park as wilderness.

The park contains more than 120 known Coast Miwok village sites and a historic ranching area.

Visitor Use and Enjoyment. Point Reyes is visited by approximately 2.3 million people annually. From February through July, the mild weather sees the land carpeted with flowers. Summer is the best time for a pleasant hike along the trails of Inverness Ridge. Fall weather is usually good for beach activities. The thrill of watching gray whales and throngs of seals and migratory shorebirds is compensation for the wet Point Reyes winter.

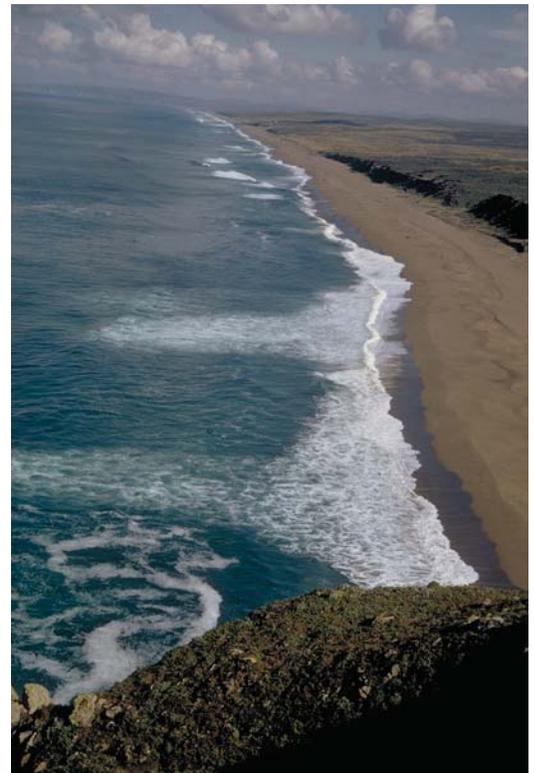
Noise-Sensitive Areas/Resources.

Wilderness: More than one-third of this park is congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Sensitive wildlife habitat: Wildlife may be particularly vulnerable to noise during periods of migration, mating, or birthing. To protect nesting seabirds and to avoid disturbing wildlife, national marine sanctuary regulations and state law prohibit aircraft from flying at altitudes less than 1,000 AGL within 1 nm of the marine sanctuary islands. The northern spotted owl, federally listed as threatened, nests in the park from March to August. Threatened, endangered, and other species of special concern, because of their tenuous populations, may be particularly vulnerable to stress caused by unnatural noise.

Airspace Over/Near the Park. The airspace over the park is used by commercial airlines.

Air Force Installations with Airspace Near the Park. None.

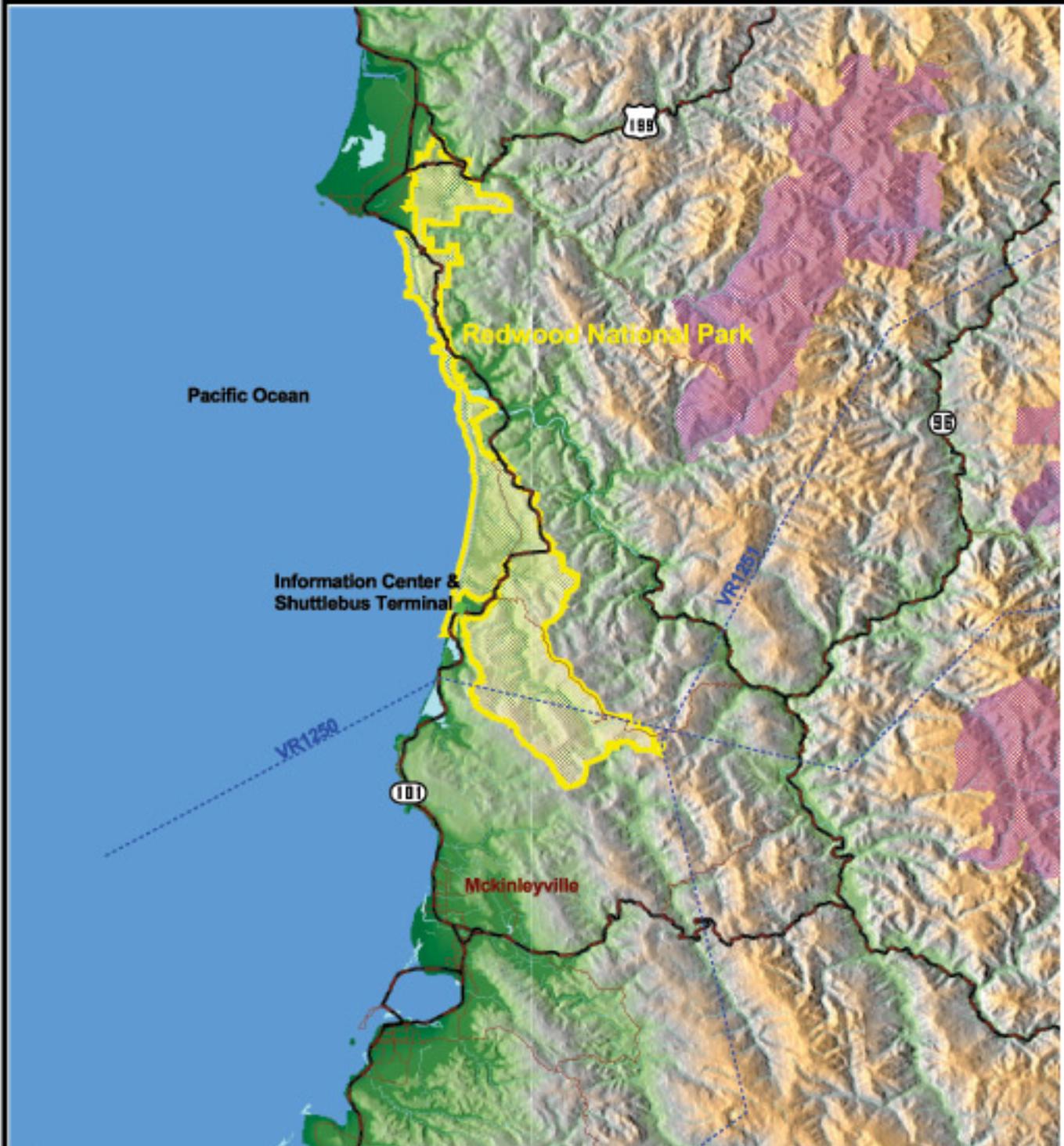


Redwood National Park

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	Military Training Routes <ul style="list-style-type: none"> IR VR SR Special Use Airspace <ul style="list-style-type: none"> Warning Alert MOA Prohibited Restricted 	Map Location 	 <p>1 : 739,000 1 inch = 10.0 miles</p>
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2002

REDWOOD NATIONAL PARK

California

CONTACTS

Redwood National & State Parks

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Superintendent

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redw_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

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Environmental Specialist

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Park Acronym: REDW

Park Website:

<http://www.nps.gov/redw>

Background and National Significance. Redwood National and State Parks, one national and three state parks, together comprise 45 percent of all the old-growth redwood forest remaining in California. The parks are jointly managed by the California Department of Parks and Recreation and the National Park Service for maximum resource protection.

When western expansion met the redwoods in the 1800s, the giant trees, which can live to be 2,000 years old and can grow over 300 feet tall, began to fall under saw and axe. Within a 100-year span the vast forests were reduced to a fraction of their former range. By the early 1900s, the future of the old-growth redwood forests was in doubt. Thanks to the visionary actions of the Save-the-Redwoods League, the towering redwoods received the protection they needed. In the 1920s, California created Jedediah Smith Redwoods State Park, Del Norte Coast Redwoods State Park, and Prairie Creek Redwoods State Park, protecting some of the finest remaining examples of coastal redwoods.

Congress protected lands adjacent to the three California state parks in 1968 with the creation of Redwood National Park. In 1994, the state and federal governments agreed to jointly manage the four-park area, which now encompasses more than 105,000 acres. In recognition of their great ecological and scientific value cherished by citizens of many nations, Redwood National and State Parks were designated a world heritage site in 1980 and an international biosphere reserve in 1983.

Redwood National and State Parks are testing grounds for large-scale forest and stream restoration of severely impacted lands. Park staff work to maintain and restore the area's biological diversity through a wide range of resource management and educational activities. Preserving both natural processes and the region's species and genetic diversity helps ensure that countless generations can experience the beauty and complexity of an old-growth redwood forest.

Park Features and Values. Coastal redwood forests with virgin groves of ancient trees, including some of the world's tallest, thrive in the parks' foggy and temperate climate. Even the understory, comprised of multiple layers of spruce, hemlock, Douglas-fir, berry bushes, and sword-ferns, towers over visitors. The parks' mosaic of habitats includes not only old-growth redwood groves but open prairie, oak woodlands, two major rivers, and 40 miles of scenic, pristine Pacific coastline. An amazing diversity of life exists at Redwood National and State Parks. Banana slugs, gray whales, Douglas-fir, black bears, and sea anemones are equally at home with redwoods.

American Indian tribes have made their home within the North Coast region for thousands of years and still maintain their cultural presence today in areas surrounding the parks. The parks' managers work in consultation with the tribes to ensure that their cultural practices can continue.

Visitor Use and Enjoyment. Redwood National and State Parks are visited by roughly 400,000 people annually. Recreational opportunities include ranger-led programs and activities, scenic viewing, camping in developed and primitive campgrounds and campsites, picnicking, beach-combing, fishing, hiking, bicycling on roads and trails, and horseback riding.

Noise-Sensitive Areas/Resources.

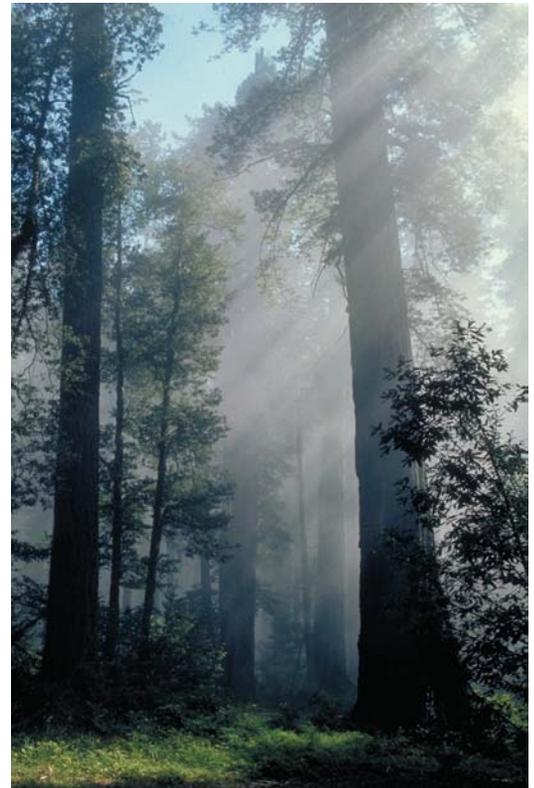
Outstanding educational and recreational features: The primeval old-growth redwood groves inspire a sense of awe and solemnity that would be significantly degraded by the sounds of low-flying aircraft.

Sensitive wildlife habitat: The nesting success of federally listed threatened bird species, including northern spotted owls and marbled murrelets, is potentially at risk from excessive noise during the period from late April through mid September. To protect the nesting success of these species, park administrative activities that produce noise in undeveloped areas are suspended during this period, and public compliance with FAA Advisory Circular 91-36C (which establishes minimum flying altitudes of 2,000 AGL for noise-sensitive areas) is strongly encouraged.

Airspace Over/Near the Park. The parks occasionally use fixed-wing aircraft and helicopters in park search and rescue, fire control, and survey of certain federally listed raptors. The Marine Mammal Protection Act requires that aircraft fly at altitudes of no less than 1,000 above the sea, the coast, and offshore rocks. The Endangered Species Act requires that aircraft fly at altitudes of no less than 1,000 over spotted owl and marbled murrelet habitat (old growth forest) during the breeding seasons (February 1st to September 15th), and over active bald eagle nests between January 1st and August 31st. Jet aircraft flying low over old-growth forests during the breeding seasons of spotted owl, marbled murrelet, and bald eagles would likely adversely affect these species.

Air Force Installations with Airspace Near the Park.

None.



Rosie the Riveter WWII Home Front National Historical Park
National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<p>Military Training Routes</p> <ul style="list-style-type: none"> IR VR SR <p>Special Use Airspace</p> <ul style="list-style-type: none"> Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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**ROSIE THE RIVETER,
WWII HOME FRONT
NATIONAL HISTORICAL
PARK
California**

CONTACTS

**Rosie the Riveter/WW II
Home Front NHP**

c/o Pacific West Region, NPS
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Superintendent

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rori_superintendent@nps.gov

Chief Ranger

(805) 658-5700

Wilderness Coordinator

(805) 658-5700

Park Acronym: RORI

Park Website:

<http://www.nps.gov/rori>

Background and National Significance. This park, which was authorized in 2000 and encompasses 150 acres, all nonfederal, commemorates the contributions of those who supported World War II: workers, including women and minorities, in the war industries and those who stayed stateside and recycled and collected and saved and sacrificed. The shipyards, daycare centers, first managed-healthcare hospital, war worker housing, and a liberty ship built in the shipyards are included in the park.

Park Features and Values. The Rosie the Riveter Memorial: Honoring American Women's Labor During WWII, is the first national monument to celebrate and interpret women's crucial contributions to the World War II home front. It is located in Richmond, California, in Rosie the Riveter Memorial Park at the site of the former Kaiser Shipyards, which were the largest and most productive of World War II.

The memorial commemorates and interprets the important contributions that women made to the war effort as increasing numbers of men joined the armed services. Over 6 million women from all backgrounds, and from all over the country, worked at industrial jobs that challenged traditional notions of women's capabilities and ensured American productivity that helped to win the war. The sight of women outfitted in overalls and wielding industrial tools became an icon that was popularized in the 1942 song, *Rosie the Riveter*, providing a nickname for all women who worked in wartime industries. Across the nation women worked in defense industries and support services including shipyards, steel mills, foundries, lumber mills, warehouses, offices, hospitals and daycare centers.

Wartime upheaval affected all of the U.S., but changed California and the San Francisco Bay Area profoundly.

Some historians have called the WWII era California's Second Gold Rush for its role in transforming the population, economy, and even physical landscape of the state. No city felt these effects more than Richmond, which went from a small town to a booming city hosting the largest number of defense industries and war housing projects in the country. To fill these industrial jobs, employers needed to hire a broader range of workers, including women and people of color. Women of all ages and ethnicities came to Richmond to find new, better-paying jobs throughout the war. Their labor on Liberty and Victory ships played a role in America's remarkable productivity during the war years.

At the height of the war, women made up approximately 27 percent of the 100,000-strong Richmond Kaiser Shipyard workforce. In other industries, women made up to 80 percent of the workers. There are no remaining employment records of all of the Kaiser Shipyard employees. The park is working to create a list of women who worked at the Richmond Kaiser Shipyards and currently has a database of over 200 names of women who worked as welders, drafters, truck drivers, and first aid nurses as well as at other jobs.

Visitor Use and Enjoyment. Sites open to the public include the Rosie the Riveter Memorial and additional memorials along the bay trail through former shipyards. The park is still under development.

Noise-Sensitive Areas and Resources. None identified.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

Air Force Installations with Airspace Near the Park. None.



San Francisco Maritime National Historical Park

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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2002

SAN FRANCISCO MARITIME NATIONAL HISTORICAL PARK

California

CONTACTS

San Francisco Maritime NHP

Building E, Fort Mason Center
San Francisco, CA 94123

Superintendent

(415) 561-7000
(415) 556-1624 fax
E-mail:
safr_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(415) 561-7123
(415) 556-6293 fax

Public Affairs

(415) 561-7006
(415) 556-1624 fax

Park Acronym: SAFR

Park Website:

<http://www.nps.gov/safr>

Background and National Significance. This unique national historical park, located at the west end of San Francisco's Fisherman's Wharf, preserves and presents the saga of the people and ships that shaped the development of America's Pacific Coast. Visitors may board the historic landmark vessels *Balclutha*, *C.A. Thayer*, and *Eureka* at Hyde Street Pier. The park, which includes these and other historic vessels, a Maritime Museum, and a Maritime Museum Library, was established in 1988 and encompasses 50 acres.

Park Features and Values. The Cape Horn sailing vessel *Balclutha* was launched in 1886 in Scotland and is typical of hundreds that called yearly in San Francisco from Europe. The *Eureka*, built in 1890 and powered by a massive four-story steam engine, was the world's largest passenger ferry in her day. The tug *Hercules*, built in 1907, hauled log rafts down the West Coast to lumber mills and towed sailing vessels out to sea. The *Alma*, the last San Francisco Bay scow schooner still afloat, was launched in 1891 and carried bulk cargoes, including lumber and hay. The *Eppleton Hall*, built in England in 1914, is reminiscent of the paddle tugs that towed ships into San Francisco Bay during Gold Rush times. The *C.A. Thayer* is one of just two surviving schooners from a fleet of 900 that carried lumber from the Pacific Northwest, spurring rapid growth of California cities. Built in 1895, she later sailed to Alaska as a salmon packet and served as a cod fishing vessel in the Bering Sea. The *C.A. Thayer* was the last commercial sailing vessel to operate from a West Coast U.S. port.

Inside the ship-shaped Maritime Museum structure, mast sections, jutting spars, and ships' figureheads are arranged among the colorful fish and gleaming tiles of muralist Hilaire Hiler's expressionist vision of Atlantis. The Steamship Room illustrates the technological evolution of wind-to-steam power. The *Mermaid*, the one-man sailboat that transported a solo adventurer across the Pacific from Japan in 94 days, is displayed on the balcony, along with a statue by San Francisco sculptor Beniamino Bufano. Exhibits include an interactive look at the history of maritime communications, from hand-held semaphore to orbiting satellite; photomurals of the early San Francisco waterfront; and collections of lithographic stones, scrimshaw, and whaling guns.

Restored cabins along the Hyde Street Pier house detailed displays. Visitors can watch riggers working high aloft and shipwrights using traditional skills. Boatbuilding classes in the Small Boat Shop provide glimpses of maritime professionals passing along rare, time-honored skills and techniques. The Maritime Store on Hyde Street Pier has books for sale on maritime history, classic fiction, sailing, traditional crafts, folk music, wildlife, and technology.

The Maritime Library, established in 1959, focuses on sail and steam on the West Coast and in the Pacific Basin from 1520 to the present. Its collections include more than 33,000 volumes, an oral history collection of more than 1,000 interviews, and more than 100 albums of sea chanteys.

Visitor Use and Enjoyment. The park hosts approximately 3.3 million visitors annually. Visitors can board turn-of-the-century ships, tour the Maritime Museum, and learn traditional arts, such as boatbuilding and wood-working. The park offers history, music, and craft programs for all ages and provides unique opportunities for docents, interns, and volunteers to become part of history.

Noise-Sensitive Resources and Values.

Cultural landscape: Most of this park is zoned and managed to preserve and immerse visitors into a land- and seascape evocative of San Francisco's maritime history. The historic setting around the Hyde Street Pier is a powerful tool for helping people appreciate and understand this period of America's history. The sounds and sights of overhead aircraft can distract people's attention, diminishing their enjoyment of the historic scene and making it difficult for them to converse with each other or the park staff.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

Air Force Installations with Airspace Near the Park. None.



