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ENVIRONMENTAL ASSESSMENT

CUMULATIVE IMPACTS OF AIRCRAFT REALIGNMENTS AND AIR WARRIOR RELOCATION AT GEORGE AIR FORCE BASE, CALIFORNIA

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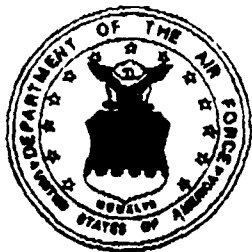
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EXECUTIVE SUMMARY

PURPOSE

This environmental assessment (EA) examines the environmental impacts of relocating AIR WARRIOR from George Air Force Base (AFB), located in the Mojave Desert of Southern California. The document was prepared pursuant to Section 102 of the National Environmental Policy Act (NEPA), Public Law (PL) 92-190, as implemented by regulations promulgated by the President's Council on Environmental Quality (CEQ) and Air Force Regulation (AFR) 19-2. The EA was also prepared in compliance with the California Environmental Quality Act.

Since the alternatives to the proposed action, including the no action and delay action alternatives, are not considered feasible, this document only examines the potential environmental impacts near George AFB of relocating AIR WARRIOR from George AFB. This action will involve the loss of 4,000 sorties per year and 38 personnel authorizations.

BASELINE DATA

Information on local physical resources was collected from both on- and off-base sources. Documents referenced and persons and agencies contacted are listed in Sections 6 and 7.

SUMMARY OF IMPACTS

All environmental impacts of relocating AIR WARRIOR would be negligible or slightly beneficial, although most positive impacts resulting from the relocation would be of such short duration that they would become negligible in the long term.

The proposed action would have a negligible effect on most of the socioeconomic resources within the surrounding communities. Reductions in employment, income, and housing demand may create short-term impacts in the local area. However, socioeconomic impacts of the proposed action would be offset by the continuing growth in jobs and influx of new residents to the area.

CONCLUSIONS

The proposed action, necessitated by the decision to close George AFB, would ensure the continued mission of AIR WARRIOR with a minimum of interruption. This EA shows that the proposed action will only minimally impact George AFB and the local communities. The EA supports a finding of no significant impact.

1.0 PURPOSE AND NEED FOR THE ACTION

In the interest of operational efficiency, and mission consolidation, the Secretary of Defense created a bipartisan commission to identify facilities, property and installations which are no longer essential to current or programmed requirements. In mid-1988, the Air Force began providing information on all Air Force installations to the commission. The commission recommendation identified George AFB as a candidate for closure. As a result of George AFB closure, AIR WARRIOR operations must be relocated.

2.0 DESCRIPTION OF PREVIOUS ACTIONS, THE PROPOSED ACTION, AND ALTERNATIVES

2.1 Previous Inactivation of the 37 TFW (563 TFS)

The United States Air Force (USAF) has proposed to deactivate the 37 Tactical Fighter Wing (TFW) in Fiscal Year (FY) 1990. This action will result in removing 24 combat coded F-4E aircraft in the 37 TFW in FY 90/1. As a result, the 563 Tactical Fighter Squadron (TFS) will be deactivated, and the 561 TFS and the 562 Tactical Training Fighter Squadron (TFTS) incorporated into the 35 TFW. This action will result in personnel authorization reductions at George AFB by 745.

2.2 Relocation of AIR WARRIOR

2.2.1 Description of AIR WARRIOR

AIR WARRIOR provides joint training for tactical fighters, Airborne Forward Air Control, and Tactical Air Control Party units deployed to support battalion task force ground units engaged in mock combat at the United States Army (USA) National Training Center (NTC). Being similar in scope to the Air Force RED FLAG program, NTC provides joint field training in Air Land Battle Doctrine and employment for USAF/USA combined arms operations in high intensity, heavily armored, simulated and live fire battle scenarios. The TAC AIR WARRIOR program provides all Close Air Support (CAS) from George AFB and routinely supports daily ground battles involving 6,000 ground combatants.

Table 2-1 is a historical list of AIR WARRIOR exercises and flight activities.

Table 2-1

OPERATIONS

	EXERCISES	PERSONNEL DEPLOYED	EXER SORTIES	ES/SAR SORTIES	CT SORTIES	TOTAL SORTIES
FY 83	10	1300	1127	-	330	1457
FY 84	12	1600	1839	-	770	2609
FY 85	14	1979	3026	-	822	3848
FY 86	13	2324	2916	-	1540	4456
FY 87	14	2075	2912	-	1092	4004
FY 88	14	2100	2435	864	341	3640

- Notes:**
1. Extended Scenario (ES) refers to non-AIR WARRIOR exercise sorties, which provide similar CAS exercise training.
 2. Search and Rescue (SAR) sorties provide training for SAR of personnel in the desert environment.
 3. Continuation Training (CT) Sorties are completely unrelated to Army Joint Training goals. An example would be Tactical Air Combat Training exercises with assigned F-4 aircraft.

Source: HQ TAC/XPPB

This total force program includes participation by 38 Active, Air National Guard, and Air Force Reserve flying units annually. Training consisting of 3,000 - 4,000 annual sorties is projected for 252 days/year in 14 separate periods of 18 days duration. Each year, hundreds of aircrew members receive the most realistic CAS training available anywhere in the world. Table 2-2 is the FY 89 AIR WARRIOR tasking exercise schedule indicating participating units.

Table 2-2

FY 89 AIR WARRIOR TASKING EXERCISE SCHEDULE

<u>AIR WARRIOR EXERCISE</u>	<u>DATE</u>	<u>ROLE/AIRCRAFT</u>	<u>UNIT</u>
89-1 PLAN CONF:	9-26 Oct 88 9 Aug 88	BLUE AIR/7 A-10 RED AIR/6 F-16 FAC/4 OV-10	23 TFW/England AFB, LA 31 TFW/Homestead AFB, FL 602 TAIRCW 27 TASS, GAFB, CA
89-2 PLAN CONF:	2-19 Nov 88 7 Sep 88	BLUE AIR/7 F-16 RED AIR/5 F-4 FAC 4 OA-10	363 TFW/Shaw AFB, SC 163 TFG/March AFB, CA (Home Sta) 602 TAIRCW 23 TASS/DMAFB, AZ
89-3 PLAN CONF:	26 Nov-13 Dec 88 27 Sep 89	BLUE AIR/7 A-10 RED AIR/5 F-16 FAC/4 OA-10	354 TFW/Myrtle Beach AFB, SC 31 TFW/Homestead AFB, F: 602 TAIRCW 23 TASS/DMAFB, AZ
89-4 PLAN CONF:	5-22 Jan 89 8 Nov 88	BLUE AIR/7 F-4 RED AIR/5 F-16 FAC/4 OV-10	4 TFW/Seymour-Johnson AFB, NC 363 TFW/Shaw AFB, SC 602 TAIRCW 27 TASS/GAFB, CA
89-5 PLAN CONF:	29 Jan-15 Feb 89 29 Nov 89	BLUE AIR/7 F-16 RED AIR/5 A-7 FAC/4 OV-10	58 TTW/Luke AFB, AZ *121 TFW/Rickenbacker AFB, OH 602 TAIRCW 27 TASS/GAFB, CA
89-6 PLAN CONF:	22 Feb-11 Mar 89 13 Dec 88	BLUE AIR/7 A-10 RED AIR/5 F-16 FAC/4 OV-10	23 TFW/England AFB, LA 347 TFW/Moody AFB, GA 602 TAIRCW 27 TASS/GAFB, CA
89-7 PLAN CONF:	18 Mar-4 Apr 89 18 Jan 89	BLUE AIR/7 A-10 RED AIR/5 F-16 FAC/4 OV-10	354 TFW/Myrtle AFB, SC 388 TFW/Hill AFB, UT 343 TFW 25 TASS/Eilson AFB, AK
89-8 PLAN CONF:	11-28 Apr 89 7 Feb 89	BLUE AIR/5 A-10 RED AIR/5 F-16 FAC/4 OA-10	355 TTW/ Davis Monthan AFB, AZ 388 TFW/Hill AFB, UT 602 TAIRCW 23 TASS/DMAFB, AZ
89-9 PLAN CONF:	5-22 May 89 7 Mar 89	BLUE AIR/5 A-10 RED AIR/5 F-16 FAC/4 OV-10	355 TTW/Davis Monthan AFB, AZ 31 TFW/Homestead AFB, FL 602 TAIRCW 27 TASS/GAFB, CA
89-10 PLAN CONF:	29 May-15 Jun 89 28 Mar 89	BLUE AIR/7 A-10 RED AIR/5 OA-37 FAC	23 TFW/England AFB, LA 110 TASG/Battle Creek, MI 110 TASG/Battle Creek, MI

