

CHAPTER 4.0

AFFECTED ENVIRONMENT

4.1 STUDY AREAS

This Environmental Assessment (EA) has generally addressed potential environmental impacts within Mono and Inyo Counties of California, the same areas evaluated in the 2008 Final EIS that was prepared in regard to the FAA approval of the air carrier service to Mammoth Yosemite Airport (MMH) by Horizon Air using Q400 aircraft. Within this broader area two specific study areas have been established in recognition that noise levels related to aircraft operations have been identified as the environmental category of greatest interest to potentially-affected parties.

4.1.1 Airport Study Area

An Airport Study Area (ASA) was established to define the area of potential direct impacts from the Proposed Action on the noise-sensitive land uses within the immediate vicinity of the airport. The ASA boundary was established based on the existing fenced airport boundary and the estimated extent of the future (2015) Community Noise Equivalent Level (CNEL) 65 dBA noise contour (see [Section 5.3](#)) and is shown on [Figure 4.1-1](#). The Federal Aviation Administration (FAA) recognizes CNEL as an alternative metric for California environmental documents (Appendix A, Section 14, paragraph 14.1a of FAA Order 1050.1E) and CNEL is used in this EA for the discussion of noise conditions at Mammoth Yosemite Airport (MMH). Although there is no property acquisition, ground disturbance, or new construction associated with the Proposed Action, the ASA is used to address the potential impact from additional aircraft operations in the immediate vicinity of the airport.

4.1.2 Section 4(f) Resources Study Area

For environmental considerations in this EA that deal with potential aircraft noise and Department of Transportation Act, Section 4(f) (see [Sections 4.2.5 and 5.8](#)) impacts beyond the airport environs, a Section 4(f) Resources Study Area (4fSA) was established as shown in [Figure 4.1-2](#). The 4fSA was identical to the Initial Area of Investigation (AI) identified for the cumulative noise and Section 4(f) assessments in the 2008 EIS. The 4fSA was established to allow quantification of potential constructive use impacts to Section 4(f) resources that may occur from direct or cumulative aircraft noise levels.

4.1.3 Socioeconomic Study Area

A Socioeconomic Study Area (SSA) that includes Inyo and Mono counties was established for the assessment of social and socioeconomic data because most economic data are available on a county-wide basis and the economic impacts of the Proposed Action could be expressed over a fairly broad area of both counties. This area is shown on [Figure 4.1-3](#).

4.2 HUMAN ENVIRONMENT

4.2.1 Political Jurisdictions

The Town of Mammoth Lakes is the owner and operator of MMH. The airport is located within Mono County, California. As shown in [Figure 1.2-2](#), MMH is located approximately 12 miles north of the boundary between Mono County and Inyo County, California.

4.2.2 Land Use

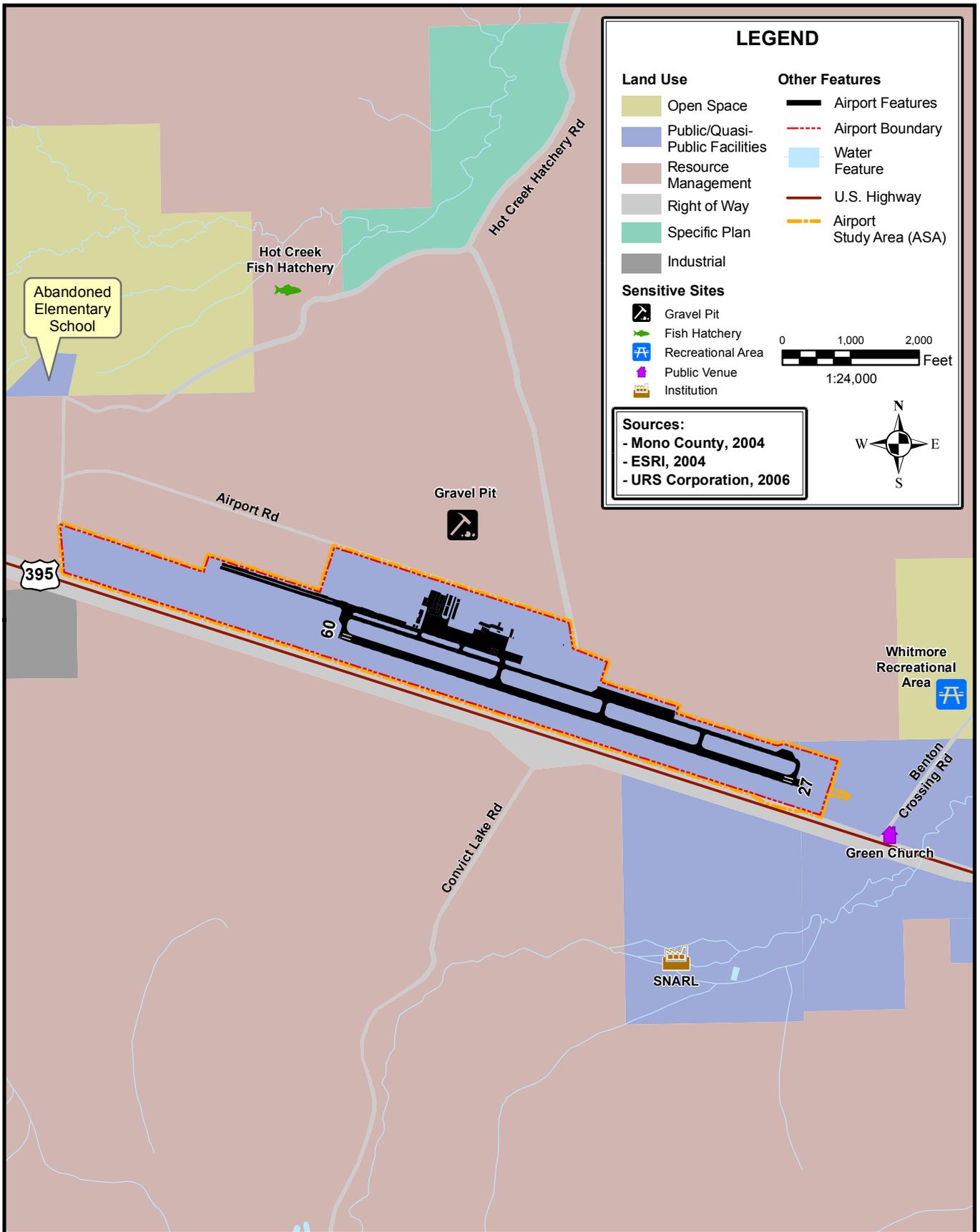
This section describes current land use characteristics in the vicinity of MMH. Current land uses are shown graphically on [Figure 4.2-1](#).

Lands to the north, northwest, and south of MMH are Federally-owned and within the Inyo National Forest. The lands northeast of MMH are owned by the Bureau of Land Management (BLM) and undeveloped. Eastern portions of MMH, including lands under a portion of the runway, are owned by the Los Angeles Department of Water and Power (LADWP). The Town of Mammoth Lakes currently leases this land.

The MMH environs include open spaces used for agriculture, resource management areas of the U.S. Department of Agriculture - Forest Service (USDA-FS), LADWP, and BLM, and recreation. Small parcels in close proximity to MMH are used for industrial and public agency uses. Hot Creek is located on the western side of MMH, with the abandoned Mammoth Lakes Elementary School and Sierra Quarry a bit further west. Approximately 1 mile north of MMH is Hot Creek Ranch, a privately owned fishing camp and the Hot Creek Fish Hatchery. Also located north of MMH, between the airport and Hot Creek Ranch, is a USDA-FS gravel/borrow pit. To the east of the Whitmore Recreational Area is a BLM gravel pit area that is adjacent to US 395. The Sierra Nevada Aquatic Research Laboratory (SNARL) is located about 1 mile southeast of MMH and south of US 395. This facility is part of the University of California Natural Reserve System that studies stream ecology. The building locally known as the “Green Church” (High Sierra Community Church) is located on the north side of US 395, but is no longer used as a place of worship. The Green Church building is now used for classes and is part of the SNARL campus (see [Section 4.2.5](#) for more details on this building). Approximately 2 miles due south of MMH is the Convict Lake Recreation Area, which includes an Inyo National Forest Campground and other facilities. There are no residential areas in the immediate vicinity of MMH.

4.2.3 Social and Economic Characteristics

This section summarizes the social and economic characteristics of Mono and Inyo counties, including population, race, income, age distribution, and housing. The 2008 EIS prepared for the FAA approval of the introduction of commercial air carrier service to MMH by Horizon Air included an extensive analysis of social and economic characteristics of the two counties. The following information is taken from Section 4.3 of the EIS.