Santa Monica Mountains National Recreation Area

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<p>Military Training Routes</p> <ul style="list-style-type: none"> IR VR SR <p>Special Use Airspace</p> <ul style="list-style-type: none"> Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 600,000 1 inch = 5.0 miles</p>
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2002

SANTA MONICA MOUNTAINS NATIONAL RECREATION AREA

California

CONTACTS

Santa Monica Mountains NRA

401 West Hillcrest Drive
Thousand Oaks, CA 91360
(805) 370-2301

Superintendent

(805) 370-2301
(805) 380-1850 fax
E-mail:
samo_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(805) 370-2301

Wilderness Coordinator

(805) 370-2301

Park Acronym: SAMO

Park Website:

<http://www.nps.gov/samo>

Background and National Significance. The Santa Monica Mountains rise above Los Angeles, widen to meet the curve of Santa Monica Bay, and reach their highest peaks facing the ocean, forming a beautiful and multi-faceted landscape. Santa Monica Mountains National Recreation Area, established in 1978, is a cooperative effort that joins federal, state, and local park agencies with private preserves and landowners to protect the natural and cultural resources of this transverse mountain range and seashore.

The park preserves a Mediterranean ecosystem. Of all the world's biomes (ecosystem types, such as deserts or rain-forests) the Mediterranean, or broadleaf evergreen forest, is the rarest. Found in just five locations on the globe, fewer acres of this rare biome exist than any other; as a percentage of original acres, only 18 percent remains. The mountains also have an interesting and diverse cultural history.

The park encompasses 150,050 acres, making it the world's largest urban national park. Over 70 governmental entities share jurisdiction with the National Park Service, which controls about 21,500 acres. Malibu, for example, is entirely within the park's boundary.

Along with the traditional purposes for creating a national park in the Santa Monicas, such as conserving natural and cultural resources, Congress designated this recreation area to help conserve the airshed of the Los Angeles Basin, a park purpose unique among all the units of the National Park System.

Park Features and Values. The park's landscapes include rugged mountains, a coastline with sandy beaches and rocky shores, and canyons covered with chaparral. The wide variety of resident wildlife include some 450 vertebrate animal species, including mountain lions, coyotes, bobcats, and deer. Thirteen nesting raptor species are also found in the Santa Monica Mountains. Twenty-five known species native to the Santa Monica Mountains are listed as rare, threatened, or endangered; another 50 are candidate species for listing.

Notable cultural resources include the Paramount Ranch (formerly owned by Paramount Pictures) and Satwiwa Native American Indian cultural centers. Historians believe the Paramount Ranch contains the best preserved complex of structures associated with the Golden Age of Hollywood.

More than 1,000 archeological sites are known to be associated with the two indigenous peoples who made their homes in the Santa Monica Mountains: the Chumash and the Gabrielleno-Tongva.

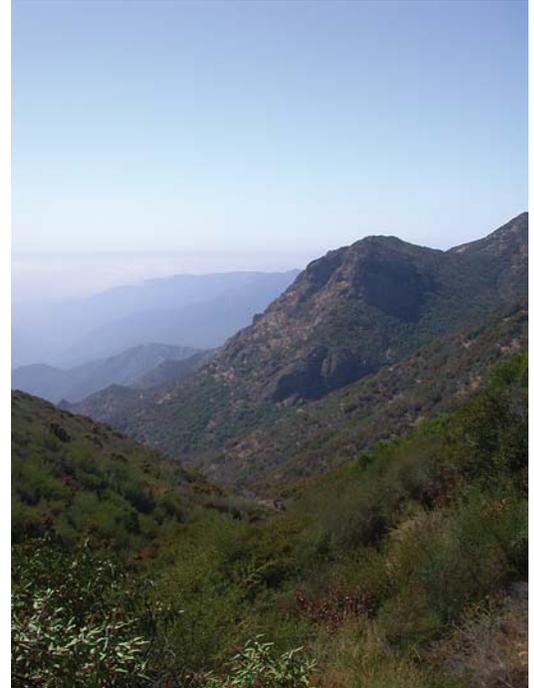
Visitor Use and Enjoyment. The park is visited by more than 500,000 people annually. Los Angeles is the world's second largest Spanish speaking city and a melting pot for many new Americans not traditionally viewed as park users. A Spanish-language brochure and education programs are some of the innovative means by which this park leads in building a National Park System for the 21st century.

Noise-Sensitive Areas/Resources.

Sensitive wildlife habitat: The large number of rare, threatened, or endangered species inhabiting the park make it a noise-sensitive area. Wildlife may be particularly vulnerable to noise during periods of migration, mating, or birthing. Threatened, endangered, and other species of special concern, because of their tenuous populations, may be vulnerable to stress caused by loud aircraft noise at any time.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

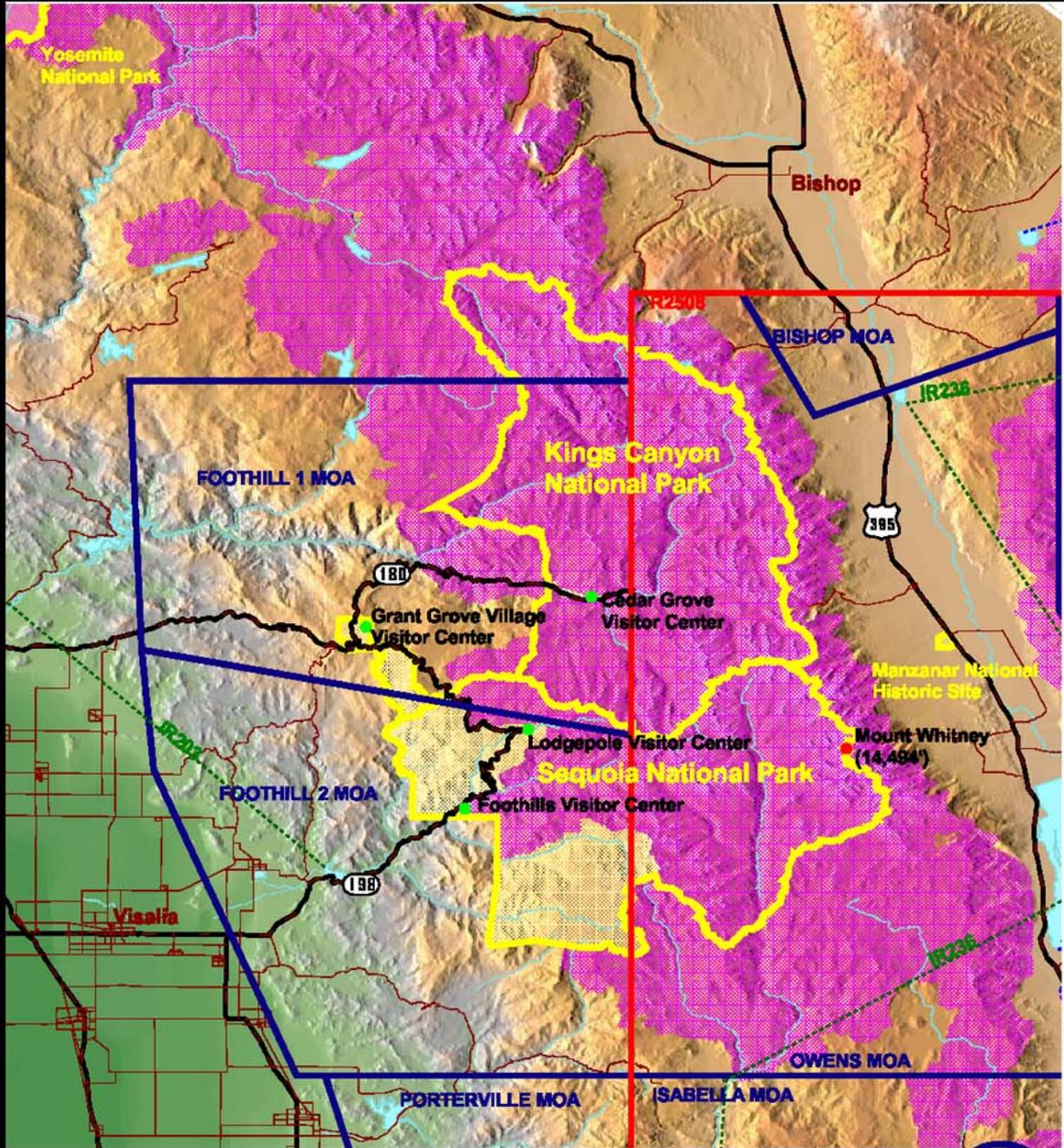
Air Force Installations with Airspace Near the Park. None.



Sequoia and Kings Canyon National Parks

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 863,000 1 Inch = 10.0 miles</p>
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SEQUOIA AND KINGS CANYON NATIONAL PARKS

California

CONTACTS

Sequoia and Kings Canyon NP

47050 Generals Highway
Three Rivers, CA 93271
(559) 565-3341

Superintendent

(559) 565-3101
(559) 565-4202 fax
E-mail:
seki_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(559) 565-3111
(559) 565-3113 fax

Wilderness Coordinator

(559) 565-3137
(559) 565-4239 fax

Park Acronym: SEKI

Park Website:

<http://www.nps.gov/seki>

Background and National Significance. Sequoia is the nation's second national park, established by Congress in 1890 to save the world's largest trees, the giant sequoias. It was expanded considerably in 1926 to include the dramatic Kern River Canyon and portions of the Sierra Nevada Crest, including Mount Whitney. Adjacent Kings Canyon National Park was established in 1940 to preserve a large unbroken tract of mountain wilderness. Combined, the two parks encompass 864,383 acres, mostly federal lands.

Park Features and Values. Dozens of giant sequoia groves preserve prime examples of the world's largest trees. Extensive river systems (including designated wild and scenic rivers) and lakes provide beautiful scenery and habitat for fish and wildlife, some of which are threatened and endangered. Vast forests contain old-growth trees of many species.

The geologic features of the park provide for outstanding views of pristine alpine scenes, including the Kings and Kern River Canyons and the Sierra Crest. The parks feature more than 723,000 acres of congressionally designated wilderness and an additional 110,000 acres of wild lands managed as wilderness.

Many prehistoric and historic cultural features are also found in the parks, such as Hospital Rock, the historic Potwisha Indian village site, and the cabins of trapper Shorty Lovelace.

Park Visitor Use and Enjoyment. The parks are visited by some 1.75 million people each year. Most of the visitation occurs during the summer. Park visitors seek an experience that allows them to connect with the natural world and allows them to separate themselves from the hustle, bustle, noise, and congestion of their daily lives.

Park visitors enjoy a wide variety of outdoor recreation, such as swimming or sunning near lakes and rivers, leisurely strolling through groves of giant sequoias, attending nature walks, fishing, rock climbing, or backpacking/horseback riding into the wilderness. Winter activities include cross-country skiing and snowshoeing.

Noise-Sensitive Areas/Resources.

Wilderness. Most of the two parks (approximately 833,000 acres) is congressionally designated wilderness or lands managed as wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

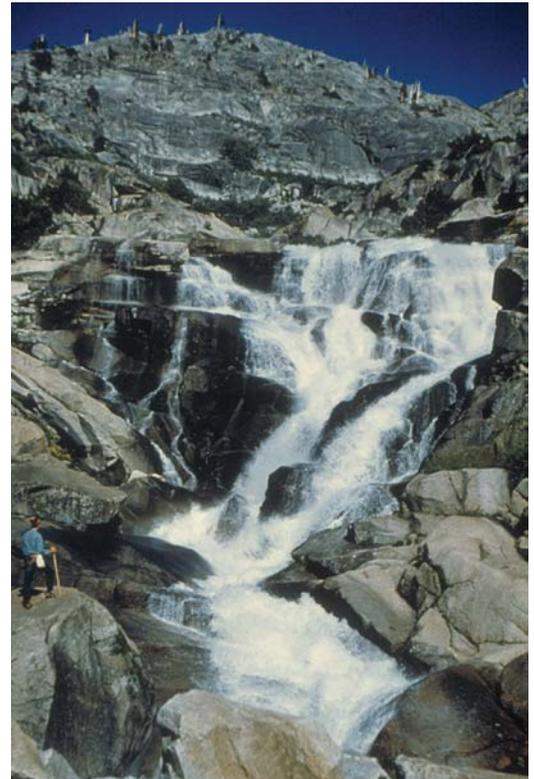
Sensitive wildlife habitat: Wildlife may be particularly vulnerable to noise during periods of migration, mating, or birthing. Threatened, endangered, and other species of special concern, because of their tenuous populations, may be vulnerable to stress at any time. The parks contain 12 endangered or threatened animal species, including peregrine falcon, bald eagle, wolverine, and bighorn sheep. An additional 48 species are classified as sensitive through federal and state listings.

Airspace Over/Near the Park. The eastern half of the parks lies under the R-2508 Complex. There is currently a voluntary (self-imposed) floor restriction for military aircraft of 18,000 MSL. This level has been required by the Joint Policy and Planning Board (JPPB) for the R-2508 Complex and is in effect unless specifically waived by the JPPB or their designee. There is also a floor of 3,000 AGL that is in effect at all times.

The park utilizes rotary and fixed-wing aircraft as part of normal operations, including search and rescue, fire control, wildlife monitoring, and the burro removal program, as well as supplying materiel to remote locations. Operations are primarily conducted under 1,500 AGL. Temporary flight restrictions are rare and only requested for large operations.

Air Force Installations with Airspace Near the Park.

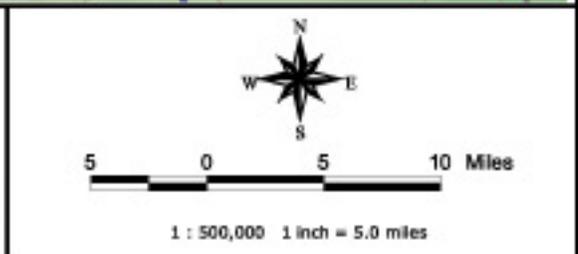
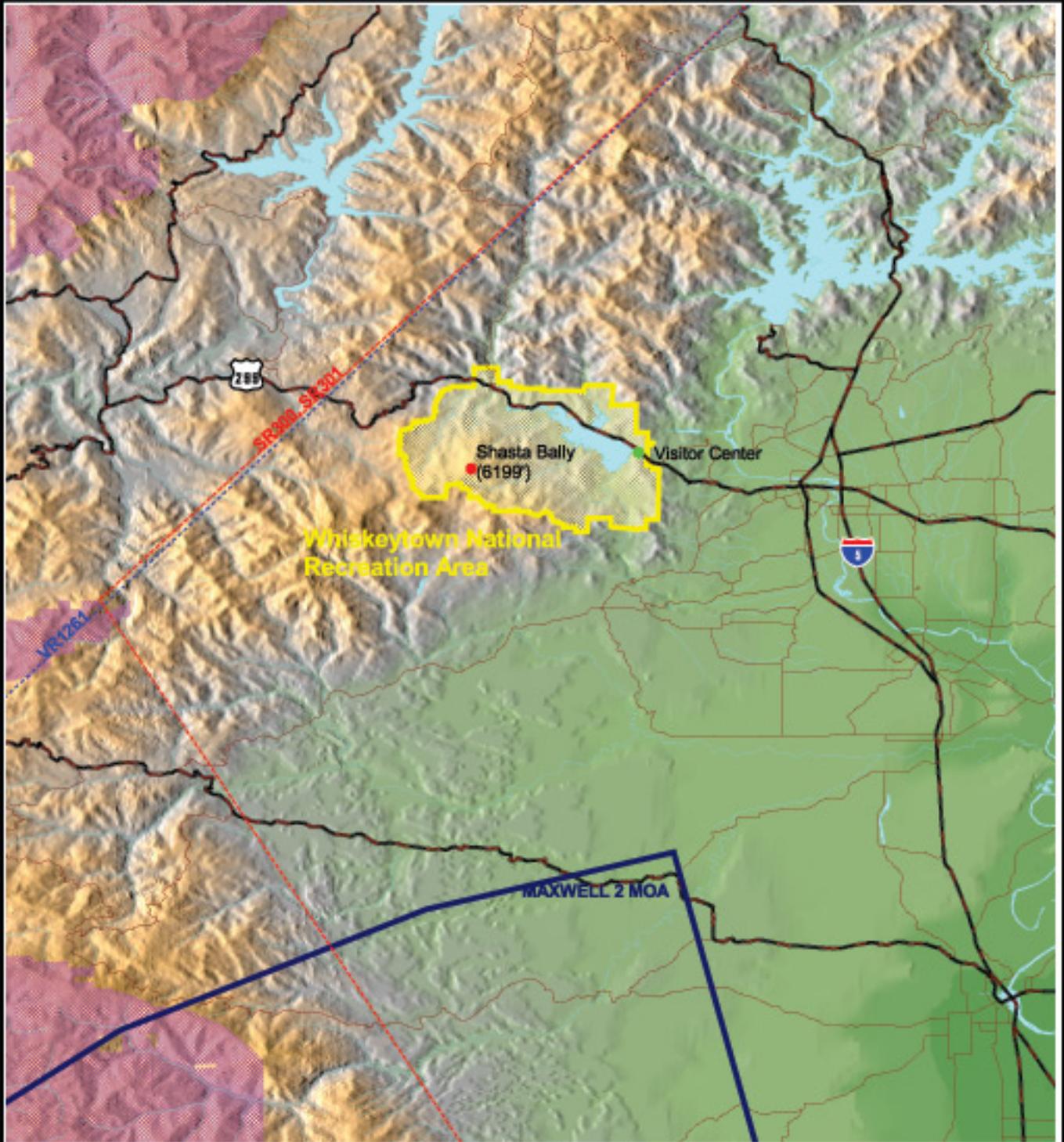
Please refer to the Edwards AFB narrative and map for specific information about Air Force/military use of the airspace.



Whiskeytown National Recreation Area

National Park Units

National Park Service
U.S. Department of the Interior



WHISKEYTOWN NATIONAL RECREATION AREA

California

CONTACTS

Whiskeytown NRA

P.O. Box 188
Whiskeytown, CA 96095-0188
(530) 242-3404

Superintendent

(530) 241-6584
(530) 246-5154 fax
E-mail:
whis_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(530) 242-3413

Wilderness Coordinator

(530) 242-3445

Park Acronym: WHIS

Park Website:

<http://www.nps.gov/whis>

Background and National Significance. Of the three units of the Whiskeytown-Shasta-Trinity National Recreation Area, only the Whiskeytown Unit, established in 1965, is administered by the National Park Service. The Shasta and Trinity Units are administered by the Forest Service, U.S. Department of Agriculture. The Whiskeytown Unit encompasses a large reservoir and mountainous backcountry, providing a multitude of opportunities for outdoor recreation, along with the historical remains of buildings constructed during the California Gold Rush of 1849. The Whiskeytown Unit encompasses 42,500 acres, almost all of it federal land.