TABLE 2-2

FY 89 AIR WARRIOR TASKING EXERCISE SCHEDULE

(CONTINUED)

89-11	6-23 Jul 89	BLUE AIR/5 A-10	355 TTW/Davis Monthan AFB, AZ
PLAN CONF:	9 May 89	RED AIR/5 F-4	35 TTW/George AFB, CA
		FAC/4 OA-10	602 TAIRCW 23 TASS/DMAFB, AZ
89-12	30 Jul-16 Aug 89	BLUE AIR/7 A-10	354 TFW/Myrtle Beach AFB, SC
PLAN CONF:	31 May 89	RED AIR/5 F-16	347 TFW/Moody AFB, GA
		FAC/4 OV-10	602 TAIRCW 27 TASS/GAFB, CA
89-13	23 Aug-9 Sep 89	BLUE AIR/7 A-10	23 TFW/England AFB, LA
PLAN CONF:	13 Jun 89	RED AIR/5 F-16	188 TFG/Ft Smith, AR
		FAC/4 OV-10	602 TAIRCW 27 TASS/GAFB, CA
89-14	16 Sep-3 Oct 89	BLUE AIR/7 A-10	104 TFG/Westfield, MA
PLAN CONF:	18 Jul 89	RED AIR/5 AT-38	388 TFW/Hill AFB, UT
		FAC/4 OA-10	602 TAIRCW 23 TASS/DMAFB, AZ
90-1	9-26 Oct 89	BLUE AIR/7 F-16	31 TFW/Homestead AFB, FL
PLAN CONF:	8 Aug 89	RED AIR/5 F-4E	35 TFW/George AFB, CA
		FAC/4 OV-10	602 TAIRCW 27 TASS/GAFB, CA
90-2	2-19 Nov 89	BLUE AIR/7 A-10	23 TFW/England AFB, LA
PLAN CONF:	6 Sep 89	RED AIR/5 A-7	185 TFG, Sioux City ANGB, IA
		FAC/4 OV-10	602 TAIRCW 27 TASS/GAFB, CA
90-3	26 Nov-13 Dec 89	BLUE AIR/7 A-10	354 TFW/Myrtle Beach AFB, SC
PLAN CONF:	26 Sep 89	RED AIR/5 OA-37	110 TASG/Battle Creek, MI
		FAC/	110 TASG/Battle Creek, MI
9-4	5-22 Jan 90	BLUE AIR/5 A-10	355 TTW/Davis Monthan AFB, AZ
PLAN CONF:	7 Nov 89	RED AIR/OA-37	110 TASG/Battle Creek, MI
		FAC/	110 TASG/Battle Creek, MI

2.2.2. Description of Proposed Action

The USAF proposes to relocate AIR WARRIOR to Nellis AFB in FY 90/2. This action would reduce personnel authorizations at George AFB by 38. Table 2-3 shows the total personnel reductions.

Table 2-3

AIR WARRIOR PERSONNEL REDUCTIONS

	<u>PPE</u>	<u>BOS</u>	<u>TOTAL</u>
Officer	- 5	- 0	- 5
Enlisted	- 28	- 4	- 32
Civilian	- <u>1</u>	- <u>0</u>	- <u>1</u>
	- 34	- 4	- 38

- Notes:
1. Primary Program Element (PPE) Refers to personnel assigned to directly support AIR Warrior.
 2. Base Operating Support (BOS) are base personnel who indirectly support the mission in terms of Base operations.

Source: HQ TAC/XPPB

Due to the requirement to relocate AIR WARRIOR under severely limited budget constraints and review of the following alternatives, Nellis AFB appears to be the best AIR WARRIOR relocation choice. Existing facilities, availability of ramp space, petroleum, oil and lubricants (POL), and weapons storage/build-up areas, distance/flight route to Fort Irwin, and quality of life for AIR WARRIOR permanent party personnel and their families all support this determination.

2.3 Alternatives to the Proposed Action

2.3.1 No Action

This alternative is not a viable option. AIR WARRIOR relocation is required due to closure of George AFB.

2.3.2 Delay Action

This alternative is not a viable option. The closure of George AFB results in many realignment actions. The timing of this move was chosen to ensure minimum disruption of these realignment actions and AIR WARRIOR operations.

2.3.3 Alternative Base

With the pending closure of George AFB, Tactical Air Command (TAC) studied possible relocation sites for AIR WARRIOR. Indian Springs Air Force Auxillary Field was determined to be the only alternative location, but was rejected based on the following: While Indian Springs has existing facilities and ramp space which could support AIR WARRIOR, and the 7,650 foot runway is being lengthened to 9,000 feet, this location has several disadvantages. The only Instrument Flight Rules (IFR) approach into Indian Springs is a Tactical Air Control And Navigation (TACAN) approach with minimums so high that flight operations would basically be restricted to Visual Meteorological Conditions (VMC). Also, because the Base is operated primarily by a civilian contract work force, additional funding may be required to support airfield operations for weekend/holiday AIR WARRIOR schedules. POL, munitions, and supply support for an Indian Springs Air Warrior operation would be more manpower and transportation intensive for Nellis resources than if AIR WARRIOR were located at Nellis. Lastly, because Indian Springs does not have dependent support facilities, the 38 AIR WARRIOR permanent party personnel would probably be required to have quarters at Nellis or in Las Vegas and commute to Indian Springs, approximately a one hour drive each way, for duty.

2.4 Scope of the Environmental Review

This EA is prepared pursuant to Section 102 of the NEPA of 1969 (PL 91-190), as implemented by regulations promulgated by the President's CEQ and AFR 19-2. The principal objectives of NEPA are to build into the decision-making process an appropriate and careful consideration of environmental aspects of proposed actions and to make environmental information available to public officials and citizens before decisions are made and actions are taken.

In compliance with the Base Closure and Realignment Act, Public Law 100-526, the provisions of NEPA do not apply to the actions of the Commission, including selecting the military installations which the Commission recommends for closure. Therefore, the decision to close George AFB will not be evaluated as a part of this EA. Since the alternatives to the proposed action, including the no action and delay action alternatives, are not considered feasible, this document only examines the impacts of AIR WARRIOR leaving George AFB (cumulative with the previous aircraft realignment).

3.0 LOCATION, HISTORY, CURRENT ORGANIZATIONS AND OPERATIONS

George AFB is one of 18 TAC bases in the USAF. The 831 Air Division (AD) exercises command over the multiple missions of the installation.

3.1 Location of George AFB

George AFB is located in the High Desert region of Southern California. The Base is adjacent to the cities of Victorville and Adelanto, 90 miles east of Los Angeles and 36 miles north of San Bernardino. The City of San Bernardino is the county seat for San Bernardino County, in which George AFB is located. Figures 3-1 and 3-2 show the regional and area locations of George AFB.

The Base, which originally occupied 2,200 acres, now comprises 5,347 acres. The land is characterized as fairly level, except for the area nearest the Mojave River, which is to the east of the Base. The incorporated communities of Adelanto and Victorville are adjacent to the Base on the west and south-southeast sides respectively. However, except for development in central Adelanto, the area immediately surrounding the Base can be characterized as rural. The Base consists of runways, industrial areas, family housing and dormitories, two schools, a hospital and other support facilities. Figure 3-3 shows the site plan of the Base.

3.2 History

3.2.1 History of George AFB

George AFB, originally called Victorville Army Airfield, was established in 1941. Later it was known as the Victorville Army Flying School, Victorville Army Air Field, and Victorville AFB. It became George AFB on 2 June 1950, renamed in honor of the late Brigadier General Harold H. George.

General George, a World War I fighter ace, was killed in an aircraft accident at Darwin, Australia, 30 April 1942. At that time he was Chief of Staff, Far Eastern Air Forces.

