Chapter

7

7.1 R-2508 Complex Description and Use

This chapter provides general overview information for the R-2508 Complex, including:

- A description of the R-2508 Complex airspace
- A list of typical activities that occur within the Complex
- Descriptions of non-military activity within the Complex
- Descriptions of sensitive areas within the Complex
- Cautions in using the Complex

7.1 R-2508 Complex Airspace Description

The R-2508 Complex includes all the airspace and associated land presently used and managed by the three principal military activities in the Upper Mojave Desert region:

- Air Force Flight Test Center (AFFTC), Edwards Air Force Base (AFB)
- National Training Center (NTC), Fort Irwin
- Naval Air Warfare Center Weapons Division (NAWCWD), China Lake

The R-2508 Complex is composed of internal restricted areas, Military Operations Areas (MOAs), Air Traffic Control Assigned Airspace (ATCAAs) areas, and other special airspace (see Figure 7-1).

7.1.1 Internal Restricted Areas

Restricted area R-2508 extends from FL200 upward to unlimited and is shared-use airspace. Individual restricted areas within R-2508 include R-2502N, R-2502E, R-2505, R-2506, R-2515, and R-2524. These internal restricted areas have vertical dimensions of surface to unlimited, except for R-2506, which extends from surface to 6,000 feet MSL.

Entry to these areas requires prior approval from the designated using agency.

The internal restricted areas are “owned” by individual military agencies, which may release those areas—in their entirety or in part—by establishing an overflight altitude for FAA/DoD joint use. The released airspace becomes part of the basic R-2508 Complex.