Park Features and Values. Whiskeytown Lake, the smallest of the three impounded reservoirs, with 36 miles of shoreline, is excellent for most water-related activities. The lake's stable summer level makes sandy beaches possible. The many coves and arms are conducive to quiet boating and canoeing, and to putting ashore for picnicking. Cold waters at the lake's western end assure good-to-excellent fishing throughout the season, while the waters at its eastern end are pleasantly warm for swimming and other water-contact sports. The lake was created by diverting water through tunnels and penstocks from the Trinity River Basin to the Sacramento River Basin.

The most prominent landmark within the park is the Shasta Bally (elevation 6,199 feet). The summit may be reached on foot and by 4-wheel drive vehicle, but the route is closed in the winter.

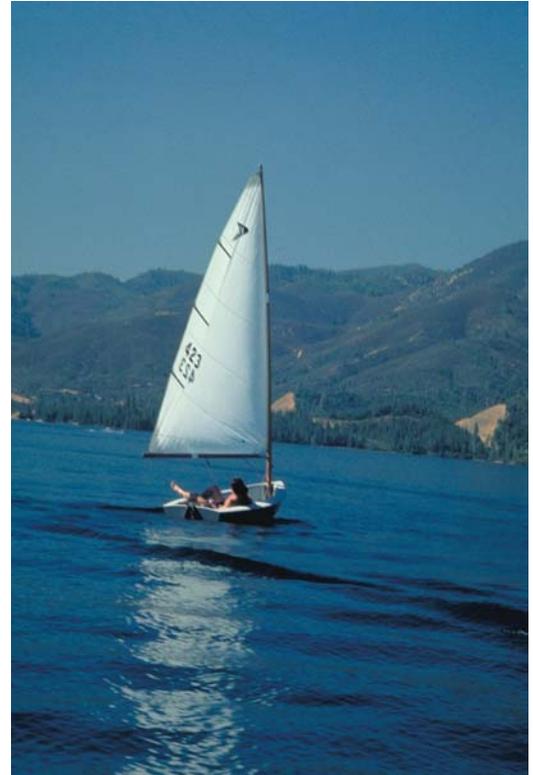
The 1848 gold rush in the Whiskeytown area began when gold was discovered at nearby Reading's Bar. Whiskeytown was settled in 1849. Some of its old brick and stone buildings stood until they were removed when the reservoir was built in 1963.

Visitor Use and Enjoyment. The park is visited by approximately 700,000 people annually. The lake offers fishing, boating, waterskiing, scuba diving, swimming, sail and power boating, and canoeing. Camping is permitted only in designated campgrounds and in the backcountry, where primitive camping requires a permit. The backcountry also provides opportunities for hiking, horseback riding, and mountain biking. Ranger-led walks, talks, and evening programs (at Oak Bottom Amphitheater) are conducted from mid June through Labor Day. Free kayak tours are provided daily through the summer. The visitor center offers information, publications, maps, a sales area, and exhibits.

Noise-Sensitive Areas/Resources. The park's mountainous backcountry areas are considered noise sensitive, as are the many coves and arms of the lake that are conducive to quiet boating and canoeing, and to putting ashore for picnicking. Bald eagles nest in the trees along the lake, and northern spotted owls nest in the forest on Shasta Bally.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

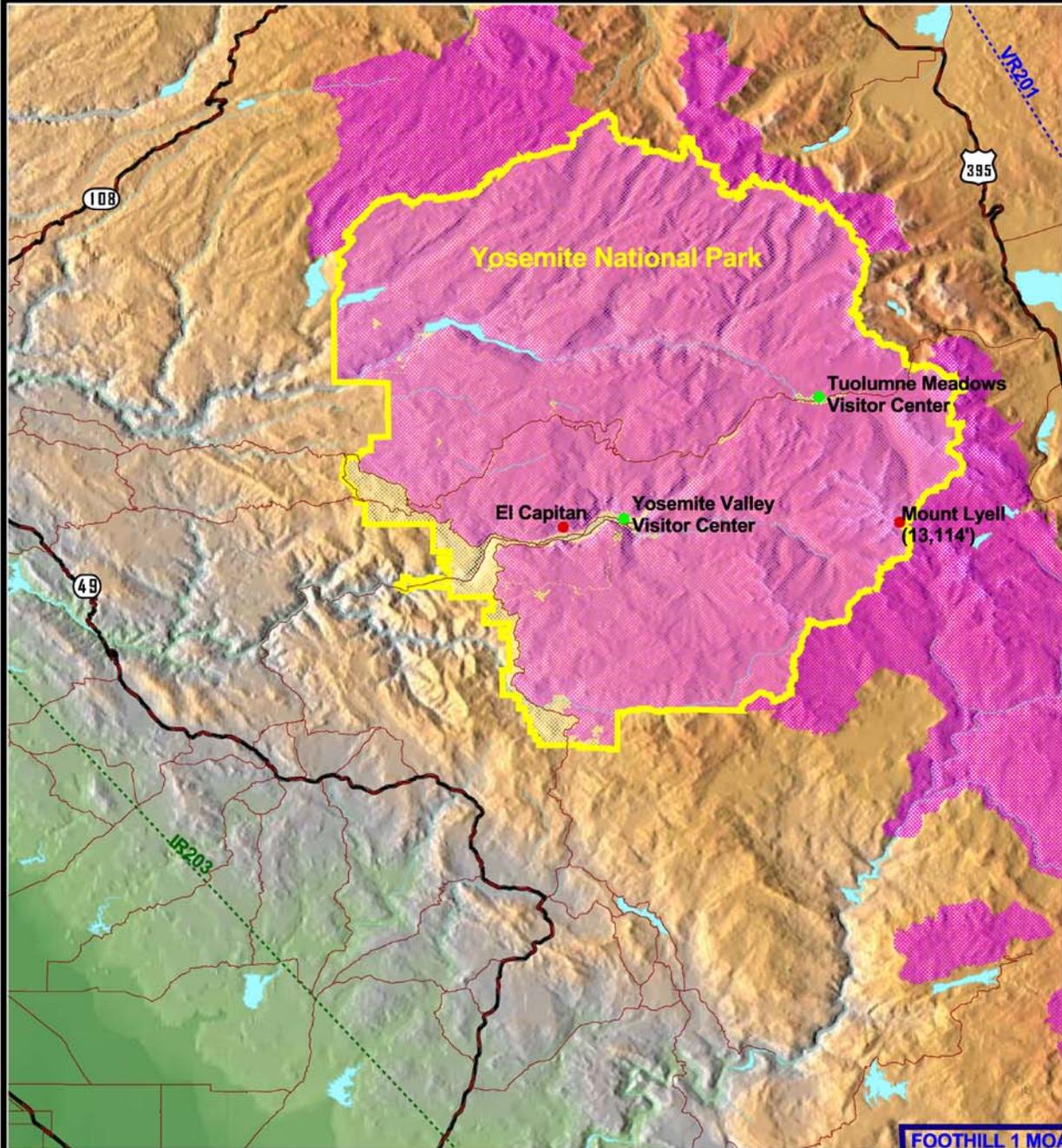
Air Force Installations with Airspace Near the Park. Please refer to the Beale AFB narrative and map for information about Air Force/military use of the airspace.



Yosemite National Park

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 690,000 1 inch = 10.0 miles</p>
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2002

YOSEMITE NATIONAL PARK

California

CONTACTS

Yosemite National Park

P.O. Box 577
Yosemite National Park, CA
95389-0577
(209) 372-0200

Superintendent

(209) 372-0200
(209) 372-0220 fax
E-mail:
yose_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(209) 372-0200

Wilderness Coordinator

(209) 372-0200

Park Acronym: YOSE

Phone Website:

<http://www.nps.gov/yose>

Background and National Significance. Yosemite National Park is a showcase of natural wonders, including the greatest concentration of granite domes and the largest exposed granite monolith in the world, more than 1,000 square miles of alpine and subalpine wilderness, three majestic groves of giant sequoias, and thundering waterfalls that are among the world's highest. Yosemite is one of the crown jewels of the National Park System, and it was proclaimed a world heritage site in 1984.

The 760,000-acre park was established in 1890, making it the nation's third oldest national park. However, the first application of a park concept originated in Yosemite in 1864, when President Lincoln granted federal lands to the State of California for purposes of preservation. Since that time the park has played an important role in pioneering park management concepts. Yosemite was the birthplace of the idea of the Sierra Club.

Park Features and Values. Yosemite Valley is probably the world's best known example of a U-shaped glacier-carved valley. The incomparable valley, as it has been called, is a landscape of towering cliffs rising abruptly from the flat valley floor, waterfalls crashing down valley walls, and a skyline punctuated with rounded domes and massive monoliths. Nowhere in Yosemite is the sense of scale so dramatic. El Capitan, called "shooting star" by local Native Americans, is one of the several icons of Yosemite Valley. Its sheer granite face hosts scores of rock climbers throughout the year. Half Dome is the valley's most distinctive and dramatic landmark. Towering more than 4,400 feet over the valley floor, it rises to an elevation of 8,842 feet. Sunrise to sunset, the lighting is always dramatic on this massive and sheer granite face. Yosemite, Bridalveil, Vernal, Nevada, and Illilouette are the most prominent falls.

Other major features of the park include Glacier Point, which offers spectacular views from the rim to the floor of Yosemite Valley, as well as views out across the park's immense high country. Wawona is the site of a historic resort hotel and park history center. The Mariposa Grove contains hundreds of ancient giant sequoias, including the Grizzly Giant Tree, which has a diameter greater than 34 feet. Tuolumne Meadows is a large subalpine meadow surrounded by mountain peaks. Hetch Hetchy Valley, now the site of a reservoir, was historically considered a twin of Yosemite Valley.

Extending along a portion of the central Sierra Nevada where elevations range from 2,000 to more than 13,000 feet, the park plays an important role in preserving biological diversity. More than 1,300 varieties of plants, including more than 30 kinds of trees, provide habitats for more than 60 kinds of animals and 200 species of birds. More than 677,000 acres of the park are designated wilderness.

Cultural resources scattered throughout the park chronicle 4,000 years of Native American heritage in this area.

Visitor Use and Enjoyment. Yosemite National Park is visited by approximately 3.5 million people each year. The 196 miles of park roads provide access to all the major features, either by car or by free shuttle bus in some areas. To get to know the real Yosemite, however, people

must leave their cars, even if only to take a few steps on an easy trail to a scenic viewpoint. Other visitors choose to hike into the backcountry, where they can spend days enjoying the natural wilderness. Campgrounds are located throughout the park.

Noise-Sensitive Areas/Resources.

Wilderness: There are 704,024 acres (94.2 percent) of congressionally designated wilderness in the park, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Sensitive wildlife habitat: Wildlife may be particularly vulnerable to noise during periods of migration, mating, or birthing. Threatened, endangered, and other species of special concern, because of their tenuous populations, may be vulnerable to stress at any time.

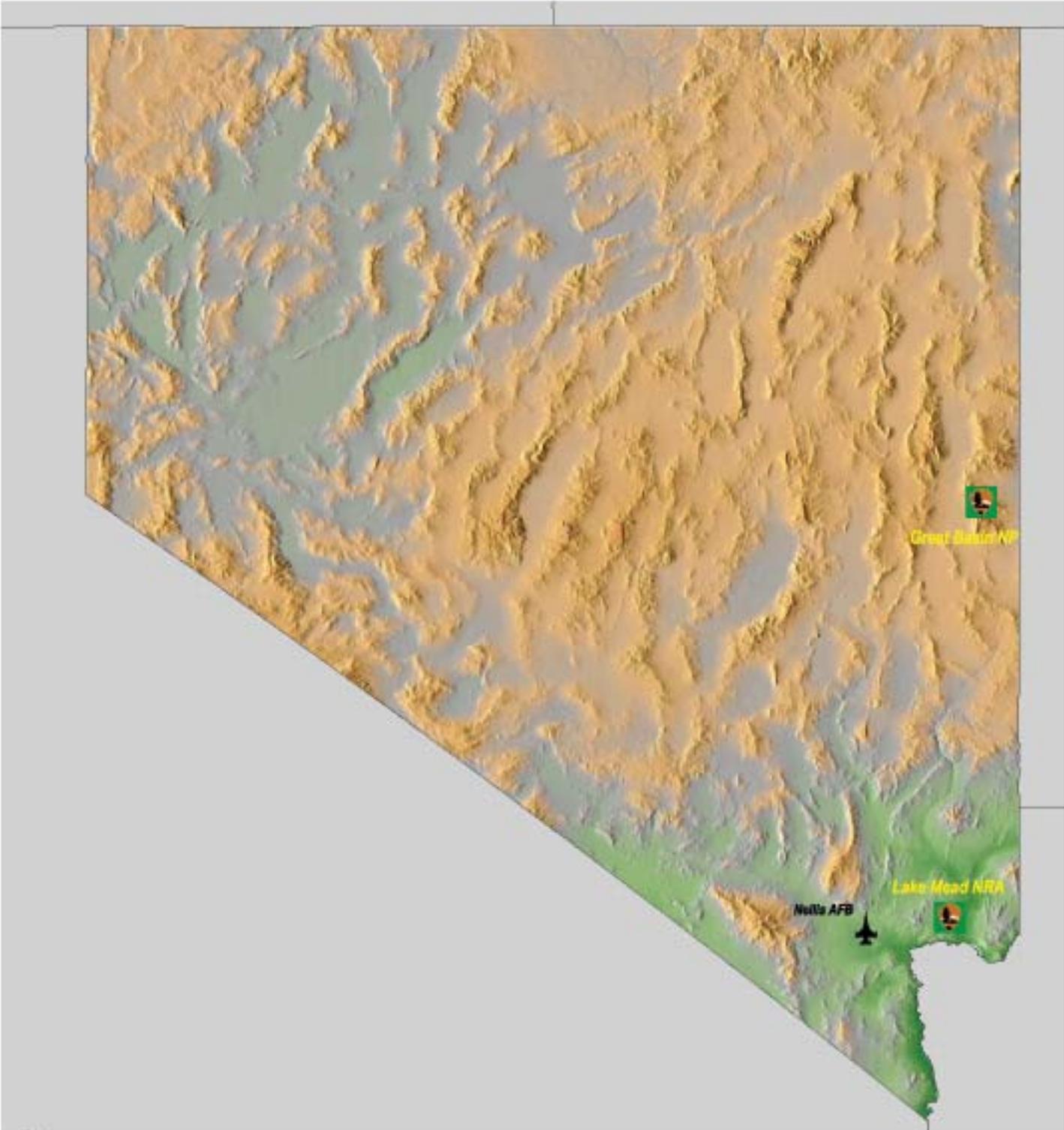
Outstanding educational and recreational features:

Yosemite Valley, Glacier Point, Mariposa Grove, and Tuolumne Meadows are among the most notable areas of this park that attract large numbers of visitors because of their outstanding scenic, inspirational, and educational values. In these areas the sounds and sights of overhead aircraft can distract people's attention from learning experiences, make it difficult to converse with each other or the park staff, or diminish the enjoyment of the scenery.

Airspace Over/Near the Park. The park experiences occasional military overflights. Scheduled commercial airlines fly high over the park. There are some commercial air tours over Yosemite, as well as some commuter airline traffic.

Air Force Installations with Airspace Near the Park. None.

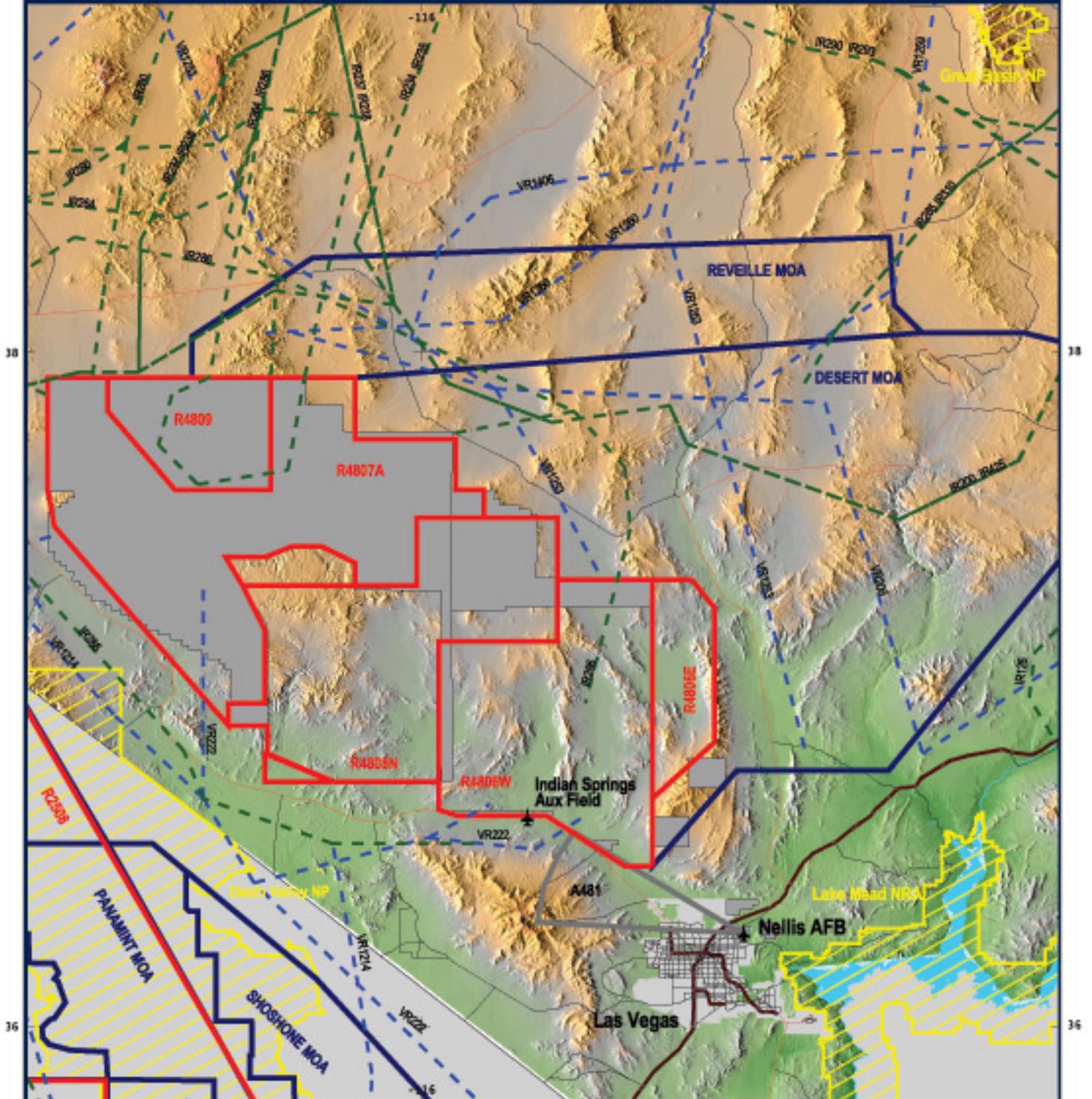




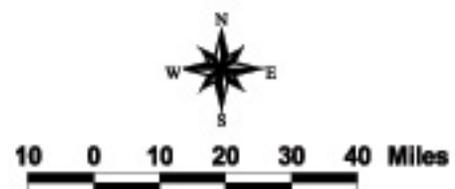
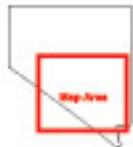
Nellis Air Force Base

Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



National Park	Military Training Routes
Air Force Base	IR
AF Guard/Reserve Base	SR
	VR
	Special Use Airspace
	Warning
	Alert
	MOA
	Prohibited
	Restricted



NELLIS AIR FORCE BASE

Nevada

CONTACTS

Public Affairs

Public Affairs Office
4370 N. Washington Blvd.
Suite 223
Nellis AFB, NV 89191-7076
(C) 702-652-2750
DSN: 682-2750

Environmental Management

Environmental Affairs
4349 Duffer Drive, Suite 1601
Nellis AFB, NV 89191-7007
(C) 702-652-4354
DSN: 682-4123

Airspace Management

57th OSS/OSOS
4450 Tyndall Ave.
Nellis AFB, NV 89191
(C) 702-652-7891
DSN: 682-7891

98th RANW OSS/OSO
3770 Duffer Drive
Nellis AFB, NV 89191
(C) 702-653-4710
DSN: 348-4710

Wing Commander

99th ABW/CC
4430 Grissom Avenue
Suite 119
Nellis AFB NV 89191-6520
(C) 702- 652-9900
DSN: 682-9900

About the Installation: A Western Air Express dirt runway, a water well and a small operations shack 8 miles north of Las Vegas provided the setting of the original site of today's Nellis AFB. On January 25, 1941, Las Vegas mayor John L. Russell signed over the property to the U.S. Army Quartermaster Corps for the Las Vegas Army Air Corps Gunner School. In 1950, the base was renamed in honor of a twenty-eight year old fighter pilot from southern Nevada, 1st Lt. William Harrell Nellis, who was killed in action over Luxembourg December 27, 1944. Today, Nellis AFB provides testing and training for every type of aircraft in the USAF inventory in conjunction with air and ground units of the Army, Navy and Marine Corps as well as from our allied nations. It is also home to the USAF Weapons School, which teaches graduate-level instructor courses, which provide the world's most advanced training in weapons and tactics.