During World War II, pilots and bombardiers were trained at George AFB. Training began in February 1942 with AT-9s, AT-6s, AT-17s, AT-11s and BT-13s, with the first class of pilots graduating in 1942. George served as a

training base for a number of aircraft during World War II. The Base was placed on standby status at the end of the War in October 1945 and was assigned to the Air Technical Service Command and used for storage of airplanes until 1948. It was during this period that the USAF was formed.

The first jet fighter aircraft arrived here in 1950 with the First Fighter Interceptor Wing (FIW). George has hosted a continuing succession of jet fighter aircraft, including the F-86, T-33, F-100, F-106, F-105D and all of the Air Force's F-4 "Phantom II" models.

In October 1971, the 35 TFW was transferred from Phan Rang Air Base, Vietnam to George AFB, replacing the former host wing. It has been on continuous duty here since that time.

Its mission of training aircrews has changed little since 1971. The F-105G "Wild Weasel" arrived in 1973, while the first F-4C Weasel arrived two years later.

By October 1977, Headquarters (HQ) Tactical Training George was activated while the 35 TFW continued to perform host wing assigned duties with six flying squadrons.

The first F-4G Advanced "Wild Weasel" arrived April 1978. The 35 TFW then became the first such unit in the Air Force assigned F-4Gs with both operational and training missions. The G-model Weasels continued to arrive until the Base became an all-"Phantom" force in the late summer of 1980.

The 831 AD was activated in 1957 and inactivated in 1971. Tactical Training George was later activated in 1977, and inactivated during December 1980. The 831 AD was reactivated during December 1980 and has served as the senior unit for the installation since that time.

The 37 TFW was activated and assumed the F-4G Weasel mission from the 35 TFW 30 March 1981. The 35th's mission is presently to train German and U.S. F-4 aircrews through two tactical squadrons flying the F-4E.

On 12 February 1982, the 39 TFS was reactivated under the 35 TTW, following approximately 18 months between missions from training F-105G and F-4G aircrews to its new "Pave Spike" mission using laser-guided technology. The 39th Cobras were deactivated at George 11 May 1984.

FIGURE 3-1
GEORGE AIR FORCE BASE
REGIONAL MAP

FIGURE 3-2

GEORGE AIR FORCE BASE

AREA MAP



FIGURE 3-3

GEORGE AIR FORCE BASE

SITE PLAN



The 27 Tactical Air Support Squadron (TASS) became part of the George family, as a tenant, 14 May 1984. The unit is a part of the 602 Tactical Air Control Wing at Davis Monthan AFB, Arizona. The 27 TASS's mission is centered around forward air control, using the OV-10 Bronco.

Today, the Base has two primary fighter wings, the 35th and 37th, both under the operational control at the Commander, 831 AD. Also assigned to the division is the 831 Combat Support Group (CSG), 831 Medical Group (Med Gp) and Deputy Commander for Resource Management (RM).

The 35 TFW is comprised of the 20 TFS, tasked primarily to train German aircrews, the 21 TFS, and AIR WARRIOR. The 37 TFW is comprised of the 562 TFS, providing worldwide Wild Weasel replacement pilot training, and the 561 and 563 TFSs, both operationally combat-ready. The 563 TFS is also part of the worldwide United States Central Command-Air Forces.

The 831 CSG has charge of all the normal host duties, such as operations and training, audiovisual services, small arms marksmanship, services, security police and civil engineering. Additionally, the 831 CSG is responsible for ensuring that the Base is in compliance with all environmental regulations.

Accounting and finance, budget, contracting, supply and transportation functions are under the command of the 831 AD/RM. The primary Base tenants include 2067 Communications Squadron, Detachment (DET) 12, 25th Weather Squadron, the 516 Field Training Detachment, DET 5, 4443 Test and Evaluation Group (TEG) and DET 1, 144 FIW, under the control of the California Air National Guard (ANG), headquartered at Fresno. The ANG unit flies the F-4 as part of the air defense mission of TAC.

Currently assigned aircraft include the F-4E Phantom II fighter, the F-4G Advanced Wild Weasel, the OV-10 Bronco, and the ANG F-4Ds.

There are 5,246 military and 548 civilian employees assigned to George.

3.2.2 History of AIR WARRIOR

The AIR WARRIOR program began in late 1981 as an exercise titled CORONET ZAP. The program was an outgrowth of a memorandum of understanding (MOU) between Headquarters (HQ) TAC and the Army Training and Doctrine Command, which detailed full TAC participation at the NTC, Fort Irwin, California, with close air support and tactical air control elements. This MOU established a detachment at Fort Irwin manned to perform Tactical Air Control System and airspace control functions in 1981. In 1982, an Operating Location AA (OLAA) was established at George AFB to support close air support flying operations.

In 1983, the CORONET ZAP program was redesignated as AIR WARRIOR and operational control was given to 831 AD. By 1985, OLAA had been redesignated as 4443 Tactical Training Squadron (TTS) (AIR WARRIOR) aligned under the 35 TTW. Detachment 1 at Fort Irwin was realigned and redesignated as Detachment 2 of the 602 Tactical Air Control Wing, 836 AD, Davis-Monthan AFB, AZ, that same year.

A major reorganization occurred in 1988 with the creation of the 4443 Tactical Training Group (TTG) under the 35 TTW. The Fort Irwin unit was redesignated as 4445 TTS and, along with the 4443 TTS at George AFB, were placed under the 4443 TTG. This move simplified and consolidated command and control and program management.

The organizational and manpower growth associated with the AIR WARRIOR program was required to match changes in the frequency and level of TAC support to the NTC. Although support in FY 82 was fragmented and accurate records are not available, there were six 15-day exercises supported by approximately 600 tactical sorties for the year. A typical deployed package included 10 aircraft and 100 operations and maintenance personnel. The sortie total in FY 83 grew to nearly 1,500; then to 2,600 in FY 84. Individual exercise length grew to 17 days and the frequency of annual exercises increased to 10 and 12 in FY 83 and FY 84 respectively. Since FY 85, exercise frequency has stabilized at 14 per year (except FY 86 which saw USA budgetary constraints cause the cancellation of one exercise). Sorties peaked at nearly 4,500 during that year due to four exercises being extended to 22-day durations. After FY 86, exercise duration stabilized at 18 days for USAF participants. Since FY 85, including projected FY 89 totals (and not including deployment/redeployment sorties), annual sorties flown from George AFB have stabilized at 4,000. The typical deployment package today includes 16 - 18 fighter and forward air control aircraft and routinely 210 - 215 personnel (including: operations, maintenance, munitions, security police, and tactical air control personnel). This typical package is in place 252 days per year.

3.3 Units, Missions and Operations

3.3.1 Host Unit

The 831 AD is responsible for the rapid deployment of forces in response to contingency tasking. Direct operational commitments include every conventional and unconventional weapons system to support surface forces, maintaining air superiority and suppressing surface-to-air missiles and associated air defense electronics radiation; training German Air Force aircrews under the U.S. Security Assistance Program; training USAF aircrew members for integration into F-4E and F-4G units worldwide; Tactical Air Operations in support of the Army NTC and 27 TASS, to include host base facilities; plus manage the human, fiscal and material resources needed to carry out directed operational commitments.

3.3.2 Flying Organizations

37 TFW: The 37 TFW is the sole TAC unit tasked with the defense suppression mission. The demanding "Wild Weasel" mission calls for specially trained crews and unique aircraft to hunt down and destroy enemy air defense systems. The wing's two operational squadrons (561 TFS and 563 TFS) are dedicated to instant deployment worldwide. The wing's training squadron (562 TFS) is the only Air Force unit that trains aircrews for the "Wild Weasel" mission. In addition to maintaining a high state of readiness, the 37 TFW also cooperates with Det 5, 4443 TEG, in testing new "Wild Weasel" munitions and tactics as well as future enhancements to the F-4G aircraft.

35 TTW: The 35 TTW provides F-4 combat/replacement training for aircrew members from the United States, Germany, and other Allied Air Forces. It plans and exercises operational control of all tactical air and tactical air control units employed during joint military exercises at NTC (AIR WARRIOR). It provides air defense forces in support of the Southwest Air Defense Sector. It also ensures the organization, training, administration, and logistical support of all assigned personnel.