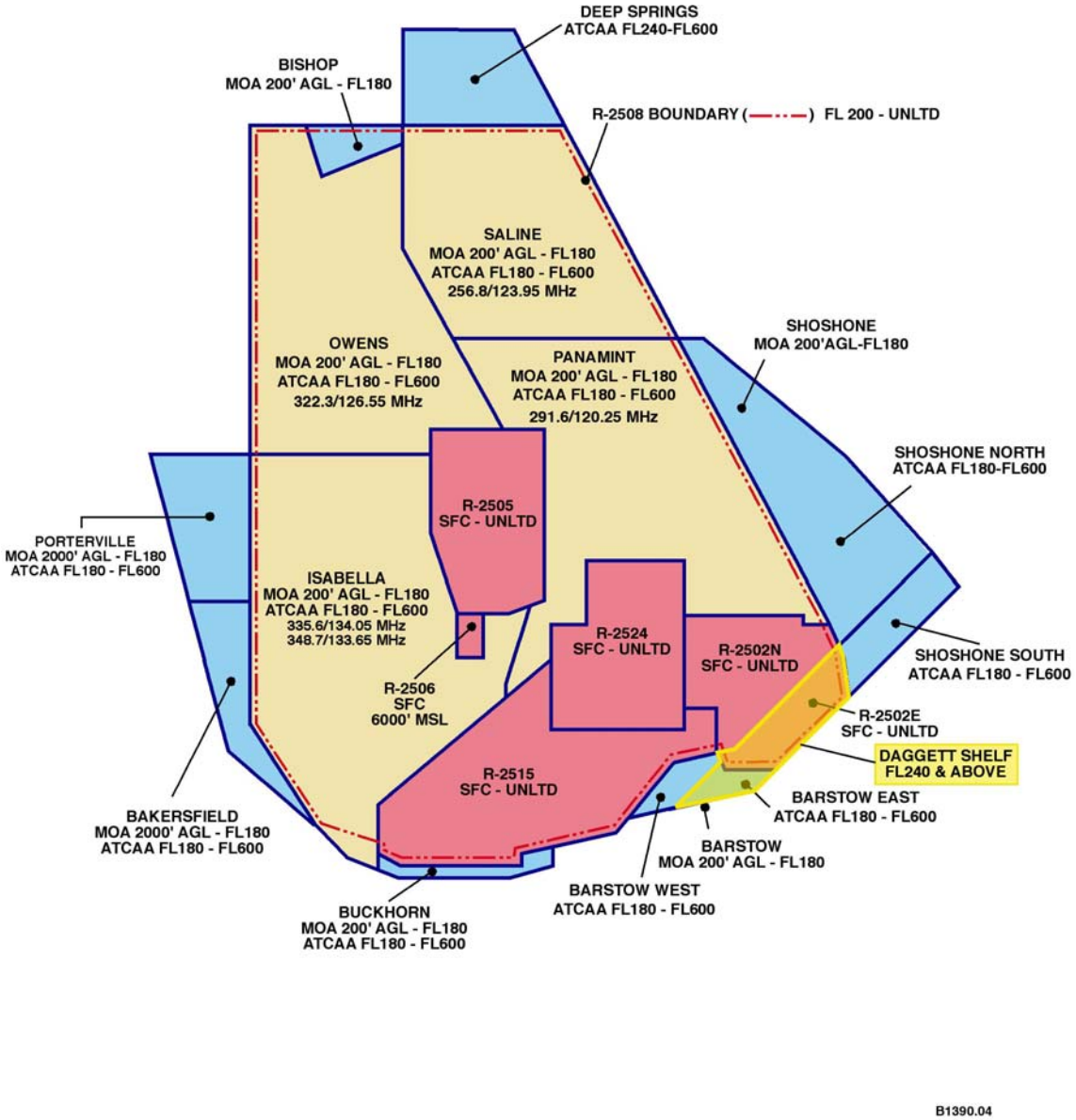

Figure 7-1. *Overview of R-2508 Complex Airspace.*

7.1.2 Military Operations Areas (MOAs) and Air Traffic Control Assigned Airspace (ATCAA)

The Military Operations Areas (MOA) and Air Traffic Control Assigned Airspace (ATCAA) areas (see Figures 2-1 and 2-2) combine with R-2508 (see Figure 7-1) to form the four major work areas:

- Isabella
- Owens
- Saline
- Panamint

This creates working airspace from 200 feet AGL and up, throughout the entire R-2508 Complex. Isabella, Saline, and Panamint work areas have peripheral areas made up of MOA and/or ATCAA airspace that increases the size of the usable airspace.

7.1.3 Other Airspace

Other airspace includes the Daggett Shelf and the R-2515 Golden Triangle.

The **Daggett Shelf** (see highlighted portion of Figure 7-1) was established by a Letter of Agreement to provide the FAA relief control of IFR traffic through the Daggett/Hector corridor. The Daggett Shelf, along with Shoshone South ATCAA airspace, remains under LA ARTCC control until JOSHUA requests and receives control.

The **Golden Triangle** (see Figure 6-5) is a portion of R-2515 that extends north of the westerly extension of the southern boundary of R-2524.

Coordinates for the Golden Triangle:

Beginning at 35°27’40”N/117°26’03”W;
thence direct 35°15’56”N/117°26’03”W;
thence direct 35°15’56”N/117°43’41”W;
thence to the point of beginning.

The **Trona Controlled Firing Area (CFA)** is used for free flight weapon systems transiting from launch areas within R2505 to target areas within R2524 and from launch areas within R2524 to target areas within R2505. The CFA encompasses an area between R2505 and R2524. Boundaries:

Beginning at 35°37’30”N/117°35’33”W;
thence direct 35°40’30”N/117°25’03”W;
thence direct 35°36’00”N/117°16’55”W;
thence direct 35°27’40”N/117°26’03”W;
thence to the point of beginning.

Altitudes: 3,000 ft AGL to but not including FL200

The **Trona Corridor** is used in conjunction with the **Trona CFA** for launching of free flight weapon systems between R2505 and R2524. The Corridor encompasses an area between R2505 and R2524. Boundaries:

Beginning at 35°47'46"N/116°55'23"W;
thence direct 35°57'12"N/117°25'03"W;
thence direct 35°40'31"N/117°25'03"W;
thence direct 35°37'30"N/117°35'33"W;
thence direct 35°37'30"N/117°35'23"W;
thence direct 35°32'48"N/117°41'07"W;
thence direct 35°23'27"N/117°32'23"W;
thence direct 35°27'40"N/117°26'03"W;
thence direct 35°37'30"N/117°35'33"W;
thence direct 35°36'00"N/117°16'55"W;
thence direct 35°37'30"N/117°35'33"W;
thence to point of beginning .