Aircraft:

- Bombers: B-1, B-52
- Cargo: C-130, C-141
- Helicopters: HH-60, MH-53
- Fighters/Attack: A-10, AC-130, F-15, F-16, F-22
- Reconnaissance: RC-135, Predator UAV, EC-130, EA-6, E-3
- Tankers: KC-130, KC-135

Threatened and Endangered Species:

- Reptiles and Amphibians: Desert Tortoise

National Parks Under/Near the Airspace:

- Death Valley NP
- Grand Canyon NP
- Great Basin NP

USAF SUA & MTR AIRSPACE DETAILS

Airspace Scheduled By & Effective Times:

57th OSS/OSOS
4450 Tyndall Ave.
Nellis AFB, NV 89191
(C) 702-652-7891 / DSN: 682-7891

A481	Continuous
SILVER MOA	Continuous
IR279, IR285, IR286, IR310	
VR222, & VR1406	Continuous

98th RANW OSS/OSO
3770 Duffer Drive
Nellis AFB, NV 89191
(C) 702-653-4710 / DSN: 348-4710

DESERT MOA	Continuous
REVELLE MOA	Continuous
R4806 E & W	Continuous
R4807 A & B	Continuous
R4808 N & S	Continuous
R4809	Continuous

Commander AFFTC
412th OSS/OSR
300 East Yeager Blvd
Edwards AFB, CA 93524
(C) 661-277-4110 / DSN: 527-4110

VR1214	Continuous
IR234, IR235, IR237, & IR238	Daylight hrs. by NOTAM
IR425	Sunrise-Sunset by NOTAM

366th OSS/OSTA
Mountain Home AFB
Idaho, 83648
(C) 208-828-4722 / DSN: 728-4722

IR264, IR280 & IR293	By NOTAM
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7th OSS/OSTA
949 Ave. D-1., Suite 102
Dyess AFB, TX 70607
(C) 915-696-3665 / DSN: 461-3665

IR290	Continuous
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2nd OSS/OSTP
41 Orville Wright Ave., Suite 213
Barksdale AFB, LA 71110-2085
(C) 318-456-3828 / DSN: 781-3828

IR126	Continuous
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SUA & MTR AIRSPACE DETAILS

Not Scheduled by the USAF but in proximity]

Airspace Scheduled By & Effective Times:

Naval Air Warfare Center Weapons Division
Point Mugu NAS
Building 53
575 I. Avenue Suite #1
Point Mugu, CA 92042
(C) 805-989-7545 / DSN: 351-7545

IR200	Sunrise-Sunset by NOTAM
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Commander Strike Fighter Wing
U.S. Pacific Fleet
001 (K) Street, Room 121
NAS Lemoore, CA 93246-5022
(C) 559-998-1034 / DSN: 949-1034

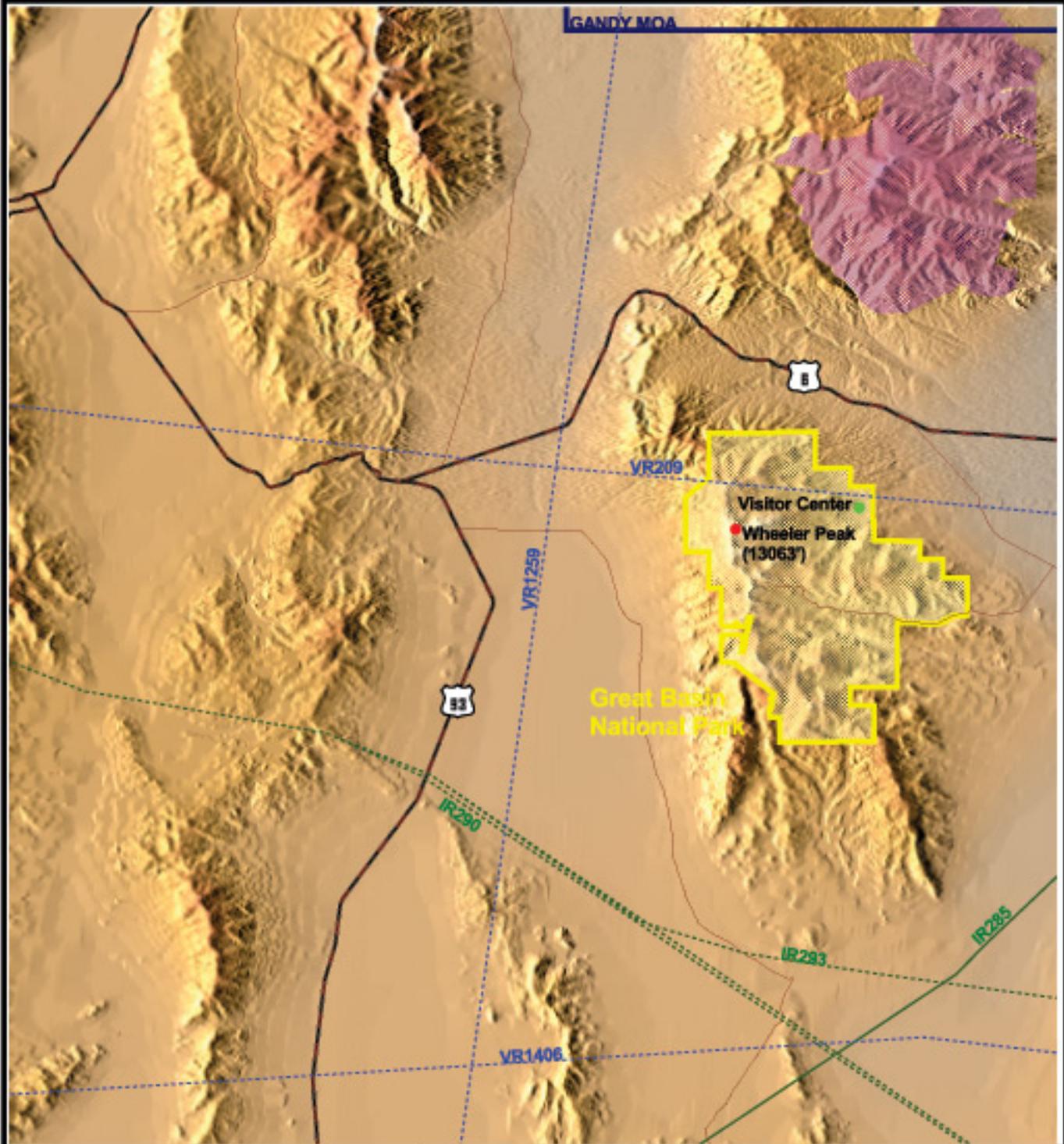
VR209, VR1253, VR1259 & VR1260	Daylight hrs., by NOTAM
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Great Basin National Park

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads ● Developed Areas ● Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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2002

GREAT BASIN NATIONAL PARK

Nevada

PARK CONTACTS

Great Basin NP

Baker, Nevada 89311-9700
(775) 234-7331

Superintendent

(775) 234-7331
(775) 234-7269 fax
E-mail:
grba_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(775) 234-7331

Wilderness Coordinator

(775) 234-3331

Park Acronym: GRBA

Park Website:

<http://www.nps.gov/grba>

Background and National Significance. Great Basin National Park was established in 1986. Prior to that time, the area existed as Lehman Caves National Monument (established in 1922) and Humboldt National Forest's Wheeler Peak Scenic Area. The park was established to set aside exceptional examples of the Great Basin region. Great Basin is a hydrologic region where all precipitation, whether in the form of rain or snowmelt, stays in the basin, where it either evaporates or filters down into underground aquifers, never reaching the ocean. The region covers over 200,000 square miles, extending from the Sierra Nevada Mountains in the west to the Wasatch Range in the east and from Idaho in the north to southern Nevada. The park encompasses 77,180 acres, all federal land.

Park Features and Values. There is one basin in the park, but many in the region, all separated by mountain ranges running roughly parallel, north and south. The landscape plays and replays a single magnificent theme of alternating basin and range broad basins hung between craggy ranges in seemingly endless geographic rhythm. At first glance the landscape seems to be a monotonous sea of nothing but sagebrush. However, appearances are deceptive. As in the ocean, there is much life not immediately apparent. And above the valleys, rising thousands of feet from the sagebrush sea, mountain ranges form a high-elevation archipelago, islands of cooler air and more abundant water, inhabited by a rich variety of plants and animals that could not survive in the lower desert.

The geology of the Great Basin has had profound effects on the region's ecology and human history. Often a species may be found in one mountain range but not another where it would seem to thrive, just because there is no mechanism for it to cross the desert on the valley floor. Human lives have also been affected by the geology

of the region. Difficulty traveling over the desert plays and mountain passes made the area hard to settle. Yet gold, silver, and other precious ores lured miners to the region.

Lehman Caves is a beautiful limestone cave with intriguing, unusual formations. Information about past surface climates is preserved in the layers of cave formations. Much can also be learned about natural history from the treasures in old pack rat middens. Thus the cave has great potential for researchers to study both past climate change and the effects of climate change on plant and animal communities.

Visitor Use and Enjoyment. The park is visited by approximately 82,000 people annually. Rangers lead guided nature walks, present evening campfire programs in summer, and conduct tours of Lehman Caves. More adventuresome visitors can join a ranger on a spelunking expedition to an undeveloped cave on summer weekends. Easy to moderate trails on Wheeler Peak lead to alpine lakes and a bristlecone pine forest. Backcountry opportunities abound, but there are few maintained trails. Routes generally follow ridge lines or valley bottoms. All park roads except Wheeler Peak Scenic Drive are unpaved and infrequently traveled.

Noise-Sensitive Areas/Resources. The wild character of the area makes the whole park a noise-sensitive area.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

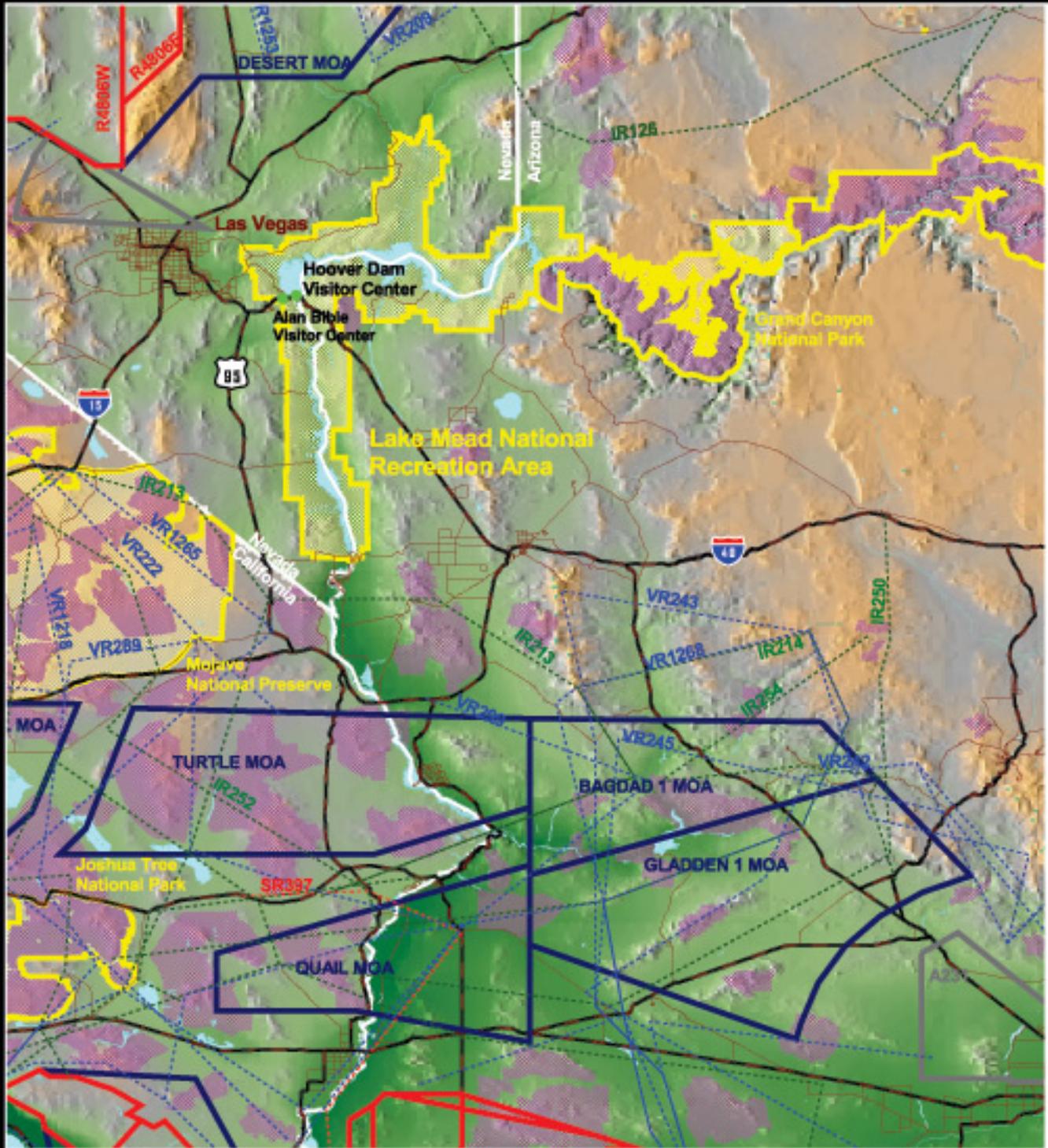
Air Force Installations with Airspace Near the Park. None.



Lake Mead National Recreation Area

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p> <p>LAME</p>	<p>10 0 10 20 30 40 50 Miles</p> <p>1 : 2,000,000 1 inch = 10.0 miles</p>
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LAKE MEAD NATIONAL RECREATION AREA

Nevada / Arizona

PARK CONTACTS

Lake Mead NRA

601 Nevada Highway
Boulder City, NV 89005-2426
(702) 293-8920

Superintendent

(702) 293-8920
(702) 293-8986 fax
E-mail:
lame_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(702) 293-8920

Wilderness Coordinator

(702) 293-8920

Park Acronym: LAME

Park Website:

<http://www.nps.gov/lame>

Background and Significance. Lake Mead National Recreation Area consists of two large reservoirs 110-mile-long Lake Mead and 67-mile-long Lake Mohave plus more than 1 million acres of surrounding desert and mountains. Lake Mead was formed by Hoover Dam, and Lake Mojave was formed by Davis Dam, both on the Colorado River. The dams are operated by the Bureau of Reclamation. The lakes and surrounding shorelines were included in the National Park System in 1964 as the nation's first national recreation area.

Park Features and Values. Hoover Dam is a towering symbol of what human genius can achieve. The 726-foot-high dam, higher than any built before, was completed in 1935. More than 5,000 men worked night and day for 5 years to erect the giant concrete structure between the deep, rugged walls of Black Canyon. Davis Dam, a rock-and-earth structure downstream from Hoover Dam, was completed in 1953.

Three of America's four desert ecosystems, the Mojave, the Great Basin, and the Sonoran Deserts, meet in the park. As a result, this seemingly barren area contains a surprising variety of plants and animals, some of which may be found nowhere else in the world. To survive in Lake Mead country, animals and plants generally have adopted one of two life-styles. Desert dwellers, like bighorn sheep, road-runners, Joshua trees, and cacti, are adapted to living under a set of grueling conditions. They endure temperatures above 110 degrees, an annual rainfall of less than 6 inches, and a meager food supply. The others, including water birds and many aquatic plants and animals, live in relative ease, attracted to the manmade environment of Lake Mead and Lake Mohave, where freshwater and food are plentiful year-round.

Petroglyphs, ruins of an ancient city, and other traces of prehistoric life found in Lake Mead country suggest how Indians survived here ages ago. Nomadic desert tribes hunted bighorn sheep and smaller game and collected wild plants such as yucca and pinyon pine nuts. River tribes, living in pit dwellings or stone houses, fished the Colorado and grew irrigated crops of maize, squash, and beans.

Visitor Use and Enjoyment. Lake Mead is visited by roughly nine million people annually. The park offers a wealth of things to do and places to go year-round. Its huge lakes cater to boaters, swimmers, sunbathers, and

fishermen, while its desert rewards hikers, wildlife photographers, and roadside sightseers.

Drawn primarily by the water, visitors find many other unexpected rewards, including the seemingly desolate quiet and harsh beauty of the desert. The raw, untouched desert backcountry provides a stark contrast to the man-made dams and lakes. Some of the surrounding desert can be accessed from the lake, but the isolated Shivwits Plateau in Arizona can be reached only by unpaved roads from the north. The range of experiences is extensive for park visitors. An introductory movie, exhibits, books, brochures, and topographic maps and nautical charts are available at the visitor center.

The Bureau of Reclamation offers guided tours of Hoover Dam and self-guiding tours of Davis Dam.

Hunting of game species is allowed in season.

Noise-Sensitive Areas/Resources.

Sensitive wildlife habitat: Wildlife may be particularly vulnerable to noise during periods of migration, mating, or birthing. Threatened, endangered, and other species of special concern, because of their tenuous populations, may be vulnerable to stress at any time. The sensitive wildlife in this park include bighorn sheep, which inhabit the steep rocky ridges along both lakes shorelines. The lakes and shoreline areas also provide habitat for resident and migratory ducks, cormorants, geese, egrets, herons, pelicans, ospreys, and bald eagles, also considered sensitive.