27 TASS: The 27 TASS operates an airborne forward air controller (FAC) program which employs OV-10A Bronco Aircraft. The primary mission of FAC is to provide a tactical interface between the Army ground commander and fighter aircraft in a close air support role with friendly forces.

Det 1, 144 FIW: Det 1, 144 FIW, maintains F-4D aircraft on alert to intercept, identify and provide air defense against enemy aircraft. With headquarters in Fresno, it is a part of the California ANG. The unit has been a part of the George community since April 1981.

3.3.3 Current Flight Operations:

George AFB has a vital flying mission consisting of operational flying of F-4D fighter, F-4E/G "Wild Weasel", and OV-10A observation FAC aircraft to maintain a state of operational readiness. In addition, a large number of transient aircraft conduct operations from the runways at George AFB. The principal aircraft operating from the Base and the annual flying program for 1988 are summarized in Table 3-1.

TABLE 3-1
SUMMARY OF GEORGE AIR FORCE BASE
CALENDAR YEAR 1988 ANNUAL AIRCRAFT SORTIES

Assignment	Aircraft Type	Number LTO	Number T&G	Night Flights (%)	Operations		Total Operations
					Day	Night	
George AFB	F-4E/G	24,800	4,610	16	25,828	3,582	29,410
George AFB	OV-10	10,163	1,120	3	10,973	310	11,283
Transient	A-7	7,019	520	0	7,539	0	7,539
Transient	A-10	10,094	710	0	10,804	0	10,804
Transient	OA-37	2,860	350	0	3,210	0	3,210
Transient	T-38	3,760	400	0	4,160	0	4,160
Transient	F-4	7,720	1,100	0	8,820	0	8,820
Transient	OV-10	8,000	810	0	8,810	0	8,810
Transient	F-15	5,800	600	0	6,400	0	6,400
Transient	F-16	7,739	400	0	8,139	0	8,139
Transient	C-130	2,320	800	0	3,120	0	3,120
Transient	C-141	3,000	80	0	3,080	0	3,080
Transient	A-4	3,600	334	0	3,934	0	3,934
Transient	A-6	2,724	320	0	3,044	0	3,044
Transient	F-14	3,000	0	0	3,000	0	3,000
TOTALS		102,599	12,154		110,861	3,892	114,753

- Notes: 1. Landings and Takeoffs (LTO) are actual departures and arrivals to the George AFB runways.
2. Touch and Go (T&G) are when the aircraft approaches the runway but does not actually land the aircraft. T&Gs are predominantly used in support of pilot training.
3. Night flights are generally conducted between 1930 hours and 2230 hours.

SOURCE: Robert Thackery, 35 TTW/DOY, Air Traffic Operations, 3 August 1989
SSgt Chavez, Wing Scheduling, 7 July 1989

3.3.4 Support Units

831 CSG: The 831 CSG commands and controls assigned units and staff activities in operating and maintaining George AFB in support of assigned, attached, and dispersed tactical units. The unit provides housing, feeding, maintenance and construction of facilities, fire protection, base airfield management, administration, and religious services for assigned and attached personnel. The unit also operates a consolidated base personnel office with full range of career guidance and control, personnel data automation, and training. The 831 CSG provides a broad spectrum of morale, welfare, and recreation programs and facilities and controls and maintains law enforcement and Base security. Additionally, the unit is responsible for ensuring the installation is in compliance of all federal, state and local environmental regulations.

831 AD/RM: The 831 AD/RM is responsible to the Commander, 831 AD, for Comptroller, Contracting, Supply, Transportation and Resource Plans that support Base activities. The unit ensures programming, distribution and utilization of resources to provide maximum support of Base missions. The Commander serves as principal advisor on resource acquisition, planning, budgeting, distribution and disposition.

831 Med Gp: The 831 Med Gp promotes and maintains a combat ready force through comprehensive health care for the 831 AD. It provides or arranges for the highest quality health care possible within resources to authorized beneficiaries. It maintains and is prepared to deploy selected health care elements to wartime and peacetime contingencies. It provides staff assistance and training to specified ANG and USAF Reserve units. The 831 Med Gp has been in operation since 1963, with an original square footage of 49,772 feet. New construction began in 1982 and was completed 1 December 1984, adding 92,436 square feet. Outpatient services include Aeromedical Services, Primary Care, Pediatrics, Surgery, Orthopaedics, Internal Medicine, Obstetrics/Gynecology, Optometry, Mental Health, Immunizations, Allergy and Dental Care. Inpatient Services are Surgery and Obstetrics with 25 beds available. It promotes professionalism, leadership, and opportunities for growth for members of the 831 Med Gp.

Det 5, 4443 TEG (Tenant): The primary mission of Det 5, 4443 TEG, is to conduct TAC-directed F-4G test and evaluation programs, to include Operational Test and Evaluation and Tactics Development and Evaluation. Additionally, Det 5 provides test support to other major commands and specific agencies for Developmental Test and Evaluation, Qualification Test and Evaluation and Initial Operational Test and Evaluation. Operating at George AFB since April 1980, it has three F-4G aircraft assigned, with its headquarters at Eglin AFB, Florida.

4.0 DESCRIPTION OF THE EXISTING ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES OF THE PROPOSED ACTION

4.1 Topography

George AFB is located on a broad, nearly flat part of the Victorville Fan and is bordered on the east by the Mojave River. The general topography of George AFB is desert plain. The average elevation of the Base is approximately 2,900 feet mean sea level (MSL). This topography is mostly characterized by zero slope, changing to hills towards the northwest corner with major and minor drainages to the east and south.

The eastern half is characterized by an extensive hill gradually sloping east towards the Mojave River and valley system with one major drainage channel running from the northwest to the southeast and becoming gradually steeper to the south.

One arroyo bisects the Northeast Disposal Area located north of the northeast-trending runway (Runway 03/21). The channel of this arroyo is approximately 15 feet wide near the northern boundary of the Base and more than 100 feet wide where the arroyo discharges into the Mojave River wash. The arroyo is incised approximately five feet into the surrounding alluvial deposits. It is fed by the outfall ditch from the base, numerous gullies, and a smaller drainage ditch which originates from the Fire Fighting Training area.

Implementation of the proposed action will have no effect on the existing topography of the installation.

4.2 Geology and Soils

George AFB is located on the desert floor about 1.4 miles southwest of the Mojave River. The closest uplands (Quartzite Mountain) lie about two miles east of the Base. The Shadow Mountains are located six miles to the northwest. The local terrain is nearly flat and grades down toward the north at 20 feet per mile.

The western Mojave Desert is a topographically closed basin characterized by broad expanses of alluvium and uplifted, sometimes fault-bounded, blocks of indurated bedrock. Most of the alluvium is composed of a mixture of gravel, sand, silt and clay that has been eroded from the mountains south of the basin. Drilling and well installation programs conducted at George AFB have encountered alluvial fan and fluvial deposits that contain and transmit groundwater. Three major geologic units occur at the Base: the basement complex, fan deposits and Mojave River alluvium.

The western Mojave Desert is bordered by major faults (i.e., San Andreas and Garlock), as well as cut through by several major northwest trending breaks. The closest known capable faults (potentially active) are the Helendale (11.5 miles to the northwest) and the Mirage Valley (12 miles to the northwest). Neither of these faults have ruptured the surface historically, but the Helendale has produced numerous moderate to small magnitude earthquakes in the last 50 years. For purposes of this EA, the Base does not lie in a known active fault zone. The potential for direct surface fault rupture is considered nil. (GEOTECHNICAL INVESTIGATION, SOILS INTERNATIONAL, INC, SEP 88)

(Hydrological Studies in Support of Jurisdictional Determination for Application No. 29163)

Geology and soils would neither impact or be impacted by the proposed action.

4.3 Hydrology

Groundwater in the Victor Valley area of the desert originates as infiltration from and off of the San Gabriel and San Bernardino Mountains, as well as from major water courses. The water yielding zones of the alluvial deposits are divided into two aquifers: "Upper" Aquifer (above elevation 2,600) and the "Regional" Aquifer (below elevation 2,600). The groundwater in the Upper Aquifer percolates downward through a low vertical permeability aquifer under a strong vertical gradient. There is some indication that perched conditions may occur locally, although they do not greatly affect the overall behavior of the Aquifer. The Regional Aquifer refers to a zone which is not subject to local downward vertical percolation (and vertical gradients) but is under the influence of horizontal gradients associated with the regional groundwater flow. The groundwater beneath George AFB moves to the northeast through the Upper Aquifer and to the north through the Regional Aquifer.