Altitudes: FL200 to unlimited.

7.2 Type of Activity within Work Areas

Typical operations within the R-2508 Complex include:

- Aircraft research and development in all stages of flight
- Operational weapons test and evaluation flights
- Student pilot training
- Air combat maneuvering (ACM) and proficiency flights
- Civilian test aircraft in direct support of DoD and/or defense testing

Test operations must remain flexible and airspace requirements are not entirely predictable. Therefore, to best use the available airspace, participating aircraft operating in R-2508 Complex shared-use airspace are not given exclusive use of the airspace and are considered to be operating under concurrent operations.

Participating aircraft must accept radar traffic advisories and use the "see-and-avoid" principle to avoid interfering with the missions of other aircraft.

7.3 Non-Military Activity within the Complex

Activity within the R-2508 Complex is not limited to scheduled aircraft. Private civilian operations also occur as follows:

7.3.1 General Aviation

General aviation aircraft fly unrestricted in accordance with Visual Flight Rules (VFR) within the R-2508 Complex MOAs below FL180. Figure 7-3 shows the most common and heavily flown routes.

7.3.2 Hang Gliding / Ultralight / Parachuting

Hang glider operations are conducted along the Sierra Nevada Mountain Range, along the west and northeastern shoreline of Owens Dry Lake, throughout the Owens Valley, and north along the Inyo Mountain Range to Bishop, California.

Ultralight activity is also popular in many areas throughout the R-2508 Complex MOAs. This activity is primarily concentrated around towns and civil airports within the R-2508 Complex.

California City Airport is also used for parachute activities from surface to 17,500 feet MSL by private parachute clubs and occasionally DoD aircraft.

7.3.3 Sailplane

Sailplane activities are conducted daily from the Tehachapi Mountain Valley, Lone Pine, Independence, Rosamond, Mojave, California City, and Inyokern airports.

A sailplane Wave Camp (see Figure 7-2) is charted in the Isabella MOA and can be scheduled for use whenever soaring conditions permit.

During the Wave Camp, sailplane operations can be extremely heavy in the vicinity of Mojave and California City Airports due to the launch and recovery of flights to/from the airports transiting to/from the operating areas. Normally, the heaviest concentration of sailplane operations can be expected along and east of the Sierra Nevada Mountains from Tehachapi Pass to the mouth of Lone Tree Canyon (13 NM northeast of Tehachapi Pass).

- **Sailplane operations below FL180 are concentrated, but not confined, in the Isabella MOA, and will remain clear of all internal restricted areas.**
- **Sailplane operations FL180-FL500 are required to have an operating Mode C transponder and maintain two-way radio contact with JOSHUA.**

Coordinates for the Wave Camp area:

Beginning at 35°09’N/118°01’W (California City Airport)
thence direct 35°03’N/118°09’W (Mojave Airport)
thence direct 35°06’N/118°18’W (Highway 58/Tehachapi Pass)
thence direct 35°14’N/118°05’W (mouth of Lone Tree Canyon)
thence direct to the point of beginning.