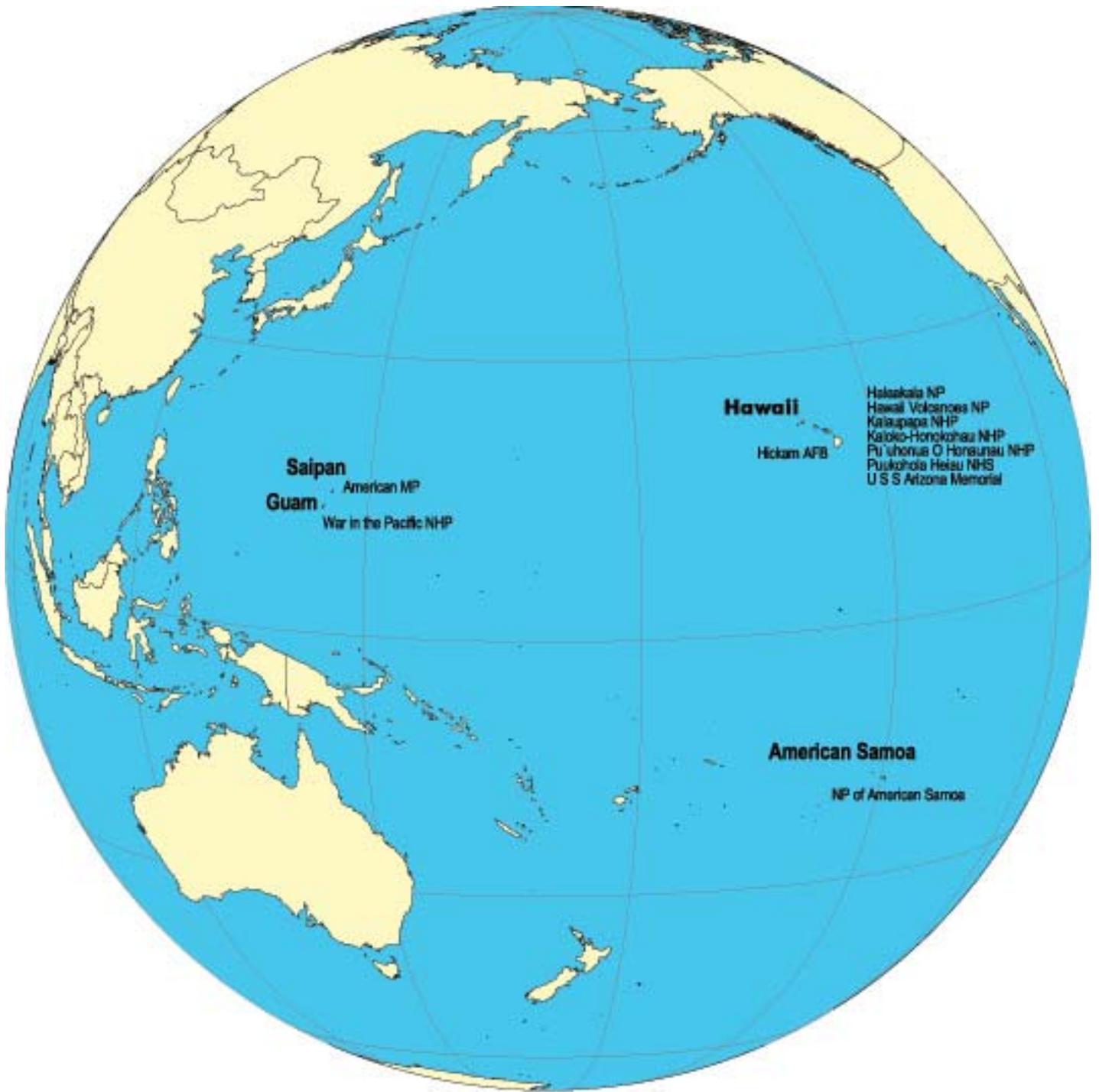
The park's desert country is also considered noise-sensitive.

Airspace Over/Near the Park. The park experiences recurring commercial air tour flights over the lake and its environs and a large number of air tour aircraft pass over Lake Mead on their way to tour the Grand Canyon. Scheduled commercial aircraft fly at high altitudes over the park. Navy Route VR209 traverses the park from east to west.

Air Force Installations with Airspace Near the Park.

Please refer to the Nellis AFB narrative and map for specific information about Air Force/military use of the airspace.





American Memorial Park

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p> <p>AMME Northern Mariana Islands</p>	<p>2 0 2 4 Miles</p> <p>1 : 160,000 1 inch = 2.0 miles</p>
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2002

AMERICAN MEMORIAL PARK

SAIPAN, MP

CONTACTS

American Memorial Park

P.O. Box 5189 CHRB
Saipan, MP 96950

Superintendent

Phone: (670) 234-7207
Fax: (670) 234-6698
E-mail: amme_administration@nps.gov

Chief Ranger (primary contact for airspace issues)
(670) 234-7207

Park Acronym: AMME

Park Website:

<http://www.nps.gov/amme>

Background and National Significance. *At 0840 on June 15, 1944, initial waves of the 2nd and 4th U.S. Marine Divisions stormed onto a narrow beachhead on Saipan. The enemy guns were ranged-in on the beaches and shells rained down with deadly effect. Marine units, supported by Naval and Army Air Corps bombardment, and joined by the U.S. Army's 27th Infantry Division, waged savage warfare. For most of the soldiers, seamen, and airmen it was yet another invasion. For many it would be their last. For the world it was the beginning of the end of the Pacific War.*

The Marianas Campaign of World War II was the most decisive battle of the Pacific theater. With Saipan secured on July 9th, U.S. Forces were able to cut off vital Japanese supply and communication lines, and American B-29 bombers moved within range of the Japanese homeland. The end of the war with Japan followed 14 months later.

American Memorial Park honors the American and Marianas people who gave their lives during the Marianas Campaign. The Court of Honor and Flag Circle, where the names of more than 5,000 American soldiers, seamen, and airmen who died in "Operation Forager" (the battles for Saipan and Tinian islands) and in the Battle of the Philippine Sea are inscribed, was dedicated in 1994, coinciding with the 50th anniversary of the campaign. Over 100 veterans of the Marianas and Iwo Jima campaigns of World War II returned for the 50th Anniversary Commemoration ceremonies to pay tribute to their fallen comrades.

The U.S. flag proudly flies 24 hours a day at the Memorial, surrounded by the flags of the U.S. Army, Marine Corps, Navy, and Air Force

American Memorial Park is managed by the National Park Service, in partnership with the Government of the Commonwealth of the Northern Mariana Islands (CNMI).

Park Features and Values. Situated on 133 acres of land along the western side of Saipan, the Park's concept of a "living memorial" offers activities enjoyed over half a

century ago by American service men and women. Visitors to the Park can enjoy similar activities today, including water sports, tennis, softball, jogging and bicycling. Bordering the Park is Micro Beach, one of Saipan's finest white sand beaches, beckoning windsurfers, snorkelers, sunbathers and picnickers. A photographer's fancy, Micro Beach provides a breathtaking view of Managaha Island and dramatic evening sunsets. The park has a 1.5-mile walking path along its scenic and historic length. For the tennis enthusiast, the Park offers four tennis courts with night lighting for evening sets. The Park's modern 1,200-seat Amphitheater is a popular stage for a wide variety of local events such as the annual Liberation Day Celebration, arts and craft festivals, concerts, and graduations. The local government operates a public marina which is integrated within American Memorial Park.

Visitor Use and Enjoyment. One of the best kept secrets in American Memorial Park is a 30-acre wetland and mangrove forest. Consisting of mudflats, marshes, and mangroves, this remnant habitat is now quite scarce in the Northern Marianas. The wetland is an excellent environment for native bird species, including the endangered Nightingale Reed-Warbler.

A carillon belltower in the park tolls every half-hour. At certain times of the day, bells chime the American and the Marianas Anthems, a selection of patriotic tunes, hymns, and songs of hope and cheer. The carillon plays Taps each evening to honor those who made the ultimate sacrifice in the fight for freedom.

Noise-Sensitive Areas/Resources.

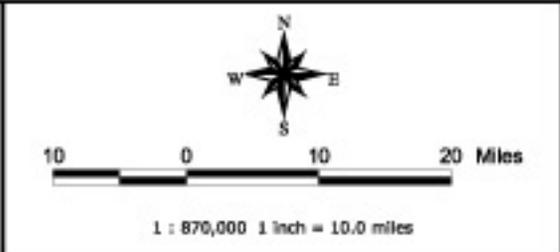
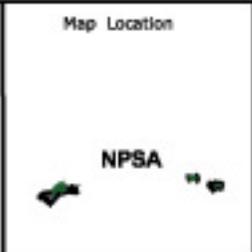
Cultural landscape: This Park serves as a memorial to the men who fought and died here in 1944 in the Marianas Campaign of World War II. It lends itself to quiet contemplation on the part of visitors.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

Air Force Installations with Airspace Near the Park. None.



Park Boundary	Military Training Routes
Wilderness	IR
Roads	VR
Highways	SR
Secondary Roads	Special Use Airspace
Developed Areas	Warning
Major Peak	Alert
	MOA
	Prohibited
	Restricted



NATIONAL PARK OF AMERICAN SAMOA

SAMOA

CONTACTS

NP of American Samoa

Pago Pago, American Samoa
96799-0001
(684) 633-7082

Superintendent

(684) 633-7082
011-684-633-7085 fax
E-mail:
npsa_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(684) 633-7082

Wilderness Coordinator

(684) 633-7082

Park Acronym: NPSA

Background and National Significance.

Paleotropical rainforests, pristine coral reefs, and white sand beaches characterize the three volcanic islands that are home to the National Park of American Samoa, a new, remote, and relatively unknown unit of the National Park System. The park is located in the U.S. Territory of American Samoa, a group of six islands (76 square miles) in the South Pacific, between Fiji and Tahiti. Situated some 2,600 miles southwest of Hawaii, it is the only U.S. national park south of the equator and preserves the only mixed-species paleotropical rainforest in the United States.

The park, authorized in 1988, encompasses 9,000 acres of land and about 2,500 acres under water. None of the land is federally owned; it is leased from the eight villages that comprise the park. The park's mission includes assisting in the preservation of the 3,000-year-old Samoan culture, and the National Park Service works closely with village councils to develop and implement park regulations and programs.

Park Features and Values. The park includes sections of three tropical volcanic islands: Tutuila, Ta'u, and Ofu. Almost all of the land area of these islands from the mountaintops to the coast is rainforest. The park's underwater acreage is offshore from all three islands and

includes some of the finest examples of Indo-Pacific coral reef. The park is home to unique tropical animals including the flying fox, Pacific boa, tortoises, and an array of birds and fish.

Visitor Use and Enjoyment. A new visitor center is located in the Pago Plaza office building on the island of Tutuila. Overnight visits in the villages, arranged through the Park's "homestay" program, are encouraged. The Park is actively developing a trail system in the Tutuila unit and will be developing trails on Ta'u within the next few years.

Noise-Sensitive Areas/Resources.

Cultural landscape: Much of this park is zoned and managed to preserve and immerse visitors into a living cultural landscape, where the Samoan people continue to live much as they have for centuries. Visitors come to learn about this way of life. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the cultural significance of this place.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

Air Force Installations with Airspace Near the Park. None.



War in the Pacific National Historical Park

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	<p>2 0 2 4 6 Miles</p> <p>1 : 230,000 1 Inch = 2.0 miles</p>
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WAR IN THE PACIFIC NATIONAL HISTORICAL PARK

Guam

PARK CONTACTS

War in the Pacific National Historical Park

115 Marine Drive, Haloda Bldg.
Piti, Guam 96915

Superintendent

(671) 472-7240

(671) 472-7241 fax

E-mail:

wapa_superintendent@nps.gov

Park Acronym: WAPA

Park Website:

<http://www.nps.gov/wapa>

Background and National Significance. War in the Pacific National Historical Park is located on the island of Guam, an unincorporated U.S. territory located about 3,800 miles west of Hawaii. The park encompasses nearly 2,000 acres of inland and offshore areas that were the major battlefields where the Japanese and Americans fought during the Battle for Guam in 1944. These sites were designated a national park in 1978 to commemorate the bravery and sacrifice of those participating in the campaigns of the Pacific Theater of World War II, and to conserve and interpret outstanding natural, scenic, and historic values and objects on the island of Guam. This is the only site in the National Park System that honors the bravery and sacrifices of all those involved in the Pacific War, including Americans, Japanese, Australians, Canadians, Chinese, French, the British, the Dutch, New Zealanders, and Russians. It also honors the indigenous people of Guam, the Chamorros, whose personal war experiences represent one of many stories of Pacific Islanders whose homelands became battlegrounds during the tragic years of World War II.

Park Features and Values. At War in the Pacific, the battlefields, trenches, gun emplacements, and historic structures all serve as reminders of the bloody battles that ensued on the Island of Guam. The Asan Beach Unit is the site of the northern landing beach where the Third Marine Division came ashore for the initial assault on July 21, 1944. On the high ground above the hills of Asan, Japanese troops dug in and prepared to defend the island. It would take 20 long days of fighting before the island was declared secure. War-related structures and sites, all associated with Japanese defenses, are located at Asan Point and Adelup Point. The remains of some American military equipment lie underwater in the offshore area. The Liberators Memorial at Asan Point honors the U.S. armed forces who participated in the 1944 landing. A panoramic view of the Asan landing beach and hillside battleground can be seen from this site.

The Asan Inland Unit encompasses the cliffs and hillsides where the American landing forces met heavy resistance from Japanese troops. Today the area is covered with thick jungle growth or swordgrass savannah, which makes hiking fairly difficult. Scattered throughout this site are numerous caves, foxholes, and pillboxes. The Memorial Wall at the Asan Bay Overlook honors the 1,700 American servicemen who died liberating the island from the Japanese and 16,000 Chamorros who suffered war atrocities, forced labor, and death during the Japanese occupation.

The Mt. Tenjo/Mt. Chachao Unit is the site where U.S. marines and army troops joined together, pushing the Japanese to the northern side of the island. Mt. Chachao, which served as the Japanese headquarters, is honey-combed with caves and tunnels surrounded by foxholes and machine gun nests. This vantage point provides a scenic overview of the surrounding area, Apra Harbor, and Orote Point.

The Agat Unit, encompasses two beachfront areas: Ga'an Point and Apaca Point. Ga'an Point is the site of the southern landing beach, where marines and army soldiers

from the First Marine Provisional Brigade and 305th Regiment of the 77th Army Infantry stormed the shores under heavy Japanese gunfire. The beach and offshore area here are relatively unspoiled and provide a good impression of how they looked in 1944. Several pieces of American military equipment still lie underwater near the edge of the reef.

The Mount Alifan Unit is located behind the village of Agat. This former Japanese command post contains the remains of bomb craters, foxholes, and trenches. The slopes of these hills saw heavy fighting between the marines and the defending Japanese forces. Access to the area is fairly difficult, allowing only limited hiking.

The Fonte Plateau Unit site of a former Japanese naval communications center is currently undeveloped. The U-shaped cave was later turned into a typhoon shelter.

Visitor Use and Enjoyment. The park receives approximately 150,000 visitors annually. The visitor center in the village of Asan offers museum exhibits and audiovisual programs telling the story of the Pacific Theater of World War II. The award winning *Liberating Guam: the U. S. Comes Back* audiovisual program depicts the pre-war lifestyles of the Chamorros and describes the invasion and occupation by the Japanese, leading to the retaking of the island by American forces. Visitors have an opportunity to learn about America's strategic planning efforts, the island-by-island fighting techniques used throughout the Pacific, and Japan's defensive tactics in constructing defensive installations in the cliffs and hills of these islands. The personal accounts of veterans and Chamorros have been incorporated into interpretive programs and museum exhibits.

Fishing, hiking, picnicking, snorkeling, and diving are permitted. Picnic areas are available at Asan Beach Unit, Ga'an Point, and Apaca Point.

Noise-Sensitive Areas/Resources.

Cultural landscape: As a former battlefield, this historic park serves as a memorial to the men who fought and died here in the Battle for Guam in 1944. It lends itself to quiet contemplation on the part of visitors.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

Air Force Installations with Airspace Near the Park. None.



Hickam Air Force Base

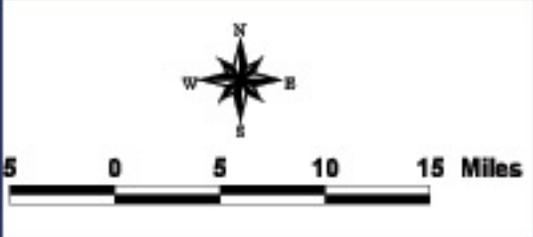
Air Force Installations

Headquarters Air Force Ranges and Airspace
Department of Defense



34

National Park	Military Training Routes
Air Force Base	IR
AF Guard/Reserve Base	SR
	VR
	Special Use Airspace
	Warning
	Alert
	MOA
	Prohibited
	Restricted



2002

HICKAM AIR FORCE BASE

Hawaii

CONTACTS

Public Affairs

15th ABW/PA
800 Scott Circle
Hickam AFB, HI 96853-5328
(C) 1-808-449-2490
DSN: 449-2490

Environmental Management

15th ABW/CE
800 Scott Circle
Hickam AFB, HI 96853-5328
(C) 1-808-449-9073
DSN: 449-9073

Airspace Management

Hickam AFB is not the
Scheduling Agency for any
airspace.

Wing Commander

15th ABW/CC
800 Scott Circle
Hickam AFB, HI 96853-5328
(C) 1-808-449-6341
DSN: 449-6341

About the Installation: In 1934, the Army Air Corps began construction of an airport from tangled brush and sugarcane fields adjacent to Pearl Harbor on the island of Oahu. The new airfield was dedicated on May 31, 1935 and named in honor of Lt. Col. Horace Meek Hickam, a distinguished aviation pioneer who was killed in an aircraft accident on Nov. 5, 1934, at Fort Crockett in Galveston, Texas. In October 1980, the Secretary of the Interior designated Hickam AFB as a National Historic Landmark, recognizing it as one of the nation's most significant historic resources associated with World War II in the Pacific. Today it consists of 2,850 acres of land and facilities where it shares its runways with adjacent Honolulu International Airport (HIA), Hickam and the HIA constitute a single airport complex operated under a joint-use agreement. The 15th Air Base Wing (ABW), is the host unit and provides maintenance and refueling for aircraft transiting Hickam between the continental United States and the Western Pacific, as well as housing and feeding transient personnel.