About 92 percent of the long-term recharge to the Mojave River Basin originates in the San Bernardino Mountains. Tributary runoff from the San Gabriel Mountains contributes about five percent of basin recharge. The remaining three percent is derived as underflow from adjacent areas.

Hydrology would neither impact nor be impacted by the proposed action.

4.4 Cultural Resources

The number of cultural resources studies performed at George AFB has been very few in number. In FY 89 (Dec 88 - Jan 89), an Archeological Resources Assessment was completed by Mr John Murray, staff archaeologist, Army Corps of Engineers, Los Angeles District, for the Runway Repair and Replacement (17/35) construction project. No significant cultural resources were identified within the boundaries of the study area (approximately 350 acres). One isolated find was noted, and its location has been documented with the Archeological Information Center, San Bernardino County Museum. It is not eligible for nomination to the National Register of Historic Places.

Impacts to cultural resources primarily occur as a result of actions that disturb the ground surface or increase the potential for unauthorized artifact collecting or vandalism of archaeological and historical sites. The proposed action will not result in an increase of ground disturbance on George AFB. Although an archeological survey of the entire installation has not been completed to date, potential cultural resources which may exist will neither impact nor be impacted by implementation of the proposed action.

4.5 Terrestrial Environment

The vegetational habitat of the Base reflects the climatic conditions of an upland desert environment. The wildlife in the vicinity of George AFB also reflects this environment with both desert and riparian species present.

4.5.1 Vegetation

The most predominant type of vegetation is the creosote bush scrub which includes creosote bush, cheesebush, burroweed, ricegrass, and mormon tea. This type of vegetation is typically found in the undeveloped areas of the base. Russian thistle or tumbleweed is often found growing in disturbed areas.

Another type of vegetation found on and around George AFB are plants of the joshua tree woodland community. This community includes the joshua tree, boxthorn and bladdersage. Riparian vegetation, including cottonwoods and willows, can be found along the eastern border of the Base and along the Mojave River.

Willows and cottonwoods can be found flanking the river channel near George AFB. This predominant habitat requires permanent flowing or standing water. Small isolated pockets of this habitat, primarily cattail rushes and sedges, can be found in the river channel and in the vicinity of the old George AFB wastewater percolation ponds.

4.5.2 Wildlife

Wildlife in the vicinity of George AFB includes both desert and riparian species such as black-tail jackrabbit, Audubon cottontail, and antelope ground squirrel. More than 100 bird species are present in the area, including hawks, owls, quail, flycatchers, larks, warblers, sparrows, and blackbirds. Other wildlife includes toads, ~~tree~~frogs, lizards, snakes, ground squirrels, pocket mice, and raccoons. There are no fish species known to occur on-base. (J.M. Montgomery, 1988)

Several rare and endangered species may be found on and around George AFB. Table 4-1 identifies those species that are classified either by the State of California or Federal codes. The desert tortoise, which is listed as Threatened by the State of California, is the only species within this category confirmed to inhabit the Base (low density).

4.5.3 Environmental Consequences

There is potential for a positive impact in terms of disturbance of wildlife as result of reduced aircraft noise and emissions. However, this impact will be minimal. Overall, the terrestrial ecology will neither impact nor be impacted by the proposed action.

TABLE 4-1

SENSITIVE, RARE, THREATENED OR ENDANGERED SPECIES
THAT MAY BE FOUND IN THE VICINITY OF GEORGE AFB

Common Name	Scientific Name	Federal	Status	State
ANIMALS				
Mohave tui chub	<u>Gila bicolor mohavense</u>	E		E
Mohave ground squirrel	<u>Spermophilus mohavensis</u>	2		T
Desert tortoise	<u>Gopherus agassizi</u>	2		T
Western pond turtle	<u>Clemmys marmorata</u>	2		CSC
Mohave snail	<u>Helminthoglypta mohavenseana</u>	2		CSC
Copper's hawk	<u>Accipiter cooperii</u>	2		
Ferruginous hawk	<u>Buteo regalis</u>	2		T
Swainson's hawk	<u>Buteo swainsonii</u>	2		CSC
White-faced ibis	<u>Plegadis chihi</u>	2		
Long-billed curlew	<u>Nemenius americanus</u>	2		
Western yellow-billed cuckoo	<u>Coccyzus americanus occidentalis</u>	2		T
Tricolored blackbird	<u>Agelaius tricolor</u>	2		
Spotted bat	<u>Euderma maculata</u>	2		
Least bell's vireo	<u>Vireo bellii pumillus</u>	E		E
Summer tanager	<u>Piranga rubra</u>			CSC
Willow flycatcher	<u>Empidonax traillii</u>			CSC
Bendire's thrasher	<u>Toxostoma benderei</u>			CSC
Le Conte's thrasher	<u>Toxostoma lecontei</u>			CSC
Mohave vole	<u>Microtus californicus mohavensis</u>			

TABLE 4-1 (Continued)

Common Name	Scientific Name	Status	
		federal	State
PLANTS			
Mohave woolly sunflower	<u>Eriophyllum mohavense</u>	2	
Desert cymopterus	<u>Cymopterus deserticola</u>	2	
Barstow monkeyflower	<u>Mimulus mohavensis</u>	2	
Alkali mariposa-lily	<u>Calochortus striatus</u>	2	
Parish's alkali grass	<u>Puccinellia parishii</u>	2	

E - Endangered
 T - Threatened
 CSC - California Department of Fish and Game Species of Special Concern
 2 - Federal Candidate Species, Category 2 (Taxa which existing information indicates may warrant listing, but for which substantial biological information to support a proposed rule is lacking).

Source: U.S. Fish and Wildlife Service, June 1986 and March 1987.
 California Department of Fish and Game, March 1987.
 Updated June 1989.

4.6 INFRASTRUCTURE

This section addresses water, wastewater, stormwater drainage, electricity, gas, solid waste, and fire protection.

4.6.1 Water

The Base's water supply requirements are presently being fulfilled by a well system located adjacent to the Mojave River channel. The Base pumps water for municipal, industrial, and irrigation purposes on Base property. The existing wells are located on land owned by the City of Adelanto and leased by the U.S. Government on behalf of George AFB. Groundwater, within the vicinity of the well field, is at a depth of about 260 feet based upon widely scattered water well data. Shallow, perched conditions locally exist however.

(Draft EA for Upgrading the George AFB Wastewater Treatment Facility)

The well field consists of seven wells located approximately 2.5 miles east of the main gate on Turner Road. These wells pump to two ground storage tanks with a total capacity of 300,000 gallons. Booster pumps bring the water to the water plant where it is chlorinated and then stored in three ground tanks with a total capacity of 1,050,000 gallons. Water is pumped from there to an elevated storage tank with a capacity of 500,000 gallons and to the Base distribution system.

Total production from the well field was 3,642.47 acre feet (1,186,903,000 gallons) in 1988. Daily water demands at George AFB vary from a low of 1.5 million gallons per day (mgd) in January to a high of 6.5 mgd in August.

(Draft EA for Upgrading the George AFB Wastewater Treatment Facility)

Water use at George AFB would be reduced slightly due to the implementation of the proposed action. However, the proposed action will not change any of the large water consumption processes on-base (i.e. cooling, housing, irrigation); therefore, the impact on water supply requirements is expected to be minimal.

4.6.2 Wastewater

Industrial and domestic wastewater generated at George AFB is routed through two interceptors to the Victor Valley Wastewater Reclamation Authority (VWRA). The VWRA facility has capacity to treat 4.8 mgd and discharges to the Mojave River. George AFB contributes approximately 0.80 mgd to the facility at an annual cost of approximately \$250,000. The VWRA plant also serves several nearby communities. Because of recent population growth in the communities, the VWRA facility is approaching its capacity and is adding on to the existing facility.

George AFB generated for FY 88 approximately 289,145 thousands of gallons of wastewater at a total cost of \$247,820 dollars.