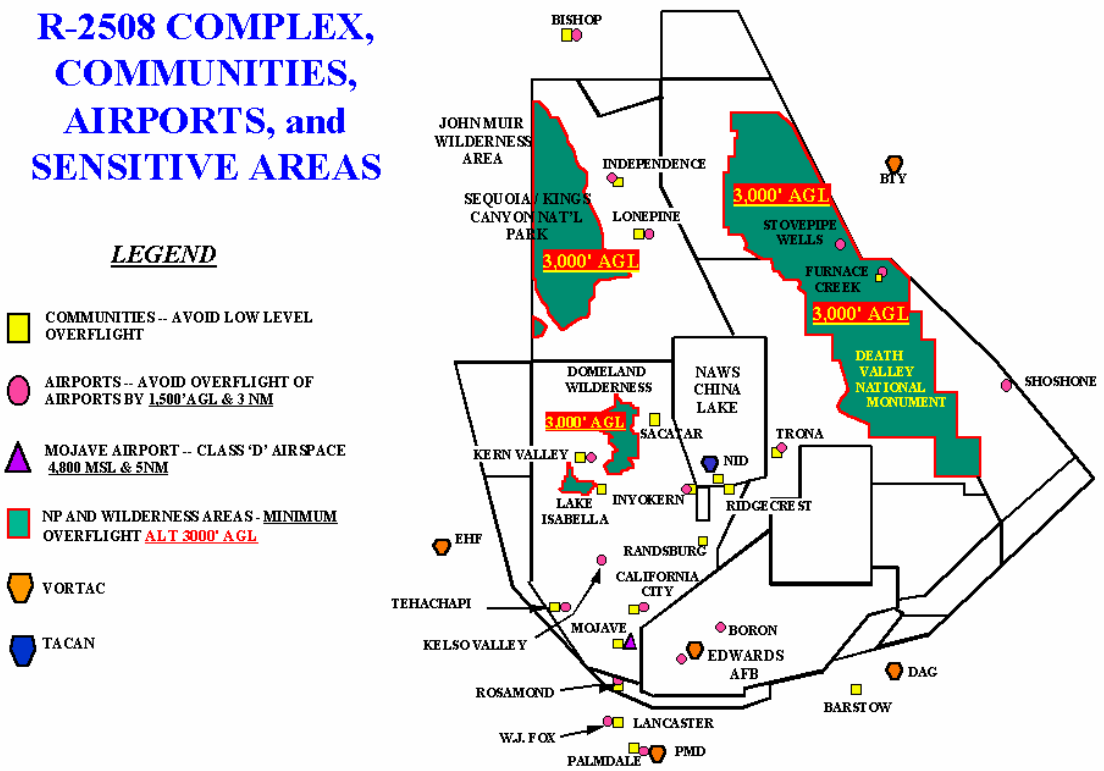

Figure 7-2. *Wave Camp area.*

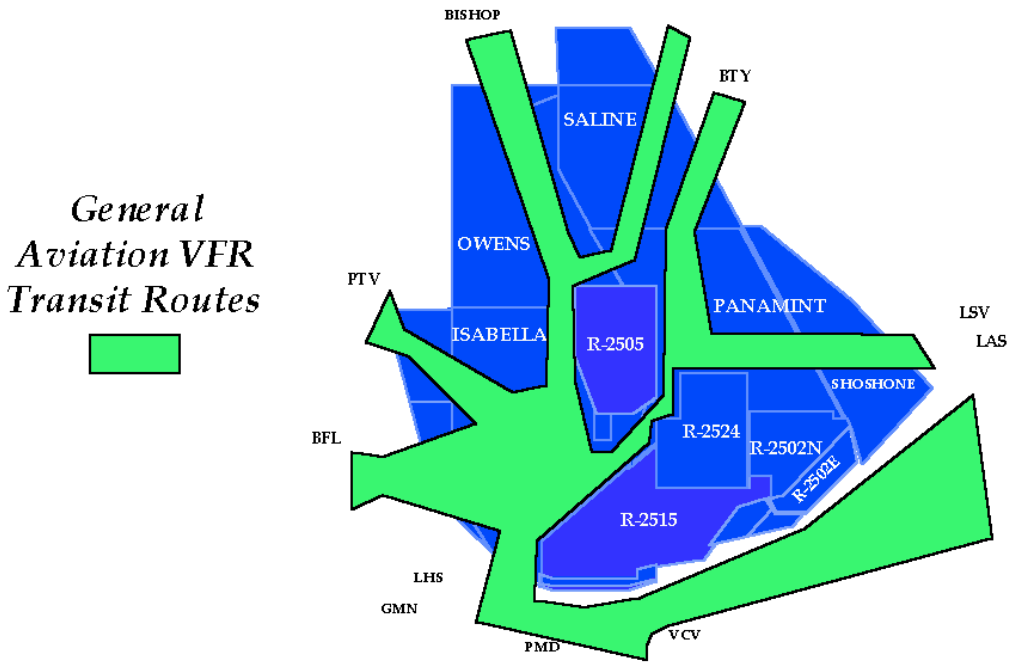

Figure 7-3. *General Aviation VFR Transit Routes*

7.3.4 Land Management Agency Operations

Land Management Agency helicopters and fixed-wing aircraft operate in the R-2508 Complex, primarily in the western portions of Isabella and Owens, and also in the Panamint and Death Valley areas.