Aircraft:

- Cargo/Transport: C-130, C-37 (DV), C-135 (DV), C-17
- Fighters: F-15
- Tankers: KC-135

Threatened and Endangered Species:

- *Birds:* Hawaiian Stilt

National Parks Under/Near the Airspace: None

SUA & MTR AIRSPACE DETAILS

[Not Scheduled by the USAF but in proximity]

Airspace Scheduled By & Effective Times:

United States Navy
Fleet Area Control and Surveillance
Facility (FACSFAC)
Pearl Harbor, Hawaii
(C) 1-808-472-7338 / DSN: 472-7338

W189 ----- Continuous

25th Infantry Division
Schofield Barracks
P.O. Box 4009
Honolulu, Hawaii
(C) 1-808-456-1193 / DSN: 456-1193

A311	Continuous 1700-0800Z
R3109 A	Intermittent by NOTAM
R3109 B	Intermittent
R3109 C	Intermittent by NOTAM
R3110 A	Intermittent by NOTAM
R3110 B	Intermittent
R3110 C	Intermittent by NOTAM

Haleakala National Park

National Park Service
U.S. Department of the Interior



National Park Units



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	
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2002

HALEAKALA NATIONAL PARK

Hawaii

PARK CONTACTS

Haleakala NP

P.O. Box 369
Makawao, Maui, HA 96768-0369
(808) 572-4400

Superintendent

(808) 572-4401
(808) 572-1304 fax
E-mail:
hale_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(808) 572-4430

Aviation Manager

(808) 572-4490

Park Acronym: HALE

Park Website:

<http://www.nps.gov/hale>

Background and National Significance. Haleakala National Park was established on the island of Maui to preserve the outstanding features of Haleakala Crater. Later additions to the park gave protection to the unique and fragile ecosystems and rare biotic species of the Kipahulu Valley, the scenic Pools of Ohe o, and Ka apahu along the coast. Originally part of Hawaii Volcanoes National Park, Haleakala was redesignated as a separate unit of the National Park System in July 1961. In 1980, Haleakala was designated a biosphere reserve in recognition of its outstanding scenic and scientific values.

Park Features and Values. The park stretches from the summit of Mount Haleakala eastward to the southeast coast, joining two special areas: Haleakala Crater, near the summit, and the Kipahulu/Ka apahu coastal area. Of the park's 30,183 acres, 24,719 are designated wilderness.

Haleakala Crater is now a cool, cone-studded reminder of a once-active volcano. Streaks of red, yellow, gray, and black trace the courses of recent and ancient lava, ash, and cinder flows. The volcanic rocks slowly break down as natural forces reduce them to minute particles which are swept away by wind, heavy rain, and intermittent streams.

The park's extremely diverse life zones extend from the seemingly barren alpine/aeolian zone to the lowland coastal zone and from dry (leeward) forests receiving as little as 20 inches of annual precipitation to rain (windward) forests that receive as much as 400 inches. Dry forests may once have been more extensive than the rain forests, but browsing animals, grass invasions, and fire have drastically reduced them. Small patches of dry forest are preserved in Kaupo Gap. In contrast, a vast native loa and ohi a rain forest thrives, just as it has for thousands of years, still relatively undisturbed by the influences of man. Here the endangered Maui nukupuu (parrotbill) and other native birds still survive in a delicately balanced environment.

Stream ecosystems cut across several life zones. The lush Kipahulu section of the park features a chain of pools of ever-changing character, some large, some small, and each connected by a waterfall or short cascade. Ohe o, the stream joining the pools, has many moods, and during flash floods becomes a thundering torrent of white water burying these quiet pools as it churns and plunges headlong toward the ocean. A pastoral scene of rolling grasslands and forested valleys surrounds the pools. Pictographs, painted by long-forgotten artists, and farm plots once flourishing with cultivated taro and sweet potatoes, are reminiscent of an age when the *ali i* (the Hawaiian chiefs) ruled this island.

The coastal Kipahulu and Ka apahu areas once supported a large population of Hawaiians. Current estimates place several hundred thousand people in the Hawaiian Islands at the time of Captain Cook's arrival. These people were skilled at fishing, farming, collecting, and craftwork. Management of their resources was based on *Malama Aina* (caring for the land), an ideal still alive among Hawaiians today. *Lo i kalo* (taro patches), fishing shrines, *heiau* (temples), canoe ramps, and retaining walls are lasting reminders of these dynamic cultural ideals.

Visitor Use and Enjoyment. The park was visited by approximately 1.5 million persons in 2001. No roads connect the crater with the coast inside the park, although each can be reached by the Hana Highway (north coast) and Pi lani Highway (south coast) from Kahului. The park has three visitor centers, at park headquarters, near the summit, and at Kipahulu.

Noise-Sensitive Areas/Resources.

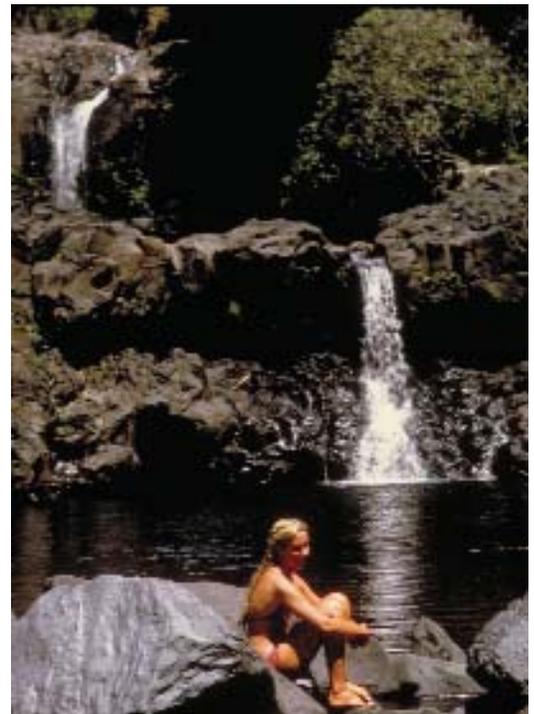
Wilderness: About three-quarters of this park, including Haleakala Crater and the Kipahulu Valley, is congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Sensitive wildlife habitat: Numerous threatened and endangered birds live and nest in the park's wilderness and in the State of Hawaii Hanawi Natural Area Reserve. They may be particularly vulnerable to stress caused by loud aircraft noise because of their tenuous populations.

Outstanding Educational and Recreational Features. The Kipahulu shoreline near the Pools of Ohe o attracts large numbers of visitors who come to enjoy the outstanding natural features of this area, including the natural sounds of water and wildlife.

Airspace Over/Near the Park. Haleakala's agreement with commercial air tour operators includes provisions prohibiting flying over park wilderness as well as the State of Hawaii's Natural Area Reserve adjacent to the northern boundary of the park.

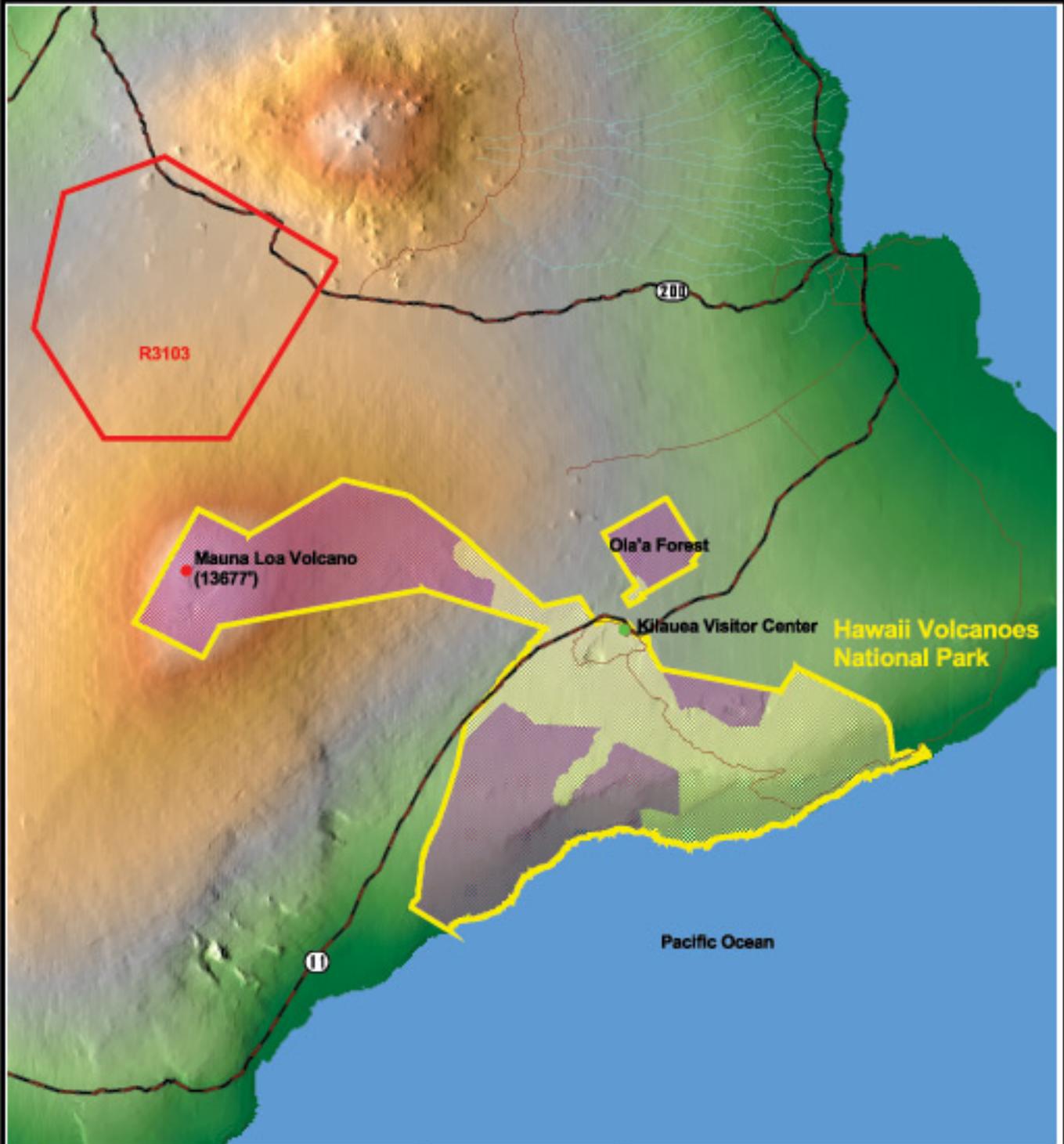
Air Force Installations with Airspace Near the Park. None.



Hawaii Volcanoes National Park

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	<p>5 0 5 10 Miles</p> <p>1 : 500,000 1 inch = 5.0 miles</p>
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HAWAII VOLCANOES NATIONAL PARK

Hawaii

PARK CONTACTS

Hawaii Volcanoes NP

P.O. Box 52
Hawaii National Park, HA 96718-0052
(808) 985-6000

Superintendent

(808) 985-6000
(808) 967-8186 fax
E-mail:
havo_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(808) 985-6000

Wilderness Coordinator

(808) 985-6000

Park Acronym: HAVO

Park Website:

<http://www.nps.gov/havo>

Background and National Significance. Mark Twain once described Hawaii as the loveliest fleet of islands that lies anchored in any ocean. It is also the most isolated, lying 2,400 miles from any continental landmass. Hawaii Volcanoes National Park is located on the island of Hawaii, also known as the Big Island. This unit was established as part of Hawaii National Park, along with Haleakala on Maui. In 1961, its name was changed to Hawaii Volcanoes National Park, and Haleakala became a separate national park.

Hawaii Volcanoes displays the results of 70 million years of volcanism, species migration, and biological and cultural evolution processes that thrust a bare land from the sea and clothed it with complex and unique ecosystems and a distinct human culture. The park contains Earth's most massive volcano, Mauna Loa, which rises to 13,677 feet, and its most active volcano, Kilauea. Kilauea offers scientists insights into the birth of the Hawaiian Islands and visitors views of dramatic volcanic landscapes. Research by scientists at the Hawaiian Volcano Observatory has made Kilauea one of the best understood volcanoes in the world, shedding light not only on the birth of the islands but also on the beginnings of planet Earth.

At first, the park consisted only of the summits of Mauna Loa and Kilauea. But the park was enlarged a number of times, eventually covering lava fields, rain forest, and deserts, extending from sea level to almost 14,000 feet. It harbors some of the world's rarest and most extraordinary plants, birds, insects, snails, and spiders.

In 1980, the park was designated an international biosphere reserve in recognition of its important volcanic sites; its volcanic island ecosystem, which preserves one of the largest significant ecosystems on the Hawaiian Islands; and its cultural and historic sites. In 1987, it received world heritage site status in recognition of its outstanding natural, historical, and cultural values. More than half the park is designated wilderness.

Park Features and Values. Hawaii Volcanoes National Park preserves 339 square miles of the island's volcanic wonders and is a refuge for surviving native plants and animals. The park also preserves the island's native culture and archeological sites. Ancient petroglyphs, rock walls, trails, and agricultural pits and mounds abound and serve as tangible reminders of an indigenous people forever linked to this land.

The park is an island within an island. It is a shelter for what remains of the once-rich tapestry of Hawaiian life a tapestry unraveled by alien species. In some areas of the park, natural habitats have been damaged beyond recovery by people and the alien species they have brought to the islands. The park concentrates its energies on the most biologically diverse habitats and those that offer the best chance for successful restoration. The immediate strategy is to control or eliminate the most disruptive alien plant and animal invaders. Park crews erect fences to keep out feral animals; hunt feral pigs; and pull out or cut down firetree, banana poka, guava, and ginger. As native plant communities reestablish themselves, populations of Hawaiian honeycreepers, Hawaiian goose, Kamehameha butterflies, and happyface spiders once again flourish.

Wherever lava meets the sea, the island grows. Since 1983 more than 550 acres of new land have been added to the Big Island. At Kilauea, the very ground is sacred to the Hawaiian people. Kupuna, respected Hawaiian elders, teach *malama o ka aina*, care for the land and the land will care for you.

Visitor Use and Enjoyment. The park is visited by approximately 2.5 million people annually. The Kilauea Visitor Center provides information and orientation to the park's roads, trails, activities, and safety precautions.

Noise-Sensitive Areas/Resources. The whole park is considered noise-sensitive

Wilderness: More than half of this park is congressionally designated wilderness, where the imprint of man's work is to be substantially unnoticeable and where people may expect to find outstanding opportunities for solitude or a primitive and unconfined type of recreation. More than 70 miles of trail traverse the wilderness. The sounds and sights of overhead aircraft can greatly diminish people's sense of naturalness and solitude.

Sensitive wildlife habitat: Wildlife may be particularly vulnerable to noise during periods of migration, mating, or birthing. Hawaiian goose, Hawaiian hawk and dark-rumped petrel, all endangered species, inhabit the park from sea level to alpine areas.

Cultural Sensitivity: Hawaii's indigenous people view the volcanoes' summit craters, active lava flows, and other areas of the park as sacred. Natural phenomena such as wind and rain, geological features, and plants and animals are considered manifestations or *kino lau* (body forms) of the *akua* (gods) and *aumakua* (guardian spirits).

Airspace Over/Near the Park. The park experiences recurring commercial air tours. In most parks with air tours, the flight routes are predictable and stable, but in Hawaii Volcanoes they tend to follow the eruptions of Kilauea, meaning that noise impacts can move from place to place over the park. Weather conditions influence routes air tours take to view the park and current eruption activity. Low clouds in the Kilauea Summit area force tours to fly at lower elevations over coastal communities adjacent to the park. Members of these communities voice concerns over noise intrusion by this activity, especially during periods of prolonged inclement weather in the summit area.

The park contains the 50-acre Kilauea Military Camp, a recreation facility managed by the Department of Defense under a Special Use Permit with the National Park Service. During periods of heightened National Security or during visits by military command, military helicopters land at the camp following routes agreed upon by the Department of Defense and the National Park Service. These routes were chosen to reduce noise intrusion over the adjacent community. Growth of the community has created a condition where there are no true non-impact flight routes.

Air Force Installations with Airspace Near the Park. None.



Kalaupapa National Historical Park

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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KALAUPAPA NATIONAL HISTORICAL PARK

Hawaii

PARK CONTACTS

Kalaupapa NHP

P.O. Box 2222
Kalaupapa, HA 96742-2222
(808) 567-6802

Superintendent

(808) 567-6802, ext. 22
(808) 567-6729 fax
E-mail:
kala_superintendent@nps.gov

Chief Ranger (primary contact for airspace issues)

(808) 567-6802, ext. 25

Chief of Natural Resources

(808) 567-6802, ext. 41

Park Acronym: KALA

Park Website:

<http://www.nps.gov/kala>

Background and National Significance. The establishment of Kalaupapa National Historical Park in 1980 was an official recognition of the national and international importance of the lessons to be learned from the history of leprosy in Hawaii, where some 8,000 persons infected with the chronic, infectious disease were forcibly taken from their families and sent to what was often referred to as a living tomb. At the time they were sent to the Settlement on Molokai, it is doubtful that any of them thought that future generations would care about what happened on that small piece of land, but increasingly people are caring and realizing that there is much to be learned from these events and the people whose lives were shaped by them. The park stands as a monument to man's ability to conquer, both physically and spiritually, not only disease but man's inhumanity to man.

The Settlement remains a treatment center for leprosy. Since the mid-1940s, sulfone antibiotics have been used successfully against the disease, and now two or three antibiotics are used simultaneously to shorten treatment time. With this treatment, the infection is cured and within a few days or weeks even the most contagious patient becomes noninfectious. Isolation is a thing of the past, and all new cases are treated on an outpatient basis. Kalaupapa is jointly managed through a cooperative agreement by the State of Hawaii Department of Health and the National Park Service.

Park Features and Values. Prehistoric and historic remains from periods dating from 1,000 A.D. to the present are still visible within the park. These include hundreds of stone features, an extensive agricultural field system of rock walls, Molokai Lighthouse, two churches in Kalawao, approximately 400 structures in the Settlement, and numerous cemeteries, both marked and unmarked. The sheer number and types of archeological resources, the long time frame of occupation, and the excellent state of preservation of the resources combine to make Kalaupapa National Historical Park one of the richest and most valuable archeological preserves in Hawaii. The park is still a dynamic cultural landscape, with an active resident patient community.

In addition to its cultural history, the park has stunning natural resources in areas ranging from the dry northern end of the peninsula, through deep, moist valleys, up to the upper rain forests of the Puu Alii area. Some of the more remote areas of the park include rare native habitat for several endangered endemic plants and animals. Eight natural areas determined to be the most intact, diverse, unique, and manageable have been designated as special ecological areas: the coastal spray zone on the northeast shore of the peninsula; Pu u Ali i Natural Area Reserve; Waikolu Valley; the Kauhako Crater, caves, and lava tubes; the Kauhako Trench/Lava Tube; the *pali* (cliffs); and the submerged lands surrounding the peninsula. The park provides important habitat for at least four endemic forest birds, including the Molokai thrush (federally and state listed as endangered) and the *i'iwi* (very rare on Molokai, although large populations remain on other Hawaiian islands). The entire remaining habitat of these forest birds is currently severely threatened by nonnative species, especially feral pigs, goats, axis deer, and several species of habitat-modifying weeds.

Visitor Use and Enjoyment. The park's current visitation is approximately 18,000 visitors annually. To protect the privacy and lifestyle of the residents, visitors are prohibited from entering the Settlement without a permit/sponsor and must be at least 16 years of age. A visitor permit must be obtained in advance through one of the tour companies owned and operated by a patient. For those who do not have a visitor permit or the time to visit the Settlement itself, an excellent view of the peninsula is possible at Palaau State Park. NPS exhibits at the overlook provide important facts about Kalaupapa and its history.

Noise-Sensitive Areas/Resources.