The proposed action will not decrease substantially the character nor the quantity of the industrial wastewater.

4.6.3 Storm Water Drainage

Storm runoff for the Base (exclusive of the airfield) is collected from ground surfaces and transported by street gutters to an outfall ditch that runs parallel to the eastern boundary of the Base.

The existing storm drain system for the airfield consists of pipes ranging in size from 12 to 60 inches. Most of the runway and taxiway surface flow is collected by means of inlets and conveyed by pipes to the same outfall ditch. Flow from the outfall ditch is directed toward the desert where a portion eventually filters into the aquifer surrounding the Mojave River. Rarely, if ever, does surface flow from the ditch actually reach the River as surface flow.

(Draft EA for Upgrading the George AFB Wastewater Treatment Facility)

The storm water drainage system will neither impact nor be impacted by the proposed action.

4.6.4 Electricity

George AFB is supplied with 4,160 volt, three-phase electrical power by the Southern California Edison Company. This power is furnished through the Base substation from the Victorville substation through an automatic transfer switch. A 2,400-volt line from the City of Adelanto feeds power to several facilities on the western portion of the base.

The Base consumed for FY 88, a total of 55,293,000 kilowatt hours at a cost of \$1,527,315.

Numerous standby diesel and gasoline powered generators, ranging in capacity from 12 to 500 kilowatts are available to support mission essential facilities on the Base.

The proposed action will not decrease substantially the Base's electrical consumption.

4.6.5 Natural/Propane Gas

The primary heating fuel for the Base is natural gas, supplied by Southwest Gas Corporation. It is estimated that the annual consumption rate for FY 1988 was 274,100 thousand cubic feet. Several facilities are heated by propane gas, which is consumed at an estimated rate of 8,000 gallons annually.

The proposed action will not decrease substantially the Base's gas consumption.

4.6.6 Solid Waste

George AFB generates a total of 121,800 yards of waste which is collected by a contractor and disposed of at the Victorville landfill at an annual cost of \$405,200.

The proposed action will not decrease substantially the amount of solid waste generated by the installation.

4.6.7 Fire Protection

George AFB maintains its own fire department. This department provides fire protection and prevention services to the Base. Units from the Base also respond to large fires in the Victor Valley area. The George AFB Fire Department shares mutual aid agreements with the Cities of Victorville, Adelanto, Hesperia, Town of Apple Valley and the California Department of Forestry Fire Departments. In the past several years, the Base Fire Department has not required outside assistance. The Fire Department presently has a staff of 43 military and 18 civilian personnel.

The proposed action will have no effect on the number of vehicles, personnel or services provided by the Fire Department.

4.6.8 Environmental Consequences

The proposed action would cause a reduction in the number of people residing on-base, and demand for infrastructure services would thus be reduced. However, the impact on infrastructure would be small and short-lived. Since the demand for on-base housing is high, the spaces vacated would be quickly occupied by other military personnel residing off-base.

In summary, the proposed action would have a negligible impact on infrastructure.

4.7 Transportation:

The 4443 TTG presently has assigned a total of 17 vehicles of various types. These vehicles, if the proposed action is implemented would be returned to the transportation squadron and redistributed to other users with a demonstrated requirement. Traffic on George AFB will not be impacted by the proposed action.

4.8 Noise

4.8.1 Contribution of Operations to Ambient Noise Levels

Noise associated with George AFB activities is characteristic of that associated with most USAF base flying operations. The George AFB complex is

actually a small community within itself. During periods when aircraft activity is absent, noise at the Base is typically the result of shop activities, maintenance operations, ground traffic movement, occasional construction work and similar activities. Resultant noise is almost entirely restricted to the Base and can be considered comparable to that which might occur in adjacent community areas. It is only during periods of aircraft activity that this situation differs.

Noise associated with aircraft activity at George AFB occurs during aircraft engine warm-up, maintenance testing and during taxiings, takeoffs, approaches and landings. In addition to the F-4D/E/G and OV-10A aircraft, flying operations at George AFB involve several other types of base-assigned and transient aircraft activity. The Air Installation Compatible Use Zone (AICUZ) Study for the Base indicates that the collective operation of all of these aircraft contributes the greatest amount of Base-generated noise to the nearby off-base areas. This situation is represented by the noise contours shown in Figure 4-1 which denotes the Community Noise Equivalent Levels (CNEL) in decibels (dB) at ground elevation, based upon current operation (1989 AICUZ). These contours were determined by the Air Force Civil Engineering Services Center (AFESC) at Tyndall AFB, Florida, using a computerized methodology which considers the repetition of aircraft operational events as well as the location, flight path, and time of day in which the event occur.

4.8.2 Compatibility of Land Use

Like most USAF installations, the airfield at George AFB was constructed on a site removed from the local community to avoid land use and airspace conflicts. However, as is often the case, urban development has occurred causing some incompatible land usage around the airfield.

Most of the land in the area exposed to noise from aircraft operations at George AFB is undeveloped desert. This land use is compatible with the current level of noise exposure. However, the trend is toward conversion of desert areas to residential development which is more sensitive to noise.

George AFB is surrounded by the incorporated Cities of Adelanto and Victorville along with lands which lie within the unincorporated areas of San Bernardino County. The immediate area is having a low population density with some localized medium density areas with the City of Adelanto.

Directly north of George AFB is a fairly large area of vacant rural land which the County has zoned desert living. The parcel size is limited to a minimum of two and one-half acres but the predominate size is 40 acres.

West of the Base is the City of Adelanto whose city limits are contiguous to the west boundary line of the Base. The City area is about 23,325 acres or approximately 36.5 square miles. However, only about eight square miles or about 5,120 acres of the central portion is actually developed. It should be noted that the present population of the City of Adelanto is 11,000 which would yield a density of three people per acre within the inhabited area. This development encompasses churches, schools, business and various types of residential uses. Growth is taking place in the southern and eastern portions of the City which will represent the greatest potential conflict. Residential areas of Adelanto are exposed to noise levels between 70 and 75 dB while commercial areas are exposed to noise levels between 65 and 80 dB.

Northeast and east of the Base lies the Mojave River, with a meandering, flowing stream contained within its 1,000-foot width. The land on either side is being used for limited agricultural purposes. There are several large pear orchards and farms devoted to raising alfalfa. East of the Mojave River, the land is utilized by Riverside Cement for the mining and manufacture of cement. Two small communities, Oro Grande and Helendale, contain a total of about 100 private homes and are located between the river bottom lands and the low hills east of old U.S. Route 66. Residential areas in Oro Grande are exposed to noise levels between 65 and 70 dB.

The area south and southeast of the Base is within the planning jurisdiction of the City of Victorville. The City of Victorville has a population of 31,040 with land area of 25,600 acres or 40 square miles. However, in 1973 the city annexed some 5,000 acres directly south of the Base which has a permanent population of less than 100 people. This western addition is directly south of the Base and is almost entirely vacant rural land. The majority of parcel sizes within this area are held to a minimum of two and one-half acres with five and 10-acre parcel sizes permitted in the areas of flood hazards and steep slopes. A limited portion of this lightly developed land directly south of the base is exposed to noise levels between 65 and 70 dB.

A review of the existing land uses within the immediate area surrounding the Base, with the exception of the City of Adelanto, shows that the land is vacant rural or agricultural, but with the continued development of the Cities of Victorville and Adelanto, more encroachment is expected.

4.8.3 Projected Noise Levels and Environmental Consequences

An analysis prepared by the AFESC at Tyndall AFB, Florida, using a computerized methodology which considers the frequency, duration and time of occurrence of aircraft operational activity was used to compare the impacts of current and proposed mission activities. The results of this analysis indicate that the area exposed to CNELs greater than 65 dB would decrease by

approximately 19 percent if the proposed action were implemented. This is a combined decrease that includes the proposed inactivation of the 37 TFW with its associated decrease of nine percent. The results of this analysis are depicted graphically in Figure 4-2 which indicates the noise footprints predicted to result from future aircraft operations. Table 4-2 compares the total land area, in acres, encompassed by the various contours for the current and proposed aircraft operations. The predicted reductions are due to the decreased number of aircraft, and estimated sortie rate decreases.