- Administrative support aircraft operations are normally 1,500 feet AGL and below.
- Actual fire fighting and associated support operations will normally be conducted within a Temporary Flight Restriction (TFR) (FAR 91.137) NOTAM area within a defined area and altitude block.
- **However, aircraft operations to/from staging bases <u>may occur outside</u> the NOTAM areas.**

7.4 Sensitive Areas

The military mission within the R-2508 Complex has long enjoyed the support of the population that lives beneath the R-2508 Complex airspace. This support is essential to DoD's effort to preserve the R-2508 Complex for future military use.

Occasional sonic booms and noise complaints relating to flight over sensitive areas (small towns, airports, and recreation areas; see Figure 7-6) can have a negative affect on the DoD/civilian community relationship.

NOTE: Aircrews must adhere to Federal Air Regulation (FAR) and DoD rules pertaining to supersonic operations, endangerment of private property, and annoyance to civilians.

Areas of concern include:

- Overflight of National Parks and Wilderness Areas
- Overflight of populated areas and the Owens Valley
- Overflight of private commercial activities

7.4.1 Overflight of National Parks/Wilderness Areas

Low-flying aircraft over National Parks and Wilderness areas is an extremely sensitive issue.

***All aircrews SHALL maintain a minimum altitude of 3,000 feet AGL over, and a lateral distance of 3,000 feet (approximately ½ nautical mile) from the Death Valley National Monument, Sequoia & Kings Canyon National Parks, and the Domeland and John Muir Wilderness Areas (see Figures 7-4 and 7-5).**

Also, in an effort to minimize noise complaints from 23 May to 30 September, *low-level operations over Sequoia National Forest (south of Sequoia NP) are restricted after 2000 (Local) on all Friday, Saturday, and extended to include Sunday nights, during the Memorial, Independence, and Labor Day weekends.*

- **Mission-essential flights needing to operate during these times must coordinate with CCF at least 3 working days prior to the mission.**