Environmental Assessment
Mammoth Yosemite Airport
 United Airlines Operations Specifications
 Amendment Service to/from MMH

AIRPORT STUDY AREA

FIGURE
4.1-1

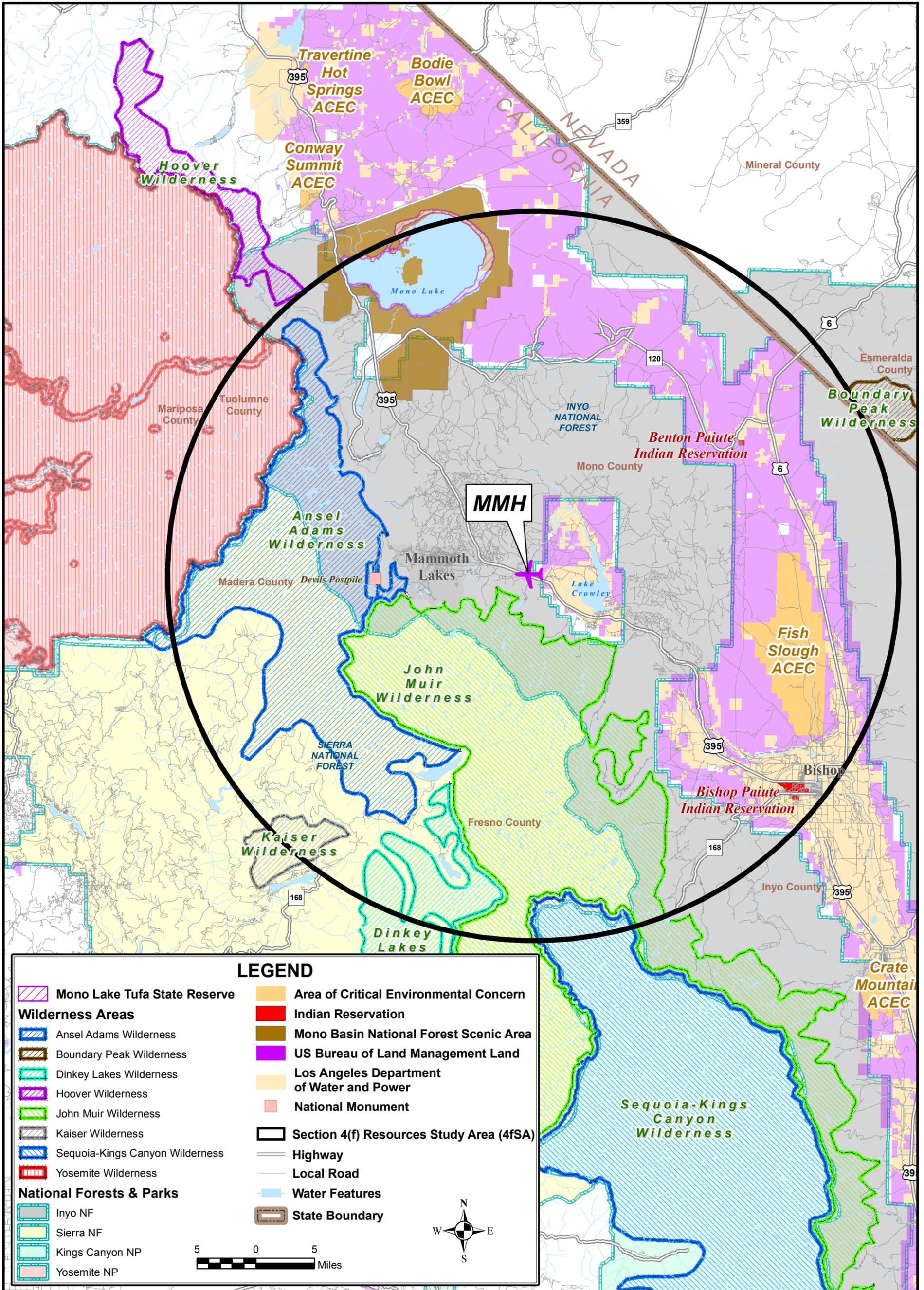


FIGURE 4.1-2

SECTION 4(F) RESOURCES STUDY AREA



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Mammoth Yosemite Airport
 United Airlines Operations Specifications
 Amendment Service to/from MMH