Annoyance is the most significant human response to noise resulting from aircraft overflights. In this case, lower noise levels from the proposed action will be less than the existing noise characteristics. The percentage of people annoyed is expected to decrease with the relocation of AIR WARRIOR. Therefore, the noise level change will be viewed as a positive impact on the surrounding communities.

FIGURE 4-1

**GEORGE AIR FORCE BASE
CURRENT NOISE CONTOURS
(1989 AICUZ)**

FIGURE 4-2

GEORGE AIR FORCE BASE

FUTURE NOISE CONTOURS



TABLE 4-2
GEORGE AFB COMPARISON OF AREAS (ACRES)
WITHIN NOISE CONTOURS

	60.0	65.0	70.0	75.0	80.0	85.0	TOTAL
89 AIGUZ	69363.2	33995.5	11541.7	7385.9	3425.2	2108.6	131820.1
CONSOLIDATION	57838.0	30648.3	13990.9	6883.8	3168.5	2041.7	114571.2
REDUCTION	11525.2	3347.2	1550.8	502.1	256.7	66.9	17248.9
% REDUCTION	16.6%	9.8%	13.4%	6.7%	7.4%	3.1%	13.0%
AIR WARRIOR	57123.9	28829.7	11792.9	5857.4	2633.0	1651.2	107888.1
REDUCTION	714.1	1818.6	2198.0	1026.4	535.5	390.5	6683.1
% REDUCTION	1.2%	5.9%	15.7%	14.9%	16.9%	19.1%	5.8%

4.9 Airspace

4.9.1 Accident Potential

At both ends of the George AFB runways, a clear zone and two accident potential zones (APZ) have been designated. The clear zones encompass an area 3,000-foot wide and extend 3,000 feet from the ends of the runway. Within the clear zone areas, the overall risk of aircraft accidents is so high that the necessary land use restrictions would prohibit reasonable economic use of the land. For this reason, the USAF has acquired the expanded clear zone on both ends of the runways. APZ Is, areas 3,000 feet wide extending along the runway axis for a distance of 5,000 feet beyond the clear zones, are less critical than the clear zones but still possess a significant risk factor. APZ II, also 3,000-foot wide and extending 7,000 feet beyond the boundary of APZ I to 15,000 feet from the runway threshold, is less critical than APZ I but still possesses some risk. The AICUZ Study provides land use compatibility guidelines which allow reasonable economic use of the land in APZ I and II.

The implementation of the proposed action would be expected to have no impact on accident potential. The proposed action would not effect the extent of the Clear Zones, nor the APZs, which have been established for George AFB, or the degree of compatibility of existing or future land use within these zones.

A description of the existing airspace utilization by George AFB assets on the 10 military training routes (MTR) and two military operating areas (MOA) is included in Appendix A.

4.9.2 Safety and Airspace

Due to the proposed action, AIR WARRIOR flight activity and their use of MOAs associated with George AFB will cease. However, AIR WARRIOR will continue to use the same MOA while flying out of their new location. While additional efforts in airspace management and coordination would be necessary for the USAF, no impact on air traffic safety or airspace utilization is anticipated.

4.9.3 Aircraft Operations

The areas and routes impacted by the action are located in San Bernardino, Los Angeles, Kern and Inyo Counties in California and in eastern Nevada. Figure A-1 shows the locations of Complex 4 MOA, R-2501, and the 10 MTRs. Four training routes extend into Nevada.

George AFB fighter sorties are anticipated to decrease by approximately 32 percent within the Complex 4 MOA (Table 4-3). This is a combined reduction taking into account the relocation of AIR WARRIOR and the proposed inactivation of the 37 TFW.

A description of aircraft operations within the Complex 4 MOA, R-2501, and the MTRs is provided in Appendix A.

TABLE 4-3

**EXISTING AND PROJECTED OPERATIONS IN MOAS
AND RESTRICTED AREAS ASSOCIATED WITH GEORGE AFB**

	<u>Existing</u>	<u>Future</u>	<u>Percent Change</u>
Restricted Area 2508	30,133	20,645	-32
TOTAL SORTIES	30,133	20,645	

Notes: AIR WARRIOR flight operations are conducted primarily in R-2502 and Complex 4 MOA, both of which are part of the R-2508 Restricted Area.

4.10 Air Quality

There will be an insignificant change in air emissions due to aircraft maintenance, heating and power production, the operation of motor vehicles and other support functions. There will be a small effect on the emissions from aircraft flying operations and fuel evaporation losses. Table 4-5 details the change in emissions based on the 3.5 percent reduction in aircraft operations.

TABLE 4-4

REDUCTION IN AIR EMISSIONS
DUE TO PROPOSED ACTION

<u>TYPE OF</u> <u>EMISSION</u>	<u>1988</u> <u>EMISSIONS</u> (US TONS)	<u>EMISSION</u> <u>REDUCTION</u> (US TONS)	<u>FUTURE</u> <u>EMISSION</u> (US TONS)
<u>EVAPORATIVE</u> <u>FUEL LOSSES</u>			
HYDROCARBONS	90.1	3.2	86.9
<u>AIRCRAFT FLYING</u> <u>OPERATIONS</u>			
PARTICULATES	27.6	1.0	26.6
SOX	46.1	1.6	44.5
CO	854.0	29.9	824.1
HYDROCARBONS	299.0	10.5	288.5
NOX	253.0	8.9	244.1

Notes: 1. SOX = Oxides of Sulphur
2. CO = Carbon monoxide
3. NOX = Oxides of Nitrogen
4. This information is based on data found in the George AFB Emission Inventory for 1988.

4.11 Hazardous Materials

The effect on the use and disposal of hazardous materials due to the proposed action will be minimal. There may be some reduction in the volume of waste oil/petroleum based-fluids that are turned in for recycling, but this reduction should be less than 5 percent of the total volume. There will be little impact on the amount of paint used and paint waste generated.

4.12 Health and Safety

Due to the small number of personnel assigned to AIR WARRIOR, health, medical, and safety services will not be impacted nor impact the proposed action.

4.13 Socioeconomics

This section presents an overview of the existing conditions of socioeconomic resources and potential impacts associated with the proposed action.

4.13.1 Population

The population of the Regional Statistical Area which includes George AFB, Victorville, Adelanto, Hesperia, Apple Valley, Lucerne Valley, Phelan and the surrounding unincorporated areas totaled 74,737 in 1980. This represented a growth from 1970 of 69.3 percent. The area governments have been characterized as "pro-growth" which, in part, helps to explain the rapid growth of the area. Other contributing factors have been identified as being: an influx of retirement-age people, proximity to employment centers in Los Angeles and San Bernardino Counties, low housing costs, good air quality and an expanding employment base in the local region. George AFB employs approximately 5,246 military and 548 civilian personnel. Annually, George AFB reassigns approximately 646 personnel. Currently there are approximately 2,350 retired military personnel in the local area.

In order to implement the proposed action, there will be a manpower reduction of 38 personnel. At an average of 1.43 persons per household, this results in an associated decrease of 54 dependents and a total decrease of 92 persons. Based on current ratios, 18.5 percent of the dependents (10 persons) will be of school age.

4.13.2 Employment

George AFB employs approximately 5,246 military and 548 civilian personnel. Nonappropriated funds, contract civilians, and private businesses account for an additional 571 civilian positions on the Base. The Base awards numerous contracts in the local area each year for everything from major construction to services and supplies. Economic activity as a result of personnel from the base resulted in the creation of 5,154 jobs in the local area. Finally, an unestimated number of dependents hold jobs, both on-base and in the local communities.

Unemployment in the local area has been estimated at just slightly more than five percent as recently as 1987. The proposed action will increase employment opportunities by removing a part of the work force. At the same time, however, the number of secondary jobs created due to economic activity of the Base and assigned personnel will decrease.

4.13.3 Income

In FY 88, the USAF payroll at George AFB amounted to more than \$126.2 million. The non-USAF organizations' payroll for the same year was more than \$2.8 million.

The retired military in the area had an income of approximately \$27 million for the same year. Contracts awarded in the local area totalled more than \$88 million. The total economic impact of George AFB was \$516 million.

The proposed action will result in an approximate loss to the local economy of \$1.7 million. Over \$900 thousand of this loss will be borne by the local hotels due to a reduction in contract quarter useage as a result of the proposed action. There are also untold thousands of dollars paid in per diem to personnel assigned TDY to George for AIR WARRIOR. If not for the growth in the area, this could be considered a significant impact.