Cultural Landscape: Much of the park is zoned and managed as a living cultural landscape. The park's historic setting is a powerful tool for helping people appreciate and understand the history of leprosy in Hawaii. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place. They may also intrude on the privacy and quiet sought by current residents.

Sensitive wildlife habitat: The park's threatened, endangered, and other species of special concern, because of their tenuous populations, may be vulnerable to stress caused by low-flying aircraft.

Airspace Over/Near the Park. Commercial air tour flights go over the park and land at the DOT, State of Hawaii airport at Kalaupapa. Currently the overflights are seasonal and park staff have noticed increases in rotary wing aircraft during the summer season (June-October). The U.S. Military Reserve occasionally practices touch-and-go exercises with their rotary aircraft at the airport. The Kalaupapa Airport is serviced by small commercial/com-muter airlines with daily flights to other islands.

The park utilizes rotary aircraft as part of special operations, including search and rescue, fire control, aerial capture, and supplying materiel to remote locations. Operations are primarily conducted under 1,500 AGL. Temporary flight restrictions are rare and only requested for large operations.

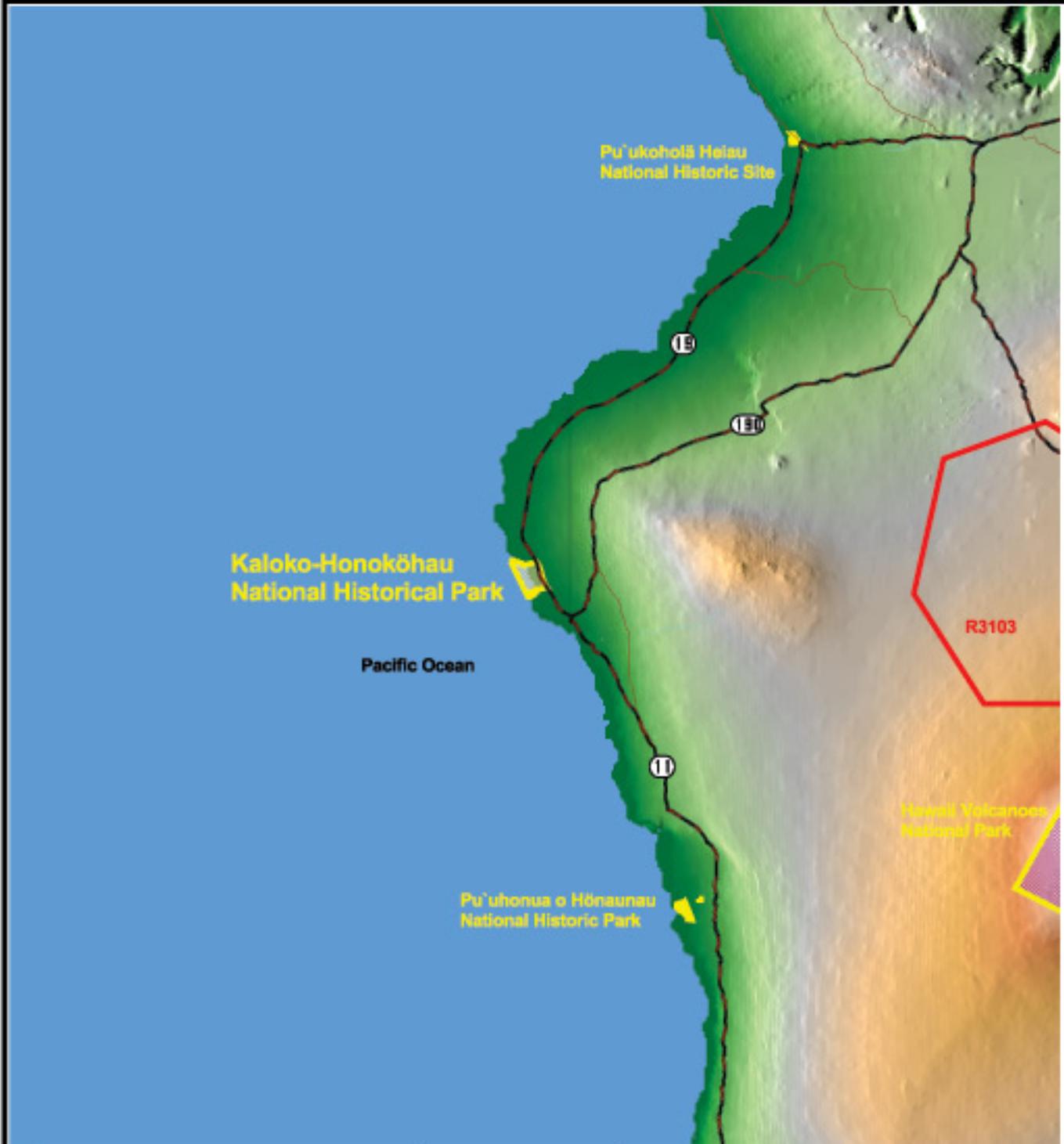
Air Force Installations with Airspace Near the Park. None.



Kaloko-Honokōhau National Historical Park

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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KALOKO-HONOKOHAU NATIONAL HISTORICAL PARK

Hawaii

PARK CONTACTS

Kaloko-Honokohau NHP
73-4786 Kanalani Street 14
Kailua-Kona, Hawaii
96740-2608
(808) 329-6881

Superintendent
(808) 329-6881
(808) 329-2597 fax
E-mail:
kaho_superintendent@nps.gov

Chief Ranger (primary contact
for airspace issues)
(808) 329-6881, ext. 205

**Resource Management
Coordinator**
(808) 329-6881, ext. 204

Park Acronym: KAHO

Park Website:
<http://www.nps.gov/kaho>

Background and National Significance. Kaloko-Honokohau National Historical Park was established in 1978 for the preservation, protection, and interpretation of traditional native Hawaiian activities, values, and culture. The site now included in the 1,160-acre park was continuously inhabited by native Hawaiians for more than 500 years. The park preserves an archeological record of great cultural and historical significance.

Park Features and Values. The site of an ancient Hawaiian settlement encompasses portions of four different *ahupua'a*, or traditional sea-to-mountain land divisions. Resources include fishponds, *kahua* (house site platforms), *ki'i p haku* (petroglyphs), *h lua* (stone slides), and *heiau* (religious sites).

Visitor Use and Enjoyment. The park receives approximately 45,000 visitors annually. Although visitation is fairly steady throughout the year, the park, like other places in Hawaii, receives more visitors in the winter months than in the summer months. A park orientation center will be completed in November 2002.

Noise-Sensitive Areas/Resources.
Cultural Landscape: Most of this park is zoned and managed to preserve and immerse visitors into a landscape evocative of traditional native Hawaiian culture.

The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Sensitive wildlife habitat: The park's fishponds are also habitat for endangered coastal wetland birds. Three endangered bird species nest in the park. The coral reefs are home to threatened sea turtles and other marine life. Threatened, endangered, and other species of special concern, because of their tenuous populations, may be particularly vulnerable to stress associated with low-flying aircraft. The effects of noise pollution on the park's bird populations are under study.

Airspace Over/Near the Park. The park lies in the potential flyway of the Kona International Airport. Because of nearby concentrations of housing, the airport tries to minimize this approach over the park. It is predominantly a civilian airport with only local inter-island traffic. Two flights a day are direct to the mainland and Japan.

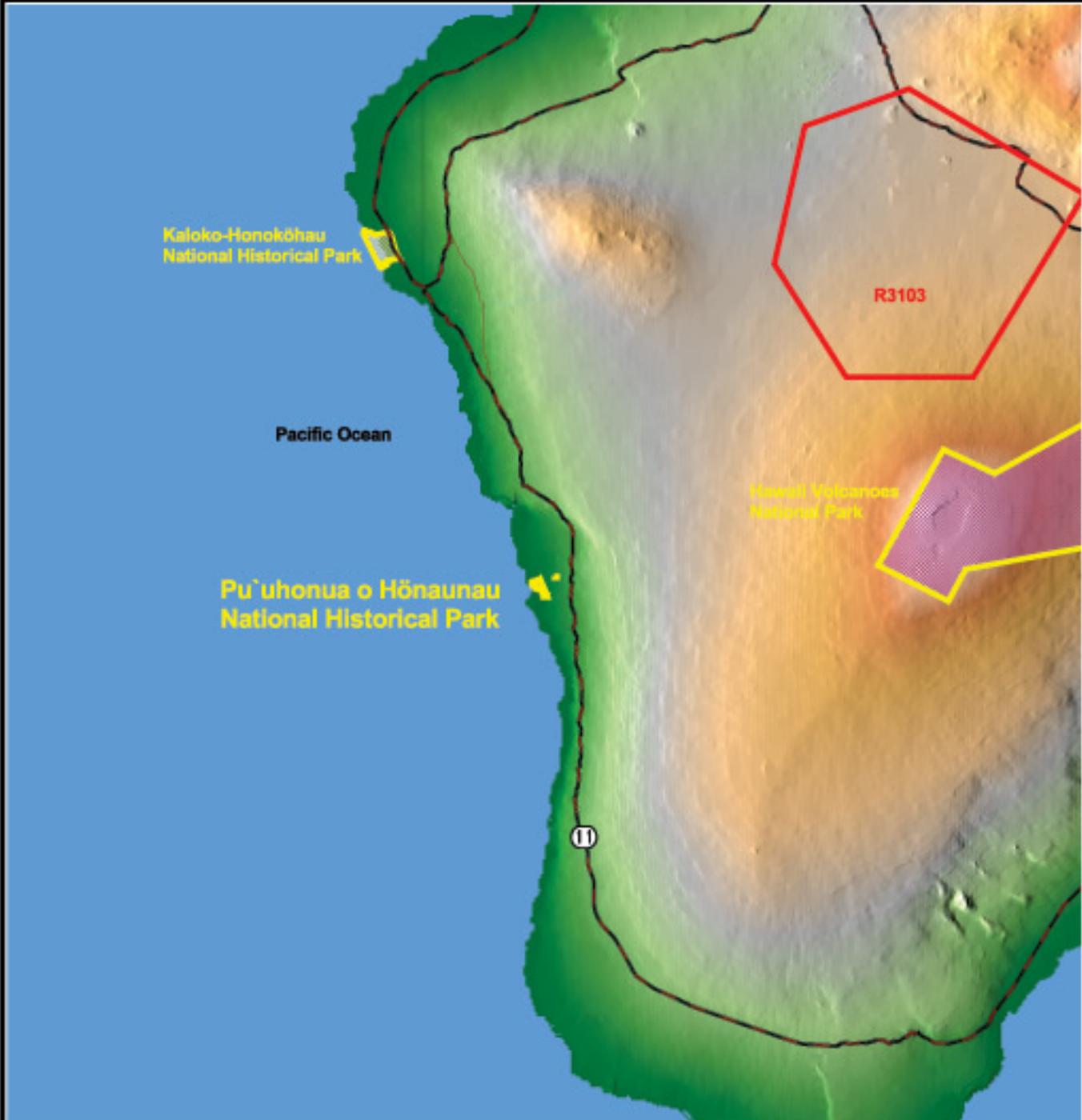
Air Force Installations with Airspace Near the Park.
None.



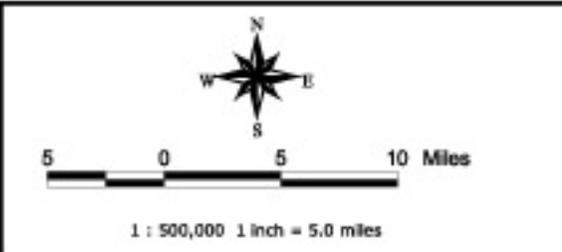
Pu`uhonua o Hōnaunau National Historical Park

National Park Units

National Park Service
U.S. Department of the Interior



Park Boundary	Military Training Routes
Wilderness	IR
Roads	VR
Highways	SR
Secondary Roads	Special Use Airspace
Developed Areas	Warning
Major Peak	Alert
	MOA
	Prohibited
	Restricted



PU UHONUA O HONAUNAU NATIONAL HISTORICAL PARK

Hawaii

PARK CONTACTS

Pu uhonua o Honaunau NHP

P.O. Box 129
Honaunau, Hawaii 96726-0129
(808) 328-2326

Superintendent

(808) 328-2326
(808) 328-2326 fax
E-mail:
puho_superintendent@nps.gov

Chief Ranger (primary contact
for airspace issues)
(808) 328-2326

Park Acronym: PUHO

Park Website:
<http://www.nps.gov/puho>

Background and National Significance. Pu uhonua o Honaunau National Historical Park preserves the site where, up until the early 19th century, Hawaiians who broke a *kapu* (one of the ancient laws against the gods) could avoid an otherwise certain death by fleeing to this place of *pu uhonua* (refuge). They could then be absolved by a priest and be free to go. Defeated warriors and non-combatants could also find refuge here during times of battle. The grounds just outside the great wall that encloses the pu uhonua were home to several generations of powerful chiefs.

The 182-acre park was authorized in 1955 as City of Refuge National Historical Park and was renamed in 1978.

Park Features and Values. The park features not only the pu uhonua, but also a complex of archeological sites including temple platforms, royal fishponds, sledding tracks, and some coastal village sites. The Hale o Keawe temple and several thatched structures have been reconstructed. These cultural features sit against a backdrop of spectacular shoreline scenery.

Visitor Use and Enjoyment. The park, which is located on the island of Hawaii, receives about a half million visitors a year. Heaviest visitation occurs during the Christmas holiday period, spring break, and late summer.

Noise-Sensitive Areas/Resources.

Cultural landscape: Most of this park is zoned and managed to preserve and immerse visitors into a landscape evocative of the historic time frame of traditional Hawaiian culture. The park's historic setting is a powerful tool for helping people appreciate and understand this period of America's history. The sounds and sights of overhead aircraft can greatly diminish people's ability to sense the historical significance of this place and detract from the enjoyment many people get from imagining themselves in a different time.

Airspace Over/Near the Park. No issues or concerns were noted by the park.

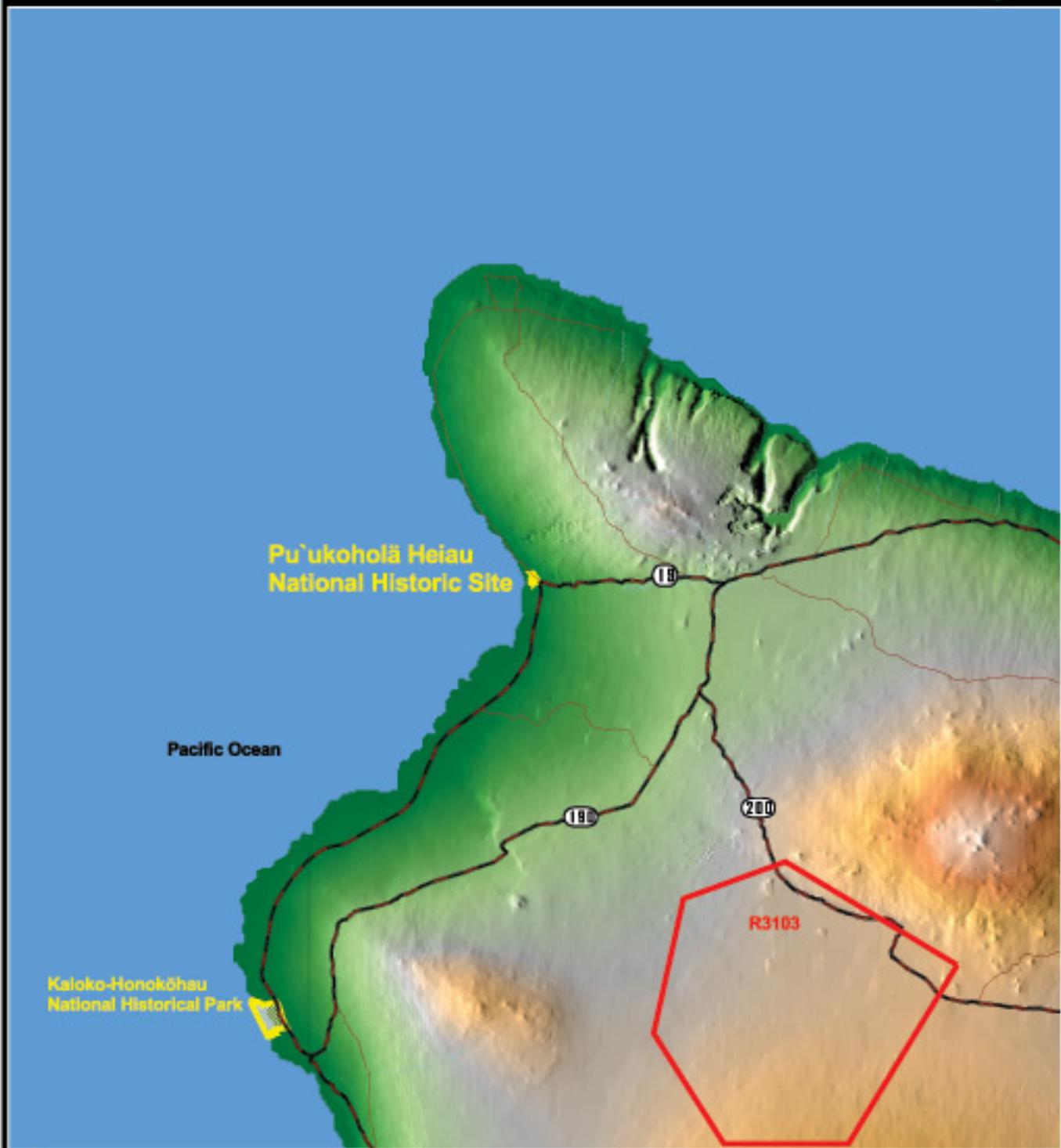
Air Force Installations with Airspace Near the Park. None.



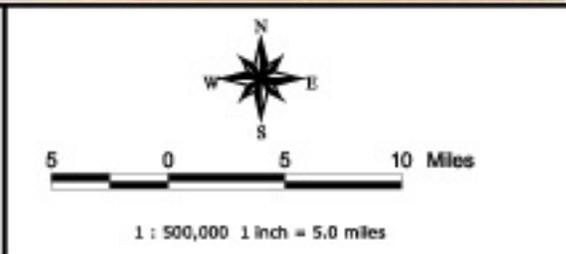
Pu`ukoholā Heiau National Historic Site

National Park Units

National Park Service
U.S. Department of the Interior



Park Boundary	Military Training Routes
Wilderness	IR
Roads	VR
Highways	SR
Secondary Roads	Special Use Airspace
Developed Areas	Warning
Major Peak	Alert
	MOA
	Prohibited
	Restricted



**PU UKOHOLA HEIAU
NATIONAL HISTORIC
SITE**

Hawaii

PARK CONTACTS

Pu ukohola Heiau NHS

P.O. Box 44340
Kawaihae, Hawaii 96743-4340
(808) 882-7218

Superintendent

(808) 882-7218, ext. 22
(808) 882-1215 fax
E-mail:
puhe_superintendent@nps.gov

Chief Ranger (primary contact
for airspace issues)

(808) 882-7218, ext. 26

Park Acronym: PUHE

Park Website:

<http://www.nps.gov/puhe>

Background and National Significance. This national park unit, which was authorized in 1972 and encompasses 85 acres, preserves the ruins of Pu ukohola Heiau (Hill of the Whale Temple), built by King Kamehameha the Great during his rise to power. The founding of the Hawaiian kingdom can be directly associated with the building of this structure, which according to a prophecy was the reason for Kamehameha's ascendancy over his rivals: By 1790 Kamehameha had invaded and conquered Maui, Lanai, and Molokai. Yet he was not able to lay full claim to his home island of Hawaii because of opposition from his cousin and chief rival Keoua Kuahu'ula. That year, the prophet Kapoukahi said that Kamehameha would conquer all the islands if he built a large heiau atop Pu ukohola at Kawaihae. The heiau was finished in the summer of 1791. Kamehameha invited his cousin to the dedication ceremonies, where a scuffle ensued and (whether Kamehameha had intended it or not) Keoua and almost all of his companions were slain. The death of Keoua ended all opposition on the island of Hawaii, and by 1810, through conquest (using Western military strategy and weapons) and treaties, Kamehameha the Great was the revered king of all the Hawaiian Islands.