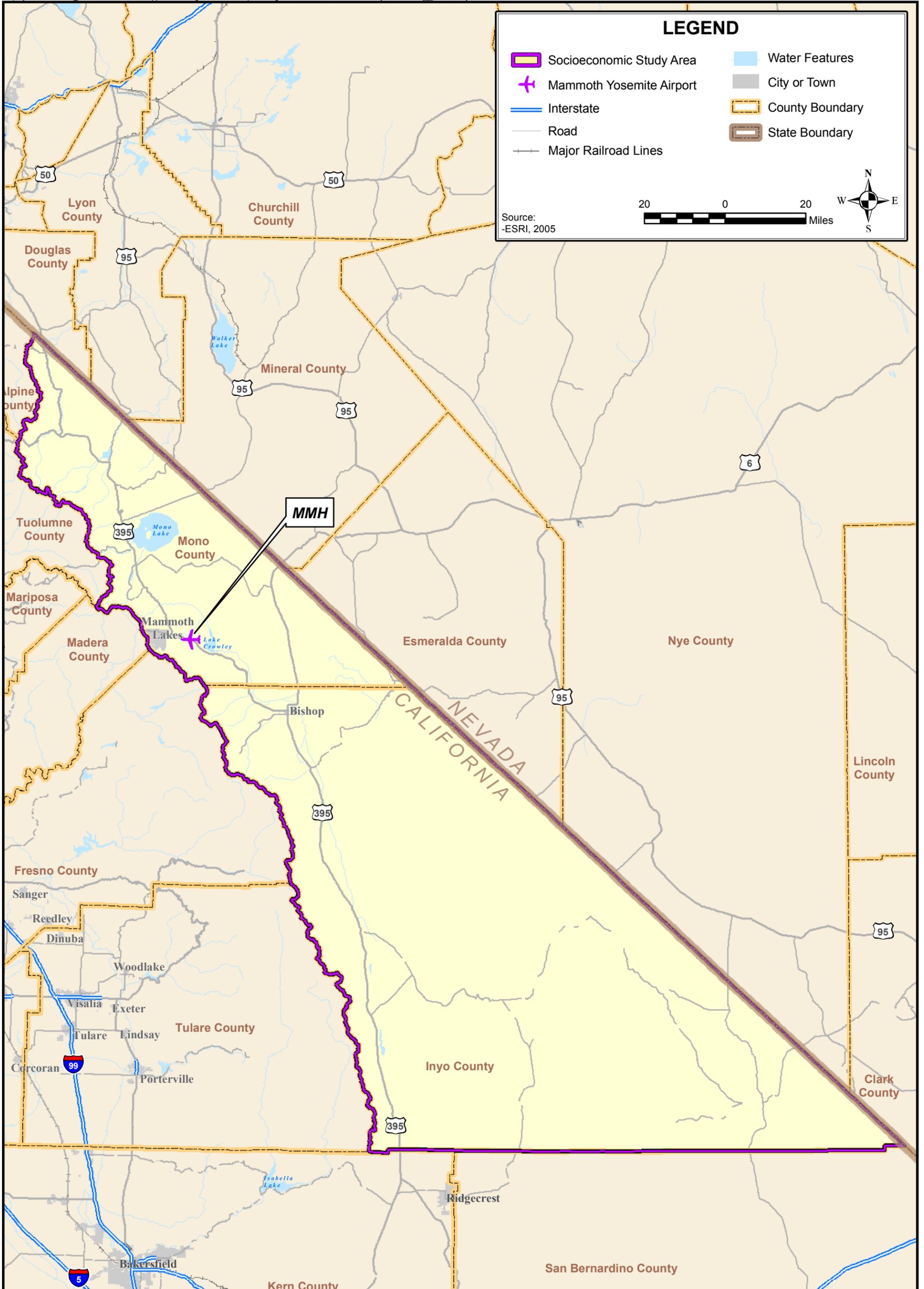


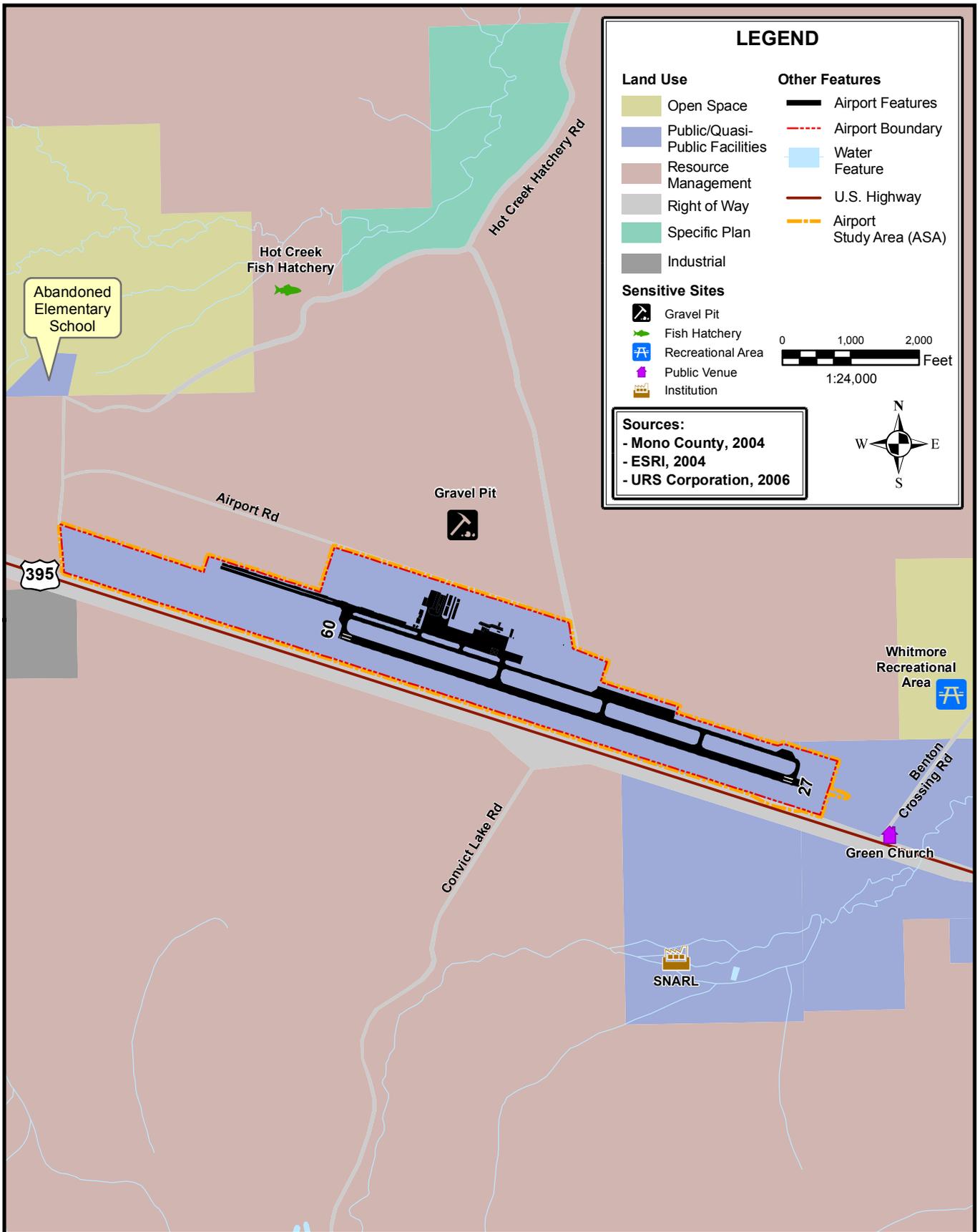
FIGURE
4.1-3

SOCIOECONOMIC STUDY AREA



Environmental Assessment
Mammoth Yosemite Airport
United Airlines Operations Specifications
Amendment Service to/from MMH

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Environmental Assessment
Mammoth Yosemite Airport
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 Amendment Service to/from MMH

EXISTING LAND USE

FIGURE
4.2-1

4.2.3.1 Population

The Mono and Inyo counties have experienced modest growth in resident population since 1990 (Table 4.2-1). The population increased from 28,237 in 1990 to just over 32,000 in 2005 - a net change of nearly 3,880 residents representing a 13.7 percent increase in population. The regional population growth is considerably less than the 23.4 percent increase experienced within the state during this same 16-year period.

Mono County, including the Town of Mammoth Lakes, accounted for 92 percent of the population growth in the SSA. The Town of Mammoth Lakes has attracted most of this regional growth since its incorporation in 1984. As of January 2005, the full-time town population was estimated to be 7,602, a growth rate of nearly 59 percent from 1990 to 2005. The population of unincorporated Mono County (excluding the Town of Mammoth Lakes) grew by almost 14.8 percent from 5,171 in 1990 to 5,935 in 2005 (Table 4.2-1).

On a seasonal basis, the Town of Mammoth Lakes experiences large fluctuations in the total non-resident population because of its tourism-dependent economy. The resident population, coupled with the tourism population, can exceed 35,000 people during the peak winter tourism and ski season. The Town accommodates a significantly larger population when seasonal tourist populations are present.

The population of Inyo County, including the City of Bishop, has remained stable over the past 16 years. As of January 2005, Bishop's population was estimated to be 3,641 persons representing a population increase of just 166 residents since 1990. The population estimate for the balance of Inyo County was 14,939, representing less than 1 percent population increase since 1990. The seasonal population variations in Bishop and Inyo County differ greatly from those experienced in the ski resorts of Mammoth Lakes and June Lake, with the height of the tourist season occurring between the months of May through September.

**TABLE 4.2-1
POPULATION GROWTH TRENDS OF MONO AND INYO COUNTIES, 1980-2005**

Area	1980	1990	2000	2005	Net Change 1990 - 2005	Percent Change 1990-2005
Mammoth Lakes ¹	0	4,785	7,093	7,602	2,817	58.9%
Unincorporated Mono County	8,700	5,171	5,760	5,935	764	14.8%
Mono County Total	8,700	9,956	12,853	13,537	3,581	36.0%
Bishop	3,333	3,475	3,575	3,641	166	4.8%
Unincorporated Inyo County	14,562	14,806	14,370	14,939	133	0.9%
Inyo County Total	17,895	18,281	17,945	18,580	299	1.6%

¹ Mammoth Lakes incorporated in 1984.

Sources: U.S. Census Bureau, Census 2000 and 1990 Census. State of California, *E-4 Population Estimates for Cities, Counties, and the State 2001-2006 with 2000 Benchmark*, Sacramento, California, May 2006. Mono County MEA - 2001, page 52 and Inyo County General Plan, December 2001, page 2-6.

4.2.3.2 Racial and Ethnic Composition

According to the 2000 Census, 82 percent of the population within the SSA identified themselves as being White; nearly 7 percent identified themselves as being Native American; and 10 percent identified themselves as being either "Some Other Race" or "Two or More Races" (Table 4.2-2). Approximately 18 percent of the SSA population identified themselves as being Non-White, which is a much lower percentage than reported for California or the U.S.

**TABLE 4.2-2
RACIAL AND ETHNIC CHARACTERISTICS OF MONO AND INYO COUNTIES, 2000**

Racial and Ethnic Characteristics	Mono County		Inyo County		Socioeconomic Study Area		Percentage Comparison	
	Mammoth Lakes	Unincorporated Balance	Bishop	Unincorporated Balance	Number	Percent	California	U.S.
Total Population	7,093	5,760	3,575	14,370	30,798	100.0%	100.0%	100.0%
One Race	6,941	5,623	3,383	13,818	29,765	96.6%	95.3%	97.6%
White	5,902	4,916	3,025	11,342	25,185	81.8%	59.5%	75.1%
Black or African American	29	32	7	22	90	0.3%	6.7%	12.3%
Native American and Alaska Native	35	274	73	1,729	2,111	6.9%	1.0%	0.9%
Asian	90	53	45	118	306	1.0%	10.9%	3.6%
Native Hawaiian and Other Pacific Islands	9	2	1	14	26	0.1%	0.3%	0.1%
Some Other Race	876	346	232	593	2,047	6.6%	16.8%	5.5%
Two or More Races	152	137	192	552	1,033	3.4%	4.7%	2.4%
Non-White Population	1,191	844	550	3,028	5,613	18.2%	40.4%	24.8%
Hispanic or Latino	1,575	699	621	1,636	4,531	14.7%	32.4%	12.5%

Sources: U.S. Census Bureau, Census 2000; California Department of Finance, Demographic Research Division.

Overall, the Hispanic/Latino population increased from 2,662 in 1990 to 4,531 in 2000 to 5,289 in 2004 - a net change of 2,627 residents during this 16-year period representing a 98.7 percent increase (U.S. Census and the California Department of Finance). By 2000, Hispanics and Latinos comprised 14.7 percent of the region's population, which is a higher percentage than the U.S. (12.5 percent), but a much lower percentage than the State of California (32.4 percent).

4.2.3.3 Native American Tribes

Native American Tribes are included in the study because they are an important ethnic group in the project area. The Native American Heritage Commission (NAHC) was contacted regarding areas of concern to the local Native American community that may be impacted by the proposed action at MMH. The NAHC provided the names and appropriate contacts for Native American Tribes within the study area. The distances of the seven Federally-recognized tribal groups from MMH are listed below in [Table 4.2-3](#). The locations are depicted in [Figure 4.2-2](#).