4.13.4 Housing

There are 1,641 family housing units on-base, with approximately 100 of these vacant at any time due to maintenance or personnel changes. Currently, there is a waiting time of up to three months from the time a person requests on-base housing until a unit becomes available. Dormitories provide housing for 2,028 unmarried enlisted personnel. Based on the above, 3,669 of the George AFB military personnel are provided housing on-base with 1,577 living off-base.

The proposed action will have a minimal effect on the rental properties in the Victor Valley.

4.13.5 Education

The school districts potentially impacted by a change in George AFB personnel and their dependents are Victor Valley Union High School District, Apple Valley Elementary School District, Victor Elementary School District, Adelanto Elementary School District and the Hesperia Elementary School District. These districts are all characterized by increasing enrollments that have necessitated the use of portable buildings and year-round school programs. A total of 10 new schools is currently projected or under construction by the Districts to meet future needs.

George AFB personnel living on-base attend elementary schools that form part of the Adelanto Elementary School District. Beyond elementary, they attend the Victor Valley Union High School District schools. Personnel living off-base are likely to live in Adelanto (19 percent), Apple Valley (39 percent), with the remainder living in other unincorporated communities.

The proposed action will result ~~in an~~ estimated decrease of school age population of 10 pupils. This will only minimally impact the affected school districts.

The relocation of AIR WARRIOR would initially cause a reduction in the number of people residing on-base. Since the demand for on-base housing is high, the spaces vacated would be quickly occupied by other military personnel residing off-base. Therefore, the Adelanto Elementary Schools would only be minimally impacted.

In summary, the proposed action would have a negligible impact on education facilities within the Victor Valley.

5.0 ACRONYMS

AD	Air Division
AFB	Air Force Base
AFESC	Air Force Engineering Services Center
AFR	Air Force Regulation
AGL	Above Ground Level
AICUZ	Air Installation Compatible Use Zone
ANG	Air National Guard
APZ	Accident Potential Zone
BLM	Bureau of Land Management
BOS	Base Operating System
CEQ	Council on Environmental Quality
CNEL	Community Noise Equivalent Levels
CSG	Combat Support Group
dB	Decibels
DET	Detachment
DOD	Department of Defense
EA	Environmental Assessment
FAC	Forward Air Controller
FIW	Fighter Interceptor Wing
FY	Fiscal Year
FYDP	Five-Year Defense Plan
HQ	Headquarters
IR	Instrument Route
LTO	Landings and Takeoffs
Med Gp	Medical Group
mgd	Million Gallons Per Day
MOA	Military Operating Area
MSL	Mean Sea Level
MTR	Military Training Route
NEPA	National Environmental Policy Act
NTC	National Training Center
PAA	Primary Aircraft Authorization
PL	Public Law
POC	Point of Contact
PPE	Primary Program Element
PVSA	Panamint Valley Supersonic Area
RAC	Risk Assessment Code
RM	Deputy Commander for Resource Management
TAC	Tactical Air Command
TASS	Tactical Air Support Squadron
TEG	Test and Evaluation Group
TFW	Tactical Fighter Wing
TFS	Tactical Fighter Squadron
TFTS	Tactical Fighter Training Squadron
T&G	Touch and Go
TISEO	Target Identification System Electro Optical

TTW
USAF
USMC
VR

Tactical Training Wing
United States Air Force
United States Marine Corps
Visual Route

6.0 PERSONS AND AGENCIES CONTACTED

Robert Thackery, Airspace Manager, 35 TTW/DOY
TSgt Richard Corral, 831 AD Public Affairs
SSgt Chuck Starr, 831 AD Historian
Capt Joy K. Olexa, 831 Med Gp/Administration
Ms Patricia A. Chamberlaine, City Administrator, City of Adelanto
Capt J.D. Anderson, 37 TFW/DOO (Current Operations)
SMSgt Billie Norman, 831 CSG/DEF (Fire Chief)
Ken Kirker, 831 CSG/DEEP
Capt James, 831 AD/MET
SMSgt Frank E. Smith, 831 AD/LGTO
TSgt Floyd Pratt, 831 AD/LGTO
Sgt Marcella Flecher, 831 AD/LGTO
TSgt James D. Dann, 37 TFW Vehicle NCO
MSgt Terry L. Boatright, 831 CSG/SPOL
MSgt Howard S. Ragan, 831 CSG/SPOL

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APPENDIX A

AIRCRAFT OPERATIONS

Aircraft Operations

Aircraft fly at speeds ranging from low subsonic to nearly 1,400 miles per hour or Mach 2.0. Subsonic flight occurs at altitudes from 100' above ground level (AGL) to 40,000 feet mean sea level (MSL). Most flights occur in the subsonic range. Supersonic flights operate at 5,000 feet above ground level (AGL) to 40,000 feet mean sea level (MSL). Supersonic flights are limited to altitudes above 5,000 feet AGL for safety reasons and to minimize damage from sonic boom shock waves. Supersonic operations are limited to daylight hours.

Complex 4 MOA

Information on Complex 4 is summarized from the Panamint Valley Supersonic Area (PVSA) EA. The PVSA is located in the western portion of MOA 4 or Complex 4. Complex 4 is one of four MOAs in R-2508, which is approximately 90 nautical miles north of George AFB. Information is presented below for the PVSA and for the remainder of the area in Complex 4. Supersonic activity is limited to the PVSA, also known as the western portion of MOA 4.

Land underlying the PVSA is primarily mountainous and desert terrain with flora and fauna adapted to the arid environment. Over 95 percent of the land area is owned by the Federal government and controlled by the Bureau of Land Management (BLM). There are a number of active mines on the government-owned land in the Panamint Valley. The area population is generally associated with the Indian Ranch Reservation or Ballarat crossroads. The estimated population of the PVSA is less than 200 people. There are also scattered areas of privately-owned land in the PVSA.

The BLM is considering designating certain portions of the PVSA as wilderness areas. There are no wildlife sanctuaries in the supersonic area.

Because of the mountainous terrain, the majority of supersonic flights occur between approximately 10,000 feet AGL and 30,000 feet MSL in the middle two-thirds of the area. Distance and terrain generally provide a buffer between sonic booms and populated areas outside the PVSA.

The area extending 14 miles outward from PVSA is similar in topography, population, climatology and ecology. Other communities underlying portions of Complex 4 outside the PVSA include Trona, nine miles to the southeast of the PVSA, Argus, Darwin, Harrisburg, and Wildrose. These communities were not incorporated at the time of the 1980 census and population data are not available. Death Valley National Monument comprises the eastern portion of Complex 4. State Highway 178 runs north-south and connects Trona in the south to State Highway 190, which cuts through the northwest corner of Complex 4. Since supersonic flights are restricted to the PVSA, terrain and distance should muffle sonic booms from reaching settlements outside that area.

As a result of this action (and the previous inactivation of the 37 TFW), George AFB total fighter sorties will decrease by approximately 32 percent in Complex 4 and R2502.

Bullion Mountains Restricted Area (R-2501)

R-2501 is used by George AFB as a supersonic area to train tactical fighter aircrews in air-to-air combat. Supersonic activity is limited to the northern and eastern halves of R-2501. Information on R-2501 is summarized from the Bullion Supersonic Airspace EA.

The U.S. Government owns and U.S. Marine Corps (USMC) Combat Center controls approximately 90 percent of the land under R-2501. The land is used for a combat training area and accommodates tactical weapons ranges, other ordnance impact areas and troop bivouac areas. Another five percent of the land is owned and controlled by the BLM. With the exception of the USMC troops deployed for training operations, R-2501 is unpopulated. The land is desert terrain with flora and fauna characteristic of arid regions.

The northern boundary of R-2501 is just south of Interstate 40 and roughly follows the National Trails Highway; both are sparsely populated. Population data for Ludlow and Amboy are not available. The areas to the east and west of R-2501 are also generally sparsely populated.

The region to the south of R-2501 is more heavily populated and includes the town of of Twenty-Nine Palms and Joshua Tree National Monument. Supersonic flights are limited to an area far enough north so as to reduce the impacts on residents.