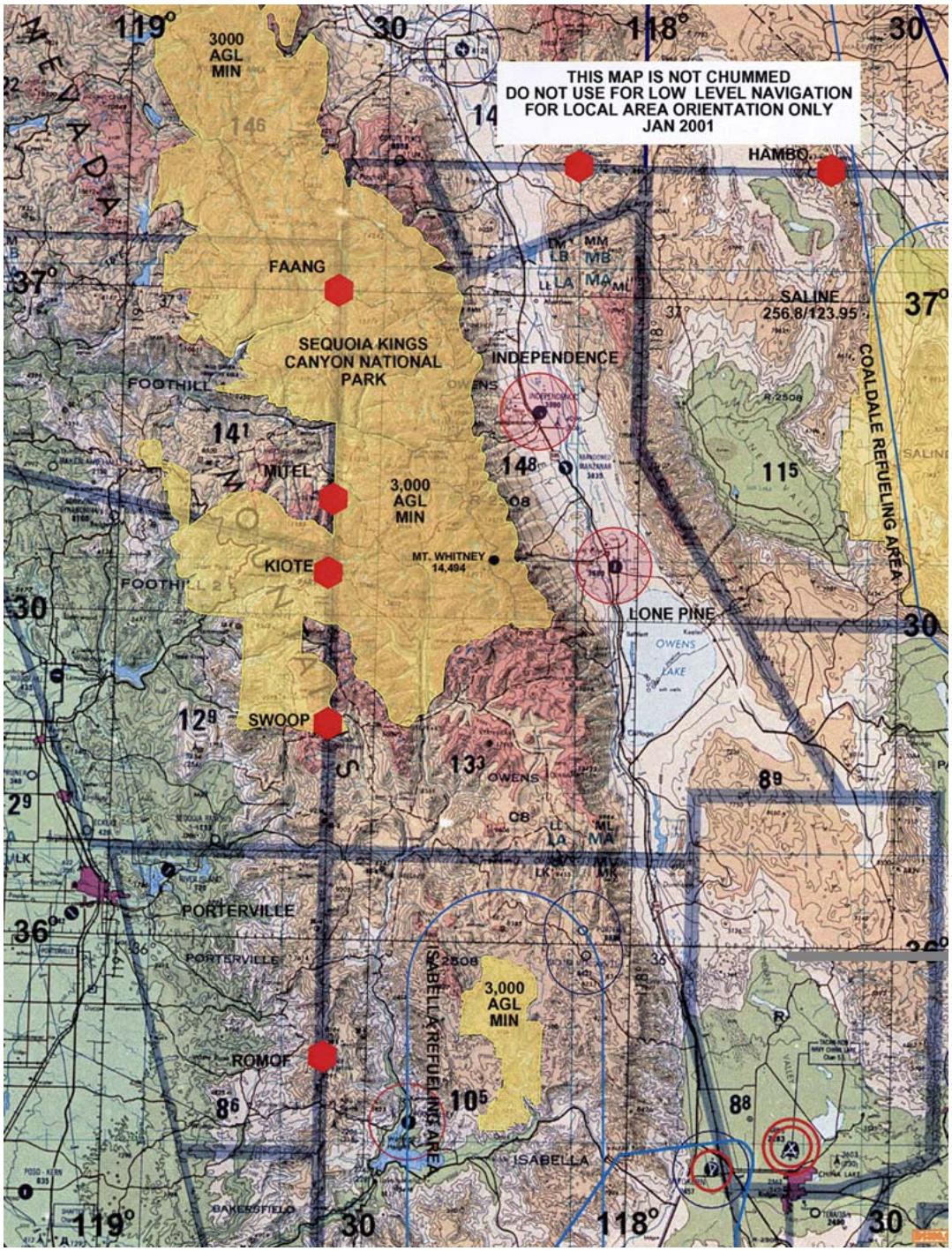

Figure 7-4. Sequoia/Kings Canyon National Park and Domeland Wilderness area.

****Due to high visibility and potential impact on DoD, land management agencies, and civilian populace relations, aircrews should avoid these areas as much as possible. If your mission requires overflight of these areas, <u>strictly abide by the overflight altitudes</u>.**