**TABLE 4.2-3
DISTANCE OF FEDERAL NATIVE AMERICAN TRIBES FROM MMH**

Federal Native American Tribes	County	Distance from MMH (Miles)
Bridgeport Paiute Indian Colony	Mono	50
Utu Gwaite Tribe of Benton Paiute Reservation	Mono	20
Bishop Paiute Tribe Reservation	Inyo	30
Big Pine Paiute Tribe Owens Valley Reservation	Inyo	45
Fort Independence Reservation	Inyo	65
Lone Pine Paiute Shoshone Reservation	Inyo	85
Timbi-sha Shoshone Tribe Reservation	Inyo	135

Source: NAHC, 2007 and URS Corporation, 2007

4.2.3.4 Income Distribution

The household income distribution for Mono and Inyo counties is shown in [Table 4.2-4](#). Inyo County households earn less income than their counterparts in the state or the nation; whereas, Mono County households earn less than their counterparts in California but more than the typical household in the U.S. The median household income for Mammoth Lakes is \$44,570; for Mono County, \$44,992; for Bishop, \$27,338; and for Inyo County, \$35,006. These median income figures compare to \$47,493 for California and \$41,994 for the U.S.

Approximately 12 percent of the population of the two counties is classified as being below the poverty level, as defined by the U.S. Census Bureau and the U.S. Department of Health and Human Services (HHS). This level is below the national and State of California poverty levels of 12.4 and 14.2 percent, respectively.

4.2.3.5 Employment Characteristics

The economy in Mono and Inyo Counties has been expanding since 1990, reflecting economic strengths characteristic of the region. As a result, the annual average of full- and part-time employment for the counties has grown from 17,057 in 1990 to approximately 21,443 in 2005. The economy of Mammoth Lakes and Mono County is driven by a year-round resort and tourist industry, whereas the economy of Bishop and Inyo County is dominated by the government sector with tourism playing an important, secondary role. Approximately 21 percent of the employment in the two counties is in the accommodation and food service sectors.

In 2005, salaries in the two counties averaged \$32,315, ranging from \$7,453 for education related services (i.e., private establishments that provide instruction or training) to \$86,504 for persons employed in the utilities sector. The median income distribution for employee households within the two counties is shown in [Table 4.2-5](#).

Mono County

In 2004, unemployment in Mono County was 5.4 percent. Unemployment decreased to 5.0 percent in 2005. The job growth and economic health of Mono County can be attributed to continued growth in tourist activity and a resulting growth in the accommodations and retail services sectors. In 2002, average annual wages in Mono County ranged from \$10,940 in the arts, entertainment and recreation field to \$64,500 in Federal, county, and local government. These averages include both full- and part-time employment.

The Mono County economy is largely driven by tourism, with the leisure services and government sectors dominating Mono County's employment. The Mammoth Lakes Visitor's Bureau estimates an annual average of 2.8 million visitors per year. The winter season, from November through April, attracts approximately 1.3 million visitors; while the summer season, June through September, attracts approximately 1.5 million tourists. Hotel/motel occupancies in March are the highest at 56 percent. In the slowest months, May and October, occupancy rates are on the order of 21 to 26 percent. The major job centers in the county are concentrated in Mammoth Lakes (services, retail trade, and government), June Lake (seasonal services and retail trade), and Bridgeport (government). Between January 2001 and June 2004, the leisure and hospitality services sector represented nearly 42 percent of the total employment; other service sectors contributed nearly 28 percent, while the government sector accounted for an additional 22 percent of total employment.

Inyo County

Employment in Inyo County is dependent on the government services sector with leisure and hospitality services and retail trade of secondary importance. Approximately 40 percent of the employees in the county are employed in the government services sector. The next largest categories are retail trade and leisure services at 19.2 and 18.5 percent, respectively. Tourism-related employment is the growth sector in Inyo County.

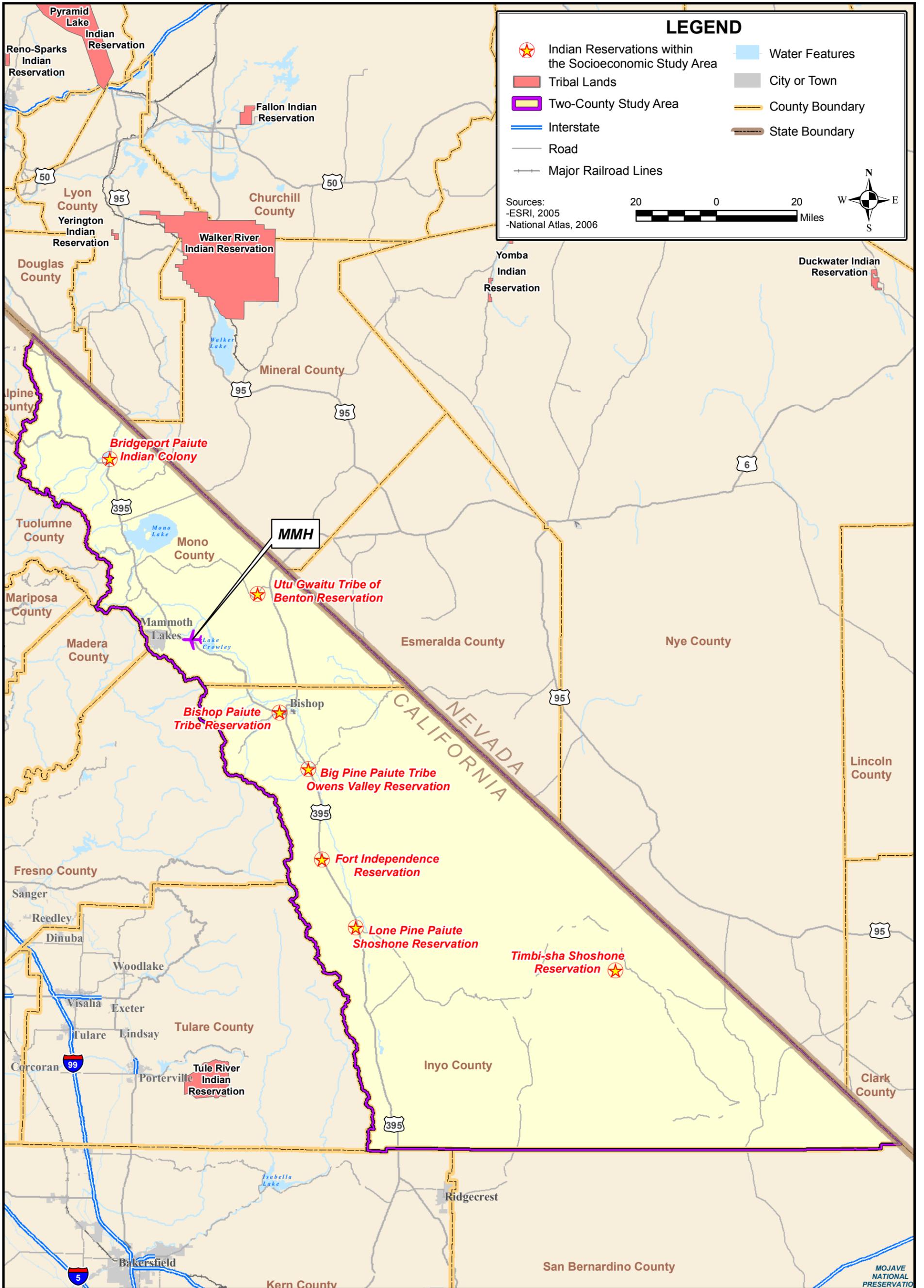


FIGURE 4.2-2

REGIONAL TRIBAL LANDS

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Mammoth Yosemite Airport
 United Airlines Operations Specifications
 Amendment Service to/from MMH

**TABLE 4.2-4
HOUSEHOLD INCOME DISTRIBUTION CHARACTERISTICS OF MONO AND INYO COUNTIES, 2000**

Income Characteristics	Mono County		Inyo County		Percentage Comparison	
	Mammoth Lakes	Unincorporated Balance	Bishop	Unincorporated Balance	California	U.S.
Less than \$10,000	121	164	261	646	8.4%	9.5%
\$10,000 to \$14,900	183	124	148	532	5.6%	6.3%
\$15,000 to \$24,999	386	249	336	879	11.5%	12.8%
\$25,000 to \$34,999	463	321	289	745	11.4%	12.8%
\$35,000 to \$49,999	395	483	278	932	15.2%	16.5%
\$50,000 to \$74,999	650	599	165	1,208	19.1%	19.5%
\$75,000 to \$99,999	211	217	79	527	11.5%	10.2%
\$100,000 or more	418	179	93	555	17.3%	12.4%
Total Households	2,827	2,336	1,649	6,024	100.0%	100.0%
Median Household Income	\$44,570	\$44,992*	\$27,338	\$35,006*	\$47,493	\$41,994
Population Below Poverty	1,018	438	566	1,678	14.2%	12.4%

* Median household income for Mono and Inyo counties.
Source: U.S. Census Bureau, Census 2000.