Park Features and Values. Pu ukohola Heiau is considered the Independence Hall of Hawaii. To ensure perfection, Kapoukahi served as the royal architect. Thousands of men camped out on the hills for nearly a year to work on the massive structure. Workers, including Kamehameha himself, formed a human chain at least 20 miles long and transported the rocks hand to hand to the top of Pu ukohola. The stone temple was one of the last major sacred structures built in Hawaii before outside influences permanently altered traditional Hawaiian life. The temple today remains the scene of cultural events, gatherings, and traditional Hawaiian ceremonies.

The park also contains the ruins of an older temple, Mailekini Heiau, on the hillside between Pu ukohola Heiau and the sea. This older temple, possibly a war or agricultural temple used by the ancestors of Kamehameha, was nearly equal in size to Pu ukohola Heiau but was not so finely crafted. In 1812, Kamehameha's British advisor, John Young, helped the king convert this temple into a fort by placing twenty-two 22-caliber cannons within the temple confines. The ruins of a third temple, Hale o Kapuni Heiau, dedicated to the shark gods, lies submerged just offshore. This temple was last seen in the 1950s, when the rock platform was visible during low tides. The Stone Leaning Post overlooks the site of the shark temple, and was used by Chief Alapa'i Kupalupalumano to feed and observe the sharks.

The site of John Young's homestead contains what is regarded as the remains of Young's home, which was probably the first European-style house in the islands. Young was a British sailor who became stranded on Hawaii in 1790 and soon became a close associate and military advisor of Kamehameha. He built his house of basalt, the heavy, dark lava rock readily available near his site. Young also had coral blocks brought by canoe from the reef at Puako, dried them, and made a plaster of sand and burnt coral mixed with poi and hair. Even the fences around the animal pens were whitewashed as in Wales. Young's Hawaiian wife, the niece of Kamehameha, maintained a traditional lifestyle, living in a grass house apart

from her husband. Ruins of that traditional structure also remain at the site.

Visitor Use and Enjoyment. The park was visited by over 180,000 visitors in fiscal year 2001. Visitors find opportunities for hiking, taking guided and self-guided tours, viewing exhibits, and listening to interpretive talks. The Pu ukohola and Mailekini temples are fragile, and because they are sacred to native peoples, they are closed to the general public; however, they can be viewed from below. Hawaiian arts and crafts demonstrations are available one day a week from January to September. Special Hawaiian cultural programs are presented to the public throughout the year, including the cultural festival held each August, in which native Hawaiians and other Polynesian peoples celebrate their centuries-old traditions through ceremonies, demonstrations of ancient crafts, and the wearing of traditional dress. During the winter and spring months, visitors enjoy whale watching and shark sightings.

Noise-Sensitive Areas/Resources.

Cultural Landscape: Most of this park is zoned and managed to preserve a cultural landscape evocative of traditional Hawaiian culture. The heiaus are sacred to native peoples, and the area is intended for quiet reflection. The level of sensitivity becomes even greater when traditional ceremonies are in progress, particularly during organized gatherings in August each year.

Historic structures: The vibrations set in motion by loud noises can potentially cause structural damage to buildings. The Pu ukohola and Mailekini temples are fragile structures and are potentially susceptible to such sonic damage from low-flying and/or loud aircraft.

Airspace Over/Near the Park. To maintain the sanctity of this *wahi pana* (sacred site) and in respect to those native peoples and visitors who choose to honor the temples in traditional ceremony or in reverent solitude, commercial and military aircraft operating between Kawaihae Commercial Harbor (military transport point) and Pohakuloa Military Training Area (PTA) are provided with a flight plan which prevents overflights above the park except for emergencies, and they are encouraged to approach the Kawaihae Harbor from the ocean when possible.

Air Force Installations with Airspace Near the Park. None.



USS Arizona Memorial

National Park Units

National Park Service
U.S. Department of the Interior



<ul style="list-style-type: none"> Park Boundary Wilderness Roads Highways Secondary Roads Developed Areas Major Peak 	<ul style="list-style-type: none"> Military Training Routes IR VR SR Special Use Airspace Warning Alert MOA Prohibited Restricted 	<p>Map Location</p>	 <p>1 : 500,000 1 inch = 5.0 miles</p>
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USS ARIZONA MEMORIAL

Hawaii

PARK CONTACTS

USS Arizona Memorial
1 Arizona Memorial Place
Honolulu, Hawaii 96818-3145
(808) 422-2771

Superintendent

(808) 422-2771, ext. 114
(808) 483-8608 fax
E-mail:
usar_superintendent@nps.gov

Chief Ranger

(808) 422-2771, ext. 111

Park Acronym: USAR

Park Website:

<http://www.nps.gov/usar>

Background and National Significance. The USS Arizona Memorial grew out of the wartime desire to establish some sort of memorial to honor those who died in the Japanese attack on Pearl Harbor. Suggestions for such a memorial began in 1943, but the first real steps were taken in 1949, when the Territory of Hawaii established the Pacific War Memorial Commission. President Dwight D. Eisenhower, who helped achieve the Allied victory in Europe during World War II, approved the creation of the memorial in 1958. Its construction was completed in 1961 with public funds appropriated by Congress and private donations. The memorial was dedicated in 1962 and designated a National Park System unit in 1980. The USS Arizona Memorial is owned by the U.S. Navy and administered by the National Park Service under a cooperative agreement.

Park Features and Values. On December 7, 1941, shortly before 7:55 a.m., the first wave of Japanese aircraft attacked Pearl Harbor, where 130 vessels of the U.S. Pacific Fleet, including seven battleships, lay unsuspecting. At approximately 8:10 a.m., the USS Arizona exploded, having been hit by a 1,760-pound armor-piercing bomb that slammed through her deck and ignited her forward ammunition magazine. In less than nine minutes, the USS Arizona sank with 1,177 of her crew.

The 184-foot-long memorial structure spans the mid-portion of the sunken battleship, which is the final resting place for many of the ship's crewmen. The memorial structure consists of three main sections: the entry and assembly rooms; a central area designed for ceremonies and

general observation; and the shrine room, where the names of those killed on the Arizona are engraved on a marble wall.

Visitor Use and Enjoyment. The USS Arizona Memorial is visited by roughly 1.5 million people annually. The visitor center is located on the Pearl Harbor Naval Station, on the shoreline overlooking Pearl Harbor. The visitor center includes a museum, theater, and bookstore.

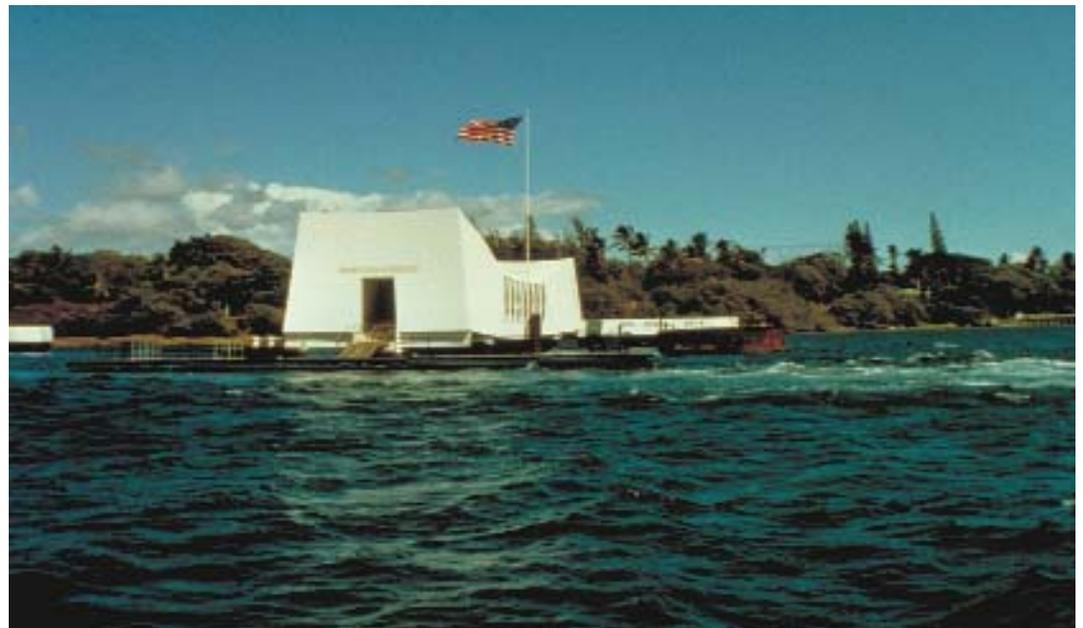
A free interpretive program consists of a brief talk by a park ranger, a 20-minute documentary film on the Pearl Harbor attack, and a trip to the memorial structure via a shuttle boat operated by the U.S. Navy. The entire program lasts approximately 75 minutes.

Noise-Sensitive Areas/Resources. The memorial is a cemetery environment. Visitors are asked to speak softly and to keep children under control.

Alfred Preis, the memorial's architect, observed, "The overall effect is one of serenity. Overtones of sadness have been omitted to permit the individual to contemplate his own personal responses his innermost feelings."

Airspace Over/Near the Park. No issues or concerns were noted by the park.

Air Force Installations with Airspace Near the Park. None.



Appendix A: Acronym List

AIR FORCE

AA	Alert Area	BW	Bomb Wing
ABW	Air Base Wing	C3	Command, Control, and Communications
ACC	Air Combat Command	CA	Control Area
ACM	Air Combat Maneuvers	CAP	Civil Air Patrol
ACT	Air Combat Training	CATEX	Categorically Excluded
AETC	Air Education and Training Command	CE	Civil Engineering
AF	Air Force	CEQ	Council on Environmental Quality
AFB	Air Force Base	CFA	Controlled Firing Area
AFFTC	Air Force Flight Test Center	CONUS	Continental United States
AFI	Air Force Instruction	DCM	Defensive Combat Maneuvers
AFMC	Air Force Material Command	DMA	Defense Mapping Agency
AFPD	Air Force Policy Directive	DOD	Department of Defense
AFR	Air Force Regulation	DOI	Department of Interior
AFR	Air Force Reserve	DOT	Department of Transportation
AFRC	Air Force Reserve Command	DRU	Direct Reporting Unit
AFREP	Air Force Representative to FAA	EA	Environmental Assessment
AFRES	Air Force Reserve	EIS	Environmental Impact Statement
AGL	Above Ground Level	EPA	Environmental Protection Agency
ALT	Altitude	FAA	Federal Aviation Administration
ALTRV	Altitude Reservation	FAR	Federal Aviation Regulation
AMW	Air Mobility Wing	FICAN	Federal Interagency Committee for Aviation Noise
ANG	Air National Guard	FL	Flight Level
ANGB	Air National Guard Base	FOA	Field Operating Agency
ANGS	Air National Guard Station	FONSI	Finding of No Significant Impact
AOPA	Aircraft Owners and Pilots Association	FW	Fighter Wing
AP	Aerial Planning	FWS	Fighter Weapons School
AR	Air Refueling Track	GMP	General Management Plan
ARC	AF/ANG Airspace and Range Council Meetings	GP	General Planning
AREFS	Air Refueling Squadron	HQ USAF	Headquarters United States Air Force
AREFW	Air Refueling Wing	IAP	International Airport
ARG	Air Rescue Group	IANRCG	Interagency Airspace Natural Resource Coordination Group
ARTCC	Air Route Traffic Control Center	IFR	Instrument Flight Rules
ASU	Airspace for Special Use	IMLUCC	Interagency Military Land Use Coordination Committee
ATC	Air Training Control	IR	Instrument Flight Rules Military Training Route
ATCAA	ATC Assigned Airspace	JCS	Joint Chiefs of Staff
ATD	Regional Air Traffic Division	KTS	Knots = 1.15 miles per hour
ATMPS	Air Tour Management Plans	KIA	Knots Indicated Air Speed
ATREP	FAA Military Air Traffic Rep.	LAAR	Low Altitude Air Refueling Route
ATS	Air Traffic Service	LANTIRN	Low Altitude Navigation and Targeting Infrared for Night
AW	Airlift Wing	LATN	Low Altitude Tactical Navigation Area
AWAC	Airborne Warning and Control	LOA	Letter of Agreement
BAM	Bird Avoidance Model	LOWAT	Low Altitude Air to Air Training
BASH	Bird/Aircraft Strike Hazard	LT	Laser Training
BFM	Basic Flight Maneuvers	M	Miles
BIA	Bureau of Indian Affairs	MAJCOM	Major Command
BLM	Bureau of Land Management		
BMGR	Barry M. Goldwater Range		

MAMS	Military Airspace Management System
MARSA	Military Assumes Responsibility for Separation of Aircraft
MILREP	Military Representative to the FAA
MOA	Military Operations Area
MOU	Memorandum of Understanding
MRTFB	Major Range and Test Facility Base
MSL	Mean Sea Level
MTR	Military Training Route
NAF	Numbered Air Force
NAR	National Airspace Redesign
NAS	Naval Air Station
NEPA	National Environmental Policy Act
NIMA	National Imagery and Mapping Agency
NM	Nautical Miles
NORAD	North American Aerospace Defense Command
NOTAM	Notice to Airmen System
NPCA	National Parks and Conservation Association
NSA	National Security Area
PA	Public Affairs
PA	Prohibited Areas
PBFA	DOD Policy Board on Federal Aviation
PTR	Primary Training Range
RAPCON	Radar Approach Control (USAF)
RA	Restricted Areas
ROA	Range Operating Agency
RW	Reconnaissance Wing
SAF	Secretary of the Air Force
SAM	Surface to Air Missile
SAMS	Special Use Airspace Management System (FAA)
SFAR	Special Federal Aviation Regulation
SR	Slow Speed Low Altitude Training Routes
SUA	Special Use Airspace
TAC	Tactical Air Command
T&E	Test & Evaluation
TFR	Temporary Flight Restriction
TRACON	Terminal Radar Approach Control
TSUA	Temporary Special Use Airspace
UAV	Unmanned Air Vehicles
USAF	United States Air Force
USCG	United States Coast Guard
USN	United States Navy
USNOF	The United States NOTAM Office
USA	United States Army
USAF	United States Air Force
UTTR	Utah Test and Training Range
VFR:	Visual Flight Rules
VR:	Visual Flight Rules Military Training Route
WA	Warning Area
WX	Weather

NATIONAL PARKS

Parks in FAA Western Pacific Region

Arizona

CACH	Canyon de Chelley National Monument
CAGR	Casa Grande National Monument
CHIR	Chiricahua National Monument
CORO	Coronado National Memorial
FOBO	Fort Bowie National Historic Site
GLCA	Glen Canyon National Recreation Area
GRCA	Grand Canyon National Park
HUTR	Hubbell Trading Post National Historic Site
MOCA	Montezuma Castle National Monument
NAVA	Navajo National Monument
ORPI	Organ Pipe Cactus National Monument
PEFO	Petrified Forest National Park
PIMA	Hohokam Pima National Monument
PISP	Pipe Spring National Monument
SAGU	Saguaro National Monument
SUCR	Sunset Crater National Monument
TONT	Tonto National Monument
TUMA	Tumacacori National Monument
TUZI	Tuzigoot National Monument
WACA	Walnut Canyon National Monument
WUPA	Wupatki National Monument

California

CABR	Cabrillo National Monument
CHIS	Channel Islands National Park
DEVA	Death Valley National
DEPO	Devils Postpile National Monument
EUON	Eugene O'Neill National Historic Site
FOPO	Fort Point National Historic Site
GOGA	Golden Gate National Recreation Area
JOMU	John Muir National Historic Site
JOTR	Joshua Tree National Park
JUBA	Juan Bautista de Anza National Historic Trail
LAVO	Lassen Volcanic National Park
LABE	Lava Beds National Monument
MANZ	Manzanar National Historic Site
MOJA	Mojave National Preserve
MUWO	Muir Woods National Monument
PINN	Pinnacles National Monument
PORE	Point Reyes National Seashore
REDW	Redwood National Park
RORI	Rosie the Riveter/World War II Home Front National Historical Park
SAFR	San Francisco Maritime National Historical Park
SAMO	Santa Monica Mountains National Recreation Area

SEKI Sequoia and Kings Canyon National Parks
 WHIS Whiskeytown-Shasta-Trinity National Recreation Area
 YOSE Yosemite National Park

Guam

WAPA War in the Pacific National Historical Park

Hawaii

HALE Haleakala National Park
 HAVO Hawaii Volcanoes National Park
 KAHO Kaloko-Honokohau National Historic Park
 KALA Kalaupapa National Historical Park
 PUHO Pu uhonua o Honaunau
 PUHE Puukohola Heiau National Historic Site
 USAR USS Arizona Memorial

Nevada

GRBA Great Basin National Park
 LAME Lake Mead National Recreation Area

American Samoa

NPSA National Park of American Samoa

Saipan

AMME American Memorial Park

Park Nomenclature

NB National Battlefield
 NBP National Battlefield Park
 NBS National Battlefield Site
 NHP National Historic Park
 NHS National Historic Site, National Historical Site
 NHT National Historic Trail
 NL National Lakeshore
 NM National Monument
 N MEM National Memorial
 NMP National Military Park
 NP National Park
 N PRES National Preserve
 NRA National Recreation Area
 NS National Seashore
 NSR National Scenic River
 NST National Scenic Trail

Organizational

AKRO Alaska Region
 DSC Denver Service Center
 HFC Harpers Ferry Center
 IMRO Intermountain Region
 MWRO Midwest Region
 NCRO National Capital Region
 NERO Northeast Region
 PWRO Pacific West Region
 SERO Southeast Region
 WASO Washington Office

National Environmental Policy Act Compliance

CE Categorical Exclusion
 CEQ Council on Environmental Quality
 EA Environmental Assessment
 EIS Environmental Impact Statement
 FONSI Finding of no Significant Impact
 NEPA National Environmental Policy Act
 NOI Notice of Intent
 ROD Record of Decision

Appendix B: Task Force and Focus Group Members

The Western Pacific Regional Sourcebook was developed by a task force of USAF and NPS officers, employees, and consultants. The task force was advised by a focus group comprised of USAF officers and managers and NPS park superintendents, park staffs, and regional office officials.

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www.fs.fed.us/r6/fire/aviation/airspace.

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