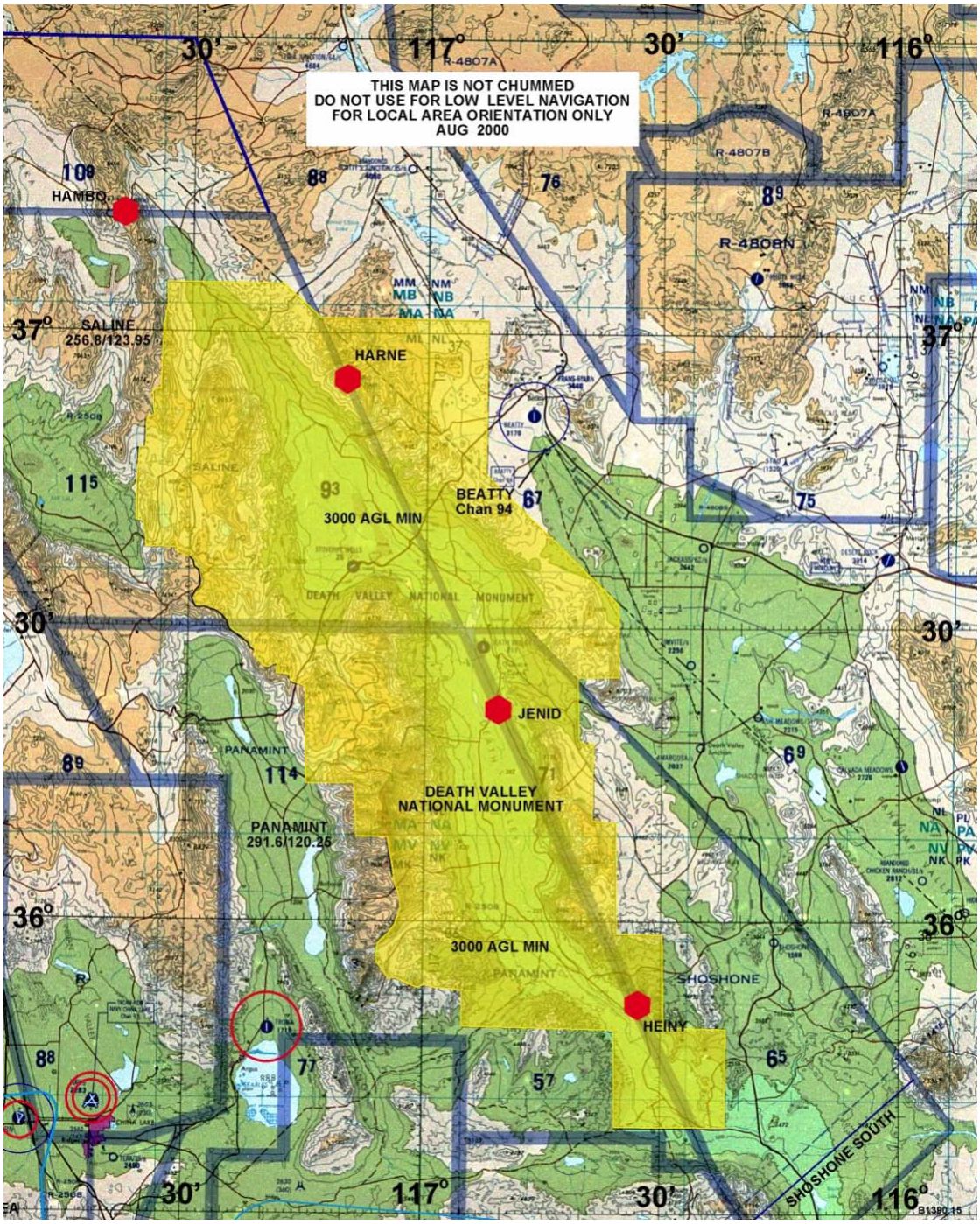

Figure 7-5. Death Valley National Monument.

NOTE: Exclusion of the MOA airspace above Death Valley National Park and Domeland Wilderness Area applies to the 1977 contours of the former National Monument and Wilderness Area. This difference in affected airspace may not be accurately reflected in sectional charts. Contact CCF if you have further questions.

7.4.2 Overflight of Populated Areas and the Owens Valley

Aircrews should maintain at least 3,000 feet AGL above inhabited areas and communities (see Figure 7-6), including:

- Lone Pine
- Trona
- Kernville
- Inyokern
- Keeler
- Independence
- Olancha
- Randsburg
- Tehachapi
- Mojave
- Johannesburg
- Red Mountain
- Lake Isabella
- Ridgecrest
- Stove pipe wells

The towns of Lone Pine and Independence are very sensitive to the noise created by military activities in their area.

- Aircrews should avoid conducting ACM activities over towns, especially in the Owens Valley. Even though the ACM activity may be at legal altitudes, such activity over towns should be avoided.
- Avoid low-level overflight of any obviously inhabited area.
- Recreational use near these communities and along the Kern River is highest during the summer months. Aircrews should anticipate increased sensitivity to operations near these areas.