**TABLE 4.2-5
AREA MEDIAN INCOME DISTRIBUTION FOR EMPLOYEE HOUSEHOLDS FOR MONO AND INYO COUNTIES, 2000**

Employee Households Area Median Income (AMI) Distribution	Mono County		Inyo County		Town of Mammoth Lakes		Bishop Region	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Very Low and Low Income < 80% AMI	1,746	38.6%	2,144	39.2%	1,111	41.9%	1,057	33.6%
Moderate Income 80-120% AMI	988	21.9%	1,053	19.3%	600	22.6%	672	21.4%
Above Moderate Income 120- 150% AMI	578	12.8%	534	9.8%	320	12.1%	315	10.0%
Upper Moderate Income 150- 200% AMI	634	14.0%	815	14.9%	279	10.5%	451	14.4%
High Income - Over 200% AMI	573	12.7%	918	16.8%	341	12.9%	647	20.6%
Total Employee Households	4,519	100.0%	5,464	100.0%	2,651	100.0%	3,142	100.0%
Cost Burdened	1,386	35.9%	1,471	25.3%	872	39.3%	931	28.0%
Owners	686	34.1%	616	19.2%	400	44.3%	377	20.5%
Renters	700	37.9%	855	32.8%	472	35.8%	554	37.3%

Source: Eastern Sierra Housing Needs Assessment and Census 2000.

In 2005, the average annual unemployment rate in Inyo County was 4.8 percent. Unemployment rates for both Mono and Inyo counties have been lower than the state unemployment rate since 2001. The 2002 average annual wages in Inyo County, expressed in 2002 dollars, range from \$8,030 in the arts, entertainment, and recreation field to \$60,887 in Federal, county, and local government. These averages include both full- and part-time employment.

The tourist season in Inyo County stretches from May through September when hotel/motel occupancy rates countywide can exceed 90 percent. Tourism is estimated to represent 25 percent of the local economy. The City of Bishop's economy has been steady over the past several years, relying primarily on the summer tourist recreation trade and the winter tourism spillover from Mammoth Lakes.

4.2.4 Historical, Architectural, Archaeological, and Cultural Resources

The following sections address the areas of effect and resources in the study areas that have been established for the EA.

4.2.4.1 Area of Potential Effect

A proposed Area of Potential Effect (APE) for historic architectural resources was developed by the FAA and submitted to State Historic Preservation Officer (SHPO) for review and approval. The FAA determined that the APE was made up of a combination of the larger of the year 2015 CNEL 65 dBA noise contour and the airport boundary. The SHPO has been requested to concur with the proposed APE in a letter which is included in Appendix A-3 of the EIS. The APE is illustrated in [Figure 4.2-3](#).

Since the Proposed Action does not include any ground disturbance activities, an archaeological survey was not required, and archaeological resources were not evaluated for this EA.

4.2.4.2 Native American Tribes

On February 5, 2010, the FAA initiated consultation with the California Native American Heritage Commission (NAHC) and local Native American communities, and provided them with information about the Proposed Action at MMH. Copies of the consultation letters are provided in [Appendix A-1](#). These consultations were conducted in a government-to-government manner pursuant to Executive Order 13175, Consultation and Coordination with Indian Tribal Governments. The tribes were offered an opportunity to provide information about cultural resources that may have traditional cultural values for their communities and to express their concerns about impacts on such places. The contact list for this coordination letter was developed from that used for the 2008 EIS, which was developed in consultation with the NAHC and a review of the U.S. Department of Interior, Bureau of Indian Affairs, Tribal Leaders Directory for Winter 2004/2005. The Tribes contacted for this EA included:

Mono County

- Bridgeport Paiute Indian Colony - Charlotte Baker, Chairperson
- Utu Gwaitu Paiute Tribe of the Benton Paiute Reservation - Joseph Saulque, Chairperson

Inyo County

- Bishop Paiute Tribe - Michael Rogers, Chairperson
- Big Pine Paiute Tribe of the Owens Valley - Jessica Bacoeh, Chairperson
- Fort Independence Reservation - Carl A. Dahlberg, Chairperson
- Lone Pine Paiute Shoshone Reservation - Rachel A. Joseph, Chairperson
- Timbi-sha Shoshone Tribe - Joseph Kennedy, Chairperson

Most of these tribal groups are located quite a distance from MMH, ranging from 20 to 135 miles as shown in [Figure 4.2-2](#) and listed in [Table 4.2-3](#) in [Section 4.2.3](#). No potentially affected resources that had traditional cultural values were identified by any of the tribes contacted.

4.2.4.3 Other Identified Resources

Previous studies and field reconnaissance performed in the vicinity of MMH (Far Western Anthropological Research Group, Inc., 1995 and Jones & Stokes, 2000) did not record any prehistoric or historic resources in the MMH area.

In terms of historic architectural resources, there are no resources listed or eligible for listing on the National Register of Historic Places (NRHP) within the APE. A building locally known as the “Green Church” (High Sierra Community Church) is located approximately 1,000 feet from the airport boundary but is not within the APE (see [Figure 4.2-3](#)).

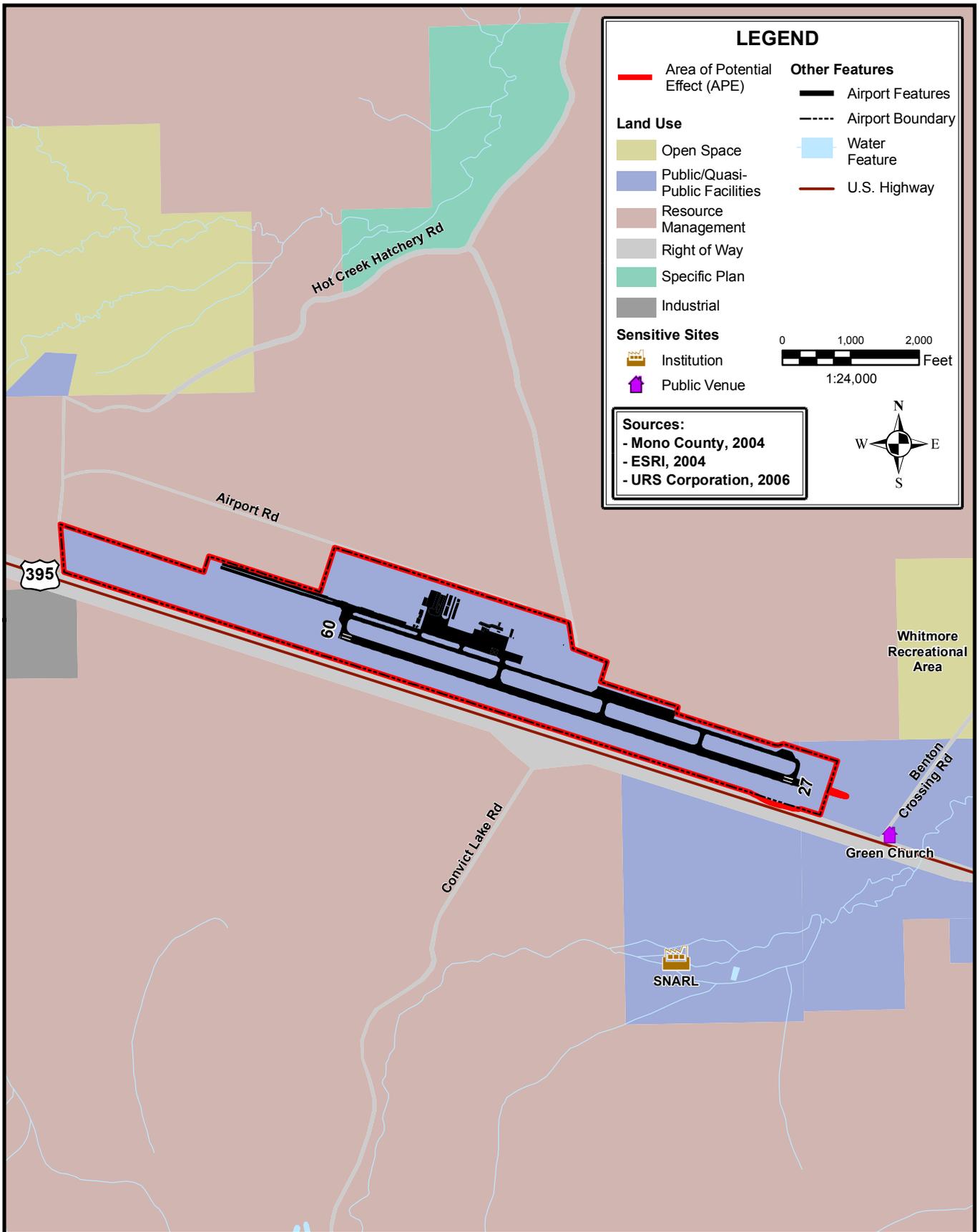
4.2.5 Department of Transportation Act Section 4(f) and Land and Water Conservation Fund Section 6(f) Properties

The following sections describe properties in the 4fSA that are or that may be protected under either the provisions of U.S. Department of Transportation Act, Section 4(f) or the Land and Water Conservation Act, Section 6(f).

4.2.5.1 Department of Transportation Act Section 4(f) Resources

Neither the No-Action nor the Proposed Action alternatives would involve any property acquisition or construction that could result in a physical taking. Therefore, this discussion of the affected environment is limited to those potential Section 4(f) resources that could be subject to constructive use. Likewise, the causal factor for any constructive use that might occur would be aircraft overflights resulting from the Proposed Action.

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Environmental Assessment
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AREA OF POTENTIAL EFFECT (APE)

FIGURE 4.2-3

Section 4(f) Study Areas

The following sections describe the study areas for potential Section 4(f) resources devoted to recreational activities, and those where a quiet setting is a generally recognized purpose and attribute.

Section 4(f) Resources in the Vicinity of MMH

For this EA, the ASA, which was established based on the estimated extent of the future (2015) CNEL 65 dBA noise contour (see [Figure 4.1-1](#)), was used as the study area for the Section 4(f) resources devoted to traditional recreational activities.

Section 4(f) Resources with Quiet Setting Attributes

To address potential noise impacts to park resources with quiet setting attributes, the FAA Guidance on Procedures for Evaluating the Potential Noise Impacts of Airport Improvement Projects on National Parks and Other Sensitive Park Environments (FAA Guidance Document) (FAA, 2007) was used. The 4fSA was established as identical to the “Area of Investigation” (AI) developed for the 2008 FEIS (see Appendix C-2 of the FEIS). The 4fSA shown in [Figure 4.1-2](#) was used for the evaluation of potential constructive use impacts to Section 4(f) resources with quiet setting attributes.

Inventory of Resources

The following sections describe the inventory of potential Section 4(f) resources devoted to traditional recreational activities and those where a quiet setting is a generally recognized purpose and attribute.

Potential Section 4(f) Resources in the Vicinity of MMH

An examination of land uses within the ASA indicated that no Section 4(f) resources exist within this area.

Potential Section 4(f) Resources with Quiet Setting Attributes

A number of national parks, wilderness areas, and other areas managed by the National Park Service (NPS), USDA-FS, and BLM exist within the 4fSA as shown in [Figure 4.1-2](#). The entirety of these areas is not necessarily protected under Section 4(f). Resource managing agencies have identified representative locations within these protected resources where a quiet setting is a generally recognized purpose and attribute. Consultation letters with the resource managing agencies are provided in Appendix G of the FEIS.

The areas of potentially protected resources are listed in [Table 4.2-6](#) and described further in Appendix F of the FEIS. The 4fSA contains broad geographic areas of recreational uses within the national parks, national forests, wilderness areas, and other public lands. The FAA has not identified specific 4(f) properties where a quiet setting is a generally recognized purpose and attributes pending assessment of those areas within the 4fSA where potential changes in noise levels may occur as a result of the Proposed Action.

**TABLE 4.2-6
SUMMARY OF AREAS CONTAINING POTENTIALLY PROTECTED SECTION 4(f) RESOURCES**

Managing Agency	Letter Sent by FAA ¹	Dates of Response(s) ¹	Location	Basis for Evaluating Section 4(f) Applicability			Representative Locations
				Primary Use(s)/ Purpose(s)	National, State, or Local Significance	Basis of Significance	
National Park Service	5/9/07 and 12/30/09	8/30/06 (Scoping) and 6/28/07	Yosemite National Park	Preservation of resources (including wilderness values) and to make the varied resources available to the public for enjoyment, education, and recreation.	National Significance	U.S. Statutes at Large, Vol. 26, Chap. 1263, pp. 651-52, passed by the 51 st Congress, Session I, October 1, 1890	See Yosemite Wilderness Area
			Sequoia & Kings Canyon National Park	Protection of the Eastern Sierra ecosystem, provide opportunities for the public to experience and understand park resources and values, and protect and preserve significant cultural resources and wilderness.	National Significance	U.S. Statutes at Large, Vol. 26, Chap. 926, p. 478, passed by the 51 st Congress, Session I, September 25, 1890	See Sequoia-King's Canyon Wilderness Area
			Devils Postpile National Monument	Protection and preservation of Devils Postpile formation, the 101-foot high Rainbow Falls, and pristine mountain scenery.	National Significance	Presidential Proclamation July 6, 1911	Devils Postpile Lookout
			Sequoia-Kings Canyon Wilderness Area	Primitive recreation, outstanding opportunities for solitude, preservation of flora, fauna and geological features, and preservation of wild lands and their wilderness values of natural ecological integrity and natural appearance.	National Significance	California Wilderness Act of 1984 (Public Law 98-425)	John Muir Trail (San Joaquin River, McClure Meadow)

TABLE 4.2-6 (CONTINUED)
SUMMARY OF AREAS CONTAINING POTENTIALLY PROTECTED SECTION 4(f) RESOURCES

Managing Agency	Letter Sent by FAA ¹	Dates of Response(s) ¹	Location	Basis for Evaluating Section 4(f) Applicability			Representative Locations
				Primary Use(s)/ Purpose(s)	National, State, or Local Significance	Basis of Significance	
National Park Service (Continued)	5/9/07 and 12/30/09	8/30/06 (Scoping) and 6/28/07	Yosemite Wilderness Area	Primitive recreation, outstanding opportunities for solitude, preservation of flora, fauna and geological features, and preservation of wild lands and their wilderness values of natural ecological integrity and natural appearance.	National Significance	California Wilderness Act of 1984 (Public Law 98-425)	John Muir Trail (Donohue Pass ¹ , Lyell Canyon ¹), Washburn Lake, Tioga Pass ¹ , Chain Lakes
USDA-FS	5/9/07, 7/24/07, and 12/30/09	11/9/06 (Scoping)	Inyo National Forest	Recreation areas, parklands, and wildlife refuges.	National Significance	Presidential Proclamation May 25, 1907	Minaret Vista, Silver Lake
			Sierra National Forest	Recreation areas, parklands, and wildlife refuges.	National Significance	Presidential Proclamation February 14, 1893	Granite Creek Campground, Mount Tom Lookout, Badger Flat Campground, Vermilion Campground
			Mono Basin National Forest Scenic Area	Recreational viewing of Tufa, bird watching, hiking, recreational boating, and preservation of unique ecological and cultural resources around Mono Lake.	National Significance	California Wilderness Act of 1984 (Public Law 98-425)	Mono Lake Lookout
			Ansel Adams Wilderness Area	Primitive recreation, outstanding opportunities for solitude, preservation of flora, fauna and geological features, and preservation of wild lands and their wilderness values of natural ecological integrity and natural appearance.	National Significance	Wilderness Act of 1964 (Public Law 88-577) and California Wilderness Act of 1984 (Public Law 98-425)	Cargyle Meadow, John Muir Trail (Garnet Lake, Donohue Pass ¹), Mono Hot Springs Campground ¹ , Jackass Meadow Campground ¹

TABLE 4.2-6 (CONTINUED)
SUMMARY OF AREAS CONTAINING POTENTIALLY PROTECTED SECTION 4(f) RESOURCES

Managing Agency	Letter Sent by FAA ¹	Dates of Response(s) ¹	Location	Basis for Evaluating Section 4(f) Applicability			Representative Locations
				Primary Use(s)/ Purpose(s)	National, State, or Local Significance	Basis of Significance	
USDA-FS (Continued)	5/9/07, 7/24/07, and 12/30/09	11/9/06 (<i>Scoping</i>)	Dinkey Lakes Wilderness Area	Primitive recreation, outstanding opportunities for solitude, preservation of flora, fauna, and geological features, and preservation of wild lands and their wilderness values of natural ecological integrity and natural appearance.	National Significance	California Wilderness Act of 1984 (Public Law 98-425)	California Riding/Hiking Trail
			John Muir Wilderness Area	Primitive recreation, outstanding opportunities for solitude, preservation of flora, fauna, and geological features, and preservation of wild lands and their wilderness values of natural ecological integrity and natural appearance.	National Significance	Wilderness Act of 1964 (Public Law 88-577) and California Wilderness Act of 1984 (Public Law 98-425)	Mosquito Flats Campground ¹ , North Lake Campground ¹ , John Muir Trail (Sallie Keyes Lakes, Quail Meadows, Lake Virginia), Rainbow Lake, Mount Abbot, Desolation Lake, Tamarack Lakes
			Kaiser Wilderness Area	Primitive recreation, outstanding opportunities for solitude, preservation of flora, fauna, and geological features, and preservation of wild lands and their wilderness values of natural ecological integrity and natural appearance.	National Significance	Public Law 94-557	Upper Twin Lake
BLM	5/9/07 and 12/30/09	8/28/06 (<i>Scoping</i>) and 6/22/07	Crowley Lake Campground	Campground with 47 campsites, capacity for 376 people.	Local Significance	Proximity to premier bouldering and climbing areas	<i>Specific representative site within BLM lands</i>