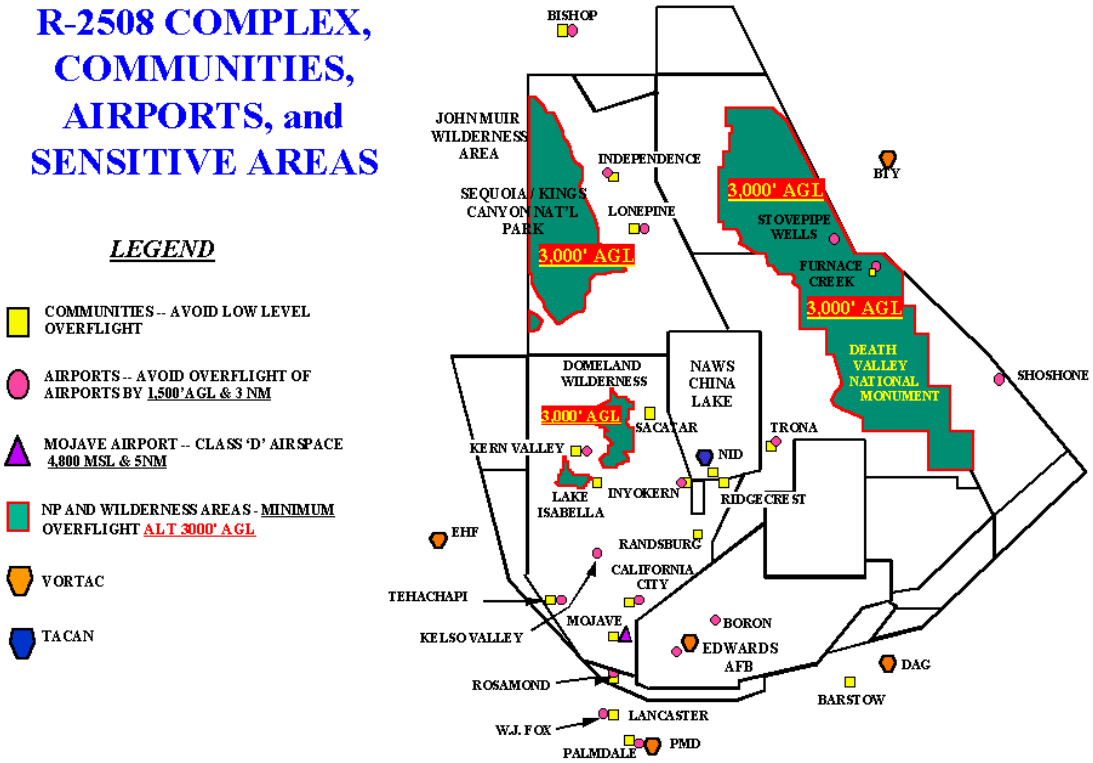

Figure 7-6. R-2508 Complex Communities, Airports, and Sensitive Areas.

7.4.3 Overflight of Private Commercial Activities

Aircrews should be aware of private commercial activities that occur within the R-2508 Complex. These include:

- **Private hunting club:** The official duck hunting season runs between October and January during the birds' southern migration. A hunting club on Little Lake (35°57'N/117°54'W), a migratory stop, private hunting activity. Aircrews should be alert for dangers of bird strikes transiting low-level through this area during hunting season. In addition, beware of increased bird activity within ±1 hour of sunrise and sunset from October to March.
- **Randsburg Gold Mine:** A gold mine operated at Randsburg (35°21'30"N/117°36'45"W) conducts blasting with a vertical hazard footprint up to 400 feet AGL. Blasting is scheduled daily between 1400(L) and 1700(L).
- **Panamint Gold Mine:** A gold mine located in the Panamint Valley, approximately 7 mines south of Ballarat (35°36'17"N/117°11'09"W) conducts daily blasting from 1600–1730 (L). Flyrock hazard to indeterminable altitudes. Avoid direct overflight during blasting periods.

7.5 Cautions in Using the Complex

Low observable platforms (i.e., F-22, F-117, B-2) conduct flight tests throughout the R-2508 Complex. During these missions, it is critical these aircraft not be used as targets for any ground, airborne, or space-based sensors or emitters. If any device inadvertently tracks these aircraft, the resulting data is classified and must be properly safeguarded.

After flight, immediately report the incident to the Edwards AFB Command Post (DSN 527-3040) for disposition of data and debriefing instructions.

Any person that discusses information relating to sensor effectiveness in acquiring, tracking, and targeting these aircraft with anyone other than the person assigned to investigate the incident may violate Federal and DoD regulations and policy for the protection of classified information in Special Access Required (SAR) programs.