**TABLE 4.2-6 (CONTINUED)
SUMMARY OF AREAS CONTAINING POTENTIALLY PROTECTED SECTION 4(f) RESOURCES**

Managing Agency	Letter Sent by FAA ¹	Dates of Response(s) ¹	Location	Basis for Evaluating Section 4(f) Applicability			Representative Locations
				Primary Use(s)/ Purpose(s)	National, State, or Local Significance	Basis of Significance	
BLM (Continued)	5/9/07 and 12/30/09	8/28/06 (<i>Scoping</i>) and 6/22/07	Horton Creek Campground	Campground with 53 campsites; capacity for 424 people, providing opportunities for exploring, hiking, and sightseeing.	Local Significance	Proximity to premier bouldering and climbing areas	<i>Specific representative site within BLM lands</i>
			Hot springs recreation sites	Hot springs recreational opportunities in areas of solitude.	Local Significance	Contributes to the diversity of outstanding semi-primitive recreation opportunities in the eastern Sierra region	Wild Willy's Hot Springs
			Volcanic Tablelands	Contains numerous prehistoric and historic sites of importance (including two listed on NRHP). Recreational opportunities including rock climbing, hiking, and camping.	Local (recreational) and National (cultural) Significance	Contains four designated Wilderness Study Areas	Chalk Bluff, Fish Sanctuary, Chidago Canyon, Red Rock Canyon

¹ Agency correspondence is contained in Appendix G of the FEIS.

4.2.5.2 Land and Water Conservation Fund Section 6(f) Resources

Section 6(f) of the Land and Water Conservation Fund (LWCF) Act of 1965, as amended, and codified at 16 U.S.C 4601-8, allows the Secretary of the Interior, acting through the Director of the NPS, to establish a LWCF. The fund provides money to Federal agencies, states, or the state's designee for purchasing land and developing outdoor recreational resources and facilities for the American public. The Act requires that all lands acquired or developed with LWCF Act assistance be maintained in public outdoor recreation use, or suitably replaced.

No Section 6(f) resources are located within the ASA.

4.3 PHYSICAL AND NATURAL ENVIRONMENT

4.3.1 Water Resources

4.3.1.1 Surface Water Features in Vicinity of MMH

MMH is located within Long Valley in Mono County. The Long Valley watershed is approximately 380 square miles and includes the upper reaches of the Owens River above Crowley Lake (see [Figure 4.3-1](#)) (Lahontan RWQCB, 2005). The total watershed area above Crowley Lake is approximately 1,947 square miles (Lahontan RWQCB, 2002b). Within the Long Valley watershed streams generally flow eastward to the Owens River. Major creeks include Mammoth, Hot, and Convict creeks. An ancient volcano, known as the Long Valley Caldera, forms the topographical shape for the Long Valley into an elongated oval. The low point in the watershed is formed by Crowley Lake, which was constructed in 1941 (Lahontan RWQCB, 2002).

MMH is located on the watershed divide between the Convict Creek and Hot Creek subbasins ([Figure 4.3-2](#)). The airport is located approximately 1.5 miles southeast of Hot Creek and approximately one mile west of Convict Creek. Approximately 30 percent of the airport property is in the Convict Lake subbasin and the remainder is in the Hot Creek subbasin. Both creeks ultimately discharge into Crowley Lake on the Owens River. There are no bodies of water on airport property.

Surface water runoff, if any, from the airport generally flows from south to north based on the topographic information. However, due to the highly permeable soils at the site which consist of medium to coarse sands and gravels, most runoff infiltrates to the subsurface or evaporates and very little runoff occurs. There is no stormwater runoff onto the airport from off-airport properties.

4.3.1.2 Groundwater Features in Vicinity of MMH

MMH is located within the Long Valley Groundwater Basin. The Long Valley Groundwater basin encompasses 112 square miles and has a storage capacity of 160,000 acre-feet. The maximum well yield is 250 gpm, while the average well yield is 90 gpm. In the vicinity of the airport, the groundwater regime does not correspond to the boundaries of the surface drainage system. Aquifers are unconfined, semi-confined, and confined and have both hot and cold water components.

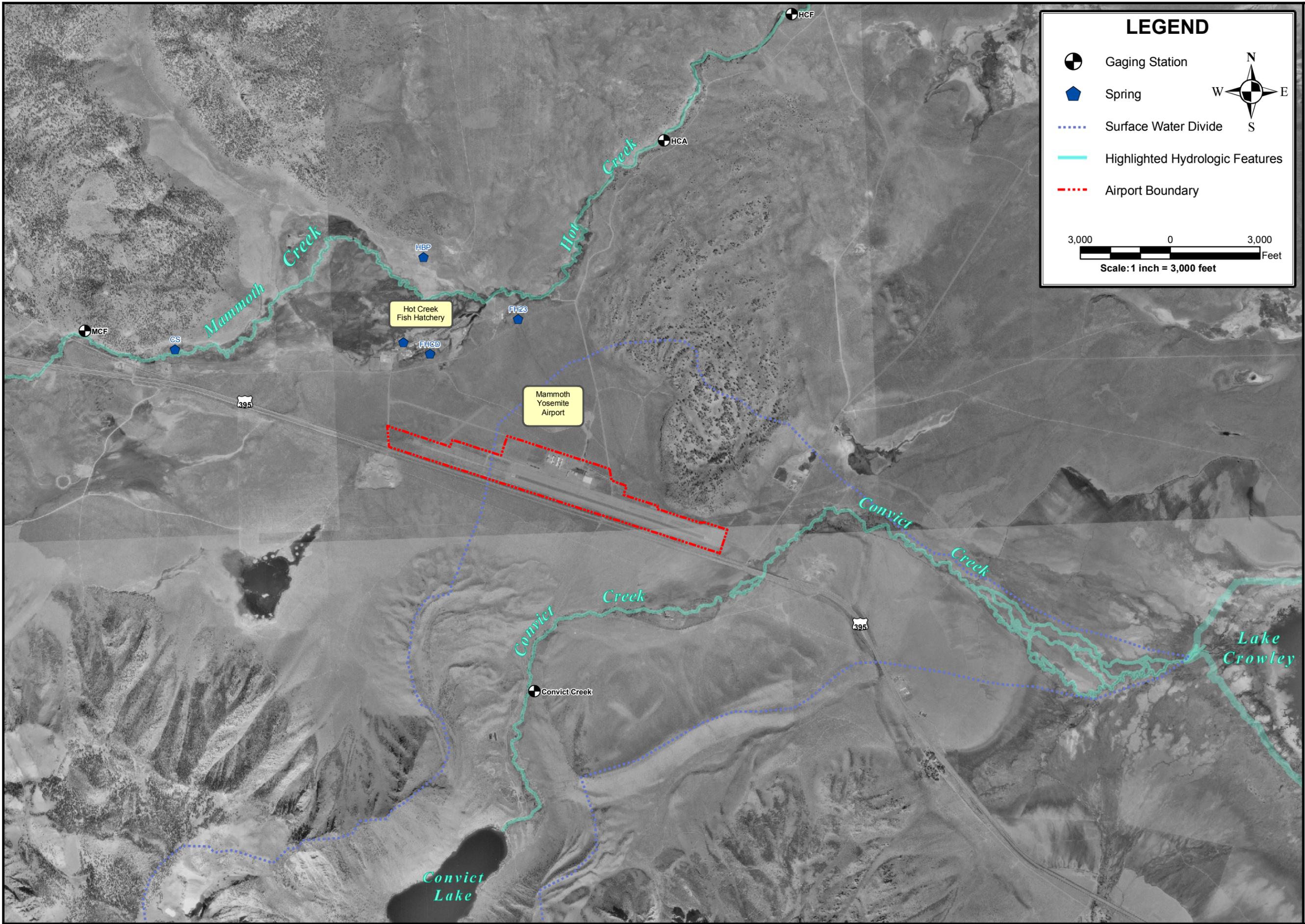


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LONG VALLEY WATERSHED

FIGURE 4.3-1

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**HYDROLOGIC FEATURES
IN VICINITY OF MMH**

FIGURE
4.3-2

Several groundwater studies have been completed to gain a better understanding of the groundwater characteristics in the region; these include studies by the Department of Water Resources (1973), Howle and Farrar (1996), Schmidt (1996), Wildermuth (1996 and 2003), Triad/Holmes (1997a, b), Mammoth Community Water District (2004), Richard C. Slade and Associates (Slade, 2002), and TEAM Engineering (2004, 2005, and 2006). In general, groundwater under the airport property flows from west to east, across the surface drainage divide from the Mammoth Creek/Hot Creek watershed to the Convict Creek watershed (Triad/Holmes, 1997a, b). The depth to groundwater at MMH varies between approximately 28 and 46 feet below ground surface (bgs). Groundwater gradient maps indicate that the airport and its water supply wells are down gradient from the Hot Creek Fish Hatchery and the headsprings of Hot Creek.

4.3.2 Floodplains

The *Flood Insurance Rate Map* published by the Federal Emergency Management Agency (FEMA) for the vicinity of the airport indicates that no part of the MMH property is located within a floodplain. The airport property is located approximately one mile from narrow 100-year floodplains (Zone A) associated with Hot Creek to the north and Convict Creek to the east.

4.3.3 Fish, Wildlife, Plants, and Wetlands

4.3.3.1 Biotic Communities

This EA addresses both Federally-listed species and other species of concern identified by Federal and state resource agencies in response to the Early Notification process.

MMH is located within the East Sierra Nevada Region of the Great Basin Floristic Province at approximately 7,080 to 7,130 feet above sea level (ASL). The airport environment includes the existing MMH facility and adjacent areas including portions of US 395 and Airport Road.

Vegetation

The vegetative community in the vicinity of MMH is dominated by big sagebrush and includes a non-jurisdictional dry meadow located between the east end of the airport runway and Benton Crossing Road, as shown on [Figure 4.3-3](#). Much of this community has been previously disturbed by grazing, as well as by construction and maintenance of the airport facilities, roads, and highways in the area.

Wetlands

No jurisdictional waters of the U.S. (including wetlands) were identified on airport property.

Wildlife

There are a number of species with the potential to occur on, or in the vicinity of MMH, which have been identified by Federal and state resource agencies as being of heightened concern and that were recommended for evaluation in this EIS. These include the Mule Deer, Sage Grouse, Pigmy Rabbit, Bald Eagle, and Owens Sucker. Additional information concerning these species is presented in [Appendix C](#).

Mule Deer – The mule deer (*Odocoileus hemionus*) was identified by the California Department of Fish and Game (CFG) and the BLM as a species of concern during the Scoping process for this EIS.

Based on studies (Jones & Stokes Biological Study, 2001; Neff, 1968; Eberhardt and White, 1980), suitable vegetation for mule deer foraging is located in the eastern and western sections of the airport property. Based on pellet group study data, the deer utilize the western portion of the airport property much more frequently, likely due to the higher habitat quality in this area.

Sage Grouse - The greater sage-grouse (*Centrocercus urophasianus*) was identified by CFG and the U.S. Fish and Wildlife Service (USFWS) as a concern due to the proximity of sage grouse leks approximately two miles east and north of the airport, and possible impacts on the use of the leks resulting from the Proposed Action. A lek is a communal arena in which males perform courtship displays. The lek is considered to be the center of year-round activity for resident grouse populations.

An ongoing study conducted by the USGS (Personal Communication, 2004) determined that the sage grouse utilize the Long Valley area surrounding MMH for foraging, nesting, and breeding, as shown on [Figure 4.3-4](#). In 2005, the USFWS declined a petition to list the sage grouse as endangered. In early 2008 the USFWS initiated a new status review to take into consideration new information that became available following the 2005 finding.

On March 23, 2010 the USFWS announced 12-month findings for petitions to list the Greater Sage-Grouse as Threatened or Endangered under 50 CFR Part 17 (Federal Register Vol. 75, No. 55, pp 13910-14014). The USFWS found that listing of the sage-grouse rangewide is warranted, but precluded by higher priority listing actions. Concurrently, the USFWS found that listing of the Bi-State distinct population (formerly known as the Mono Basin population), which includes the populations in the vicinity of MMH, is also and separately warranted, but is also precluded by higher priority listing actions. Both the greater sage-grouse and the Bi-State distinct population have been added to the list of candidate species, which will continue to be monitored by the USFWS and managed and protected under existing federal and state programs and regulations.

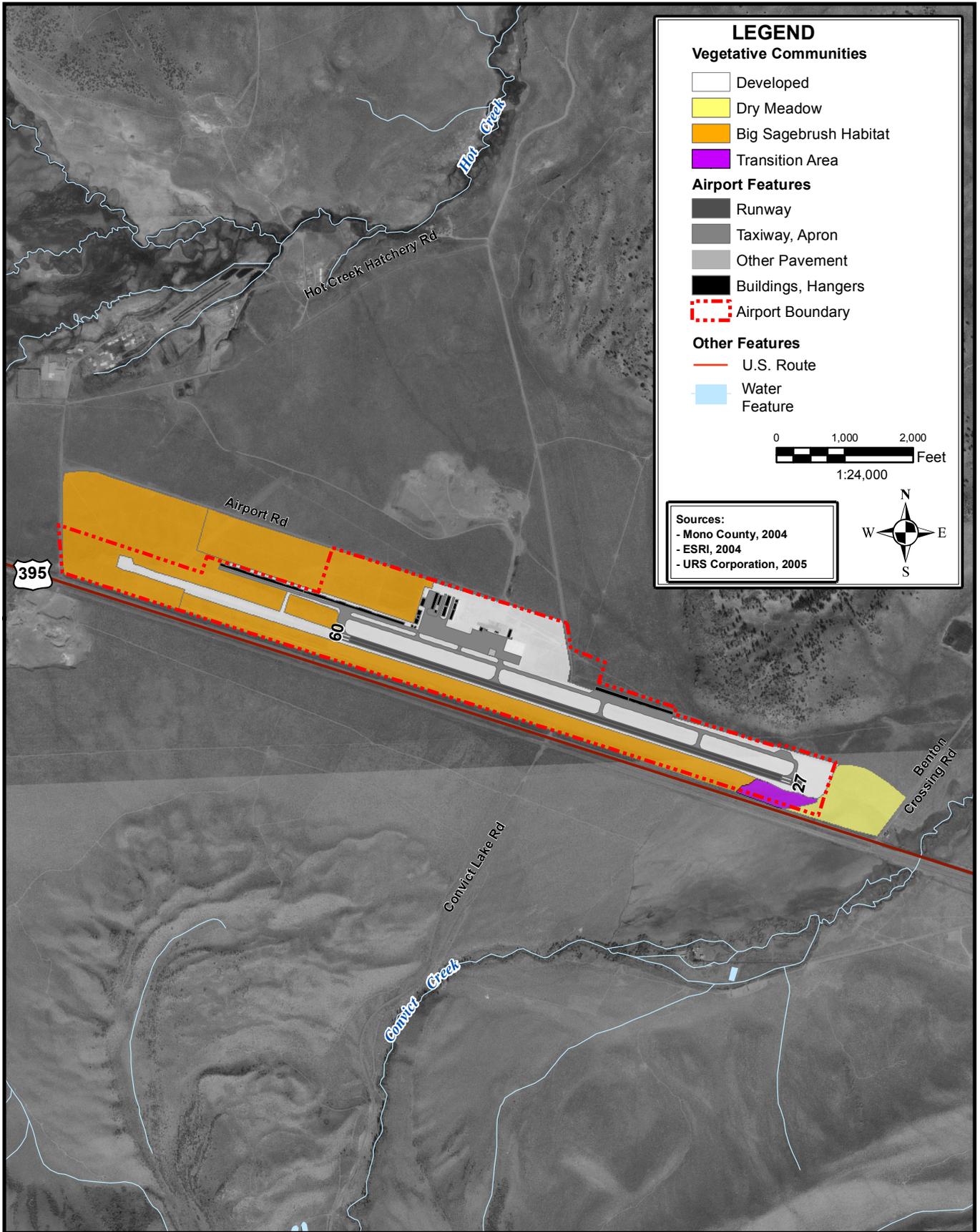
Pygmy Rabbit – The pygmy rabbit (*Brachylagus idahoensis*) was identified by the USFWS as a potential concern. BLM biologists have reportedly observed pygmy rabbits in the Long Valley area. Habitat in the area surrounding the airport is assumed to be similar to that described for the Mono Basin within which this species has been observed (Mono Basin EIR, 1993).

Bald eagle - The bald eagle (*Haliaeetus leucocephalus*) is state listed as endangered. It was delisted at the Federal level in June of 2007. Bald eagles have been reported perching on utility poles at the Hot Creek Fish Hatchery, approximately 0.75 miles northwest of MMH (Jones & Stokes, 2001).

Owens sucker - The Owens sucker (*Catostomus fumeiventris*) is a state species of concern. The nearest known occurrence of the Owens sucker to MMH is located in Crowley Lake, approximately 3 miles southeast (USFWS, 1998) of the airport.

4.3.3.2 Threatened and Endangered Species

A listing of special status species considered as part of this EA was developed from the following sources: 1) USFWS Federally listed, proposed, and candidate species for Inyo and Mono counties (USFWS, 2006), and 2) California Department of Fish and Game's Natural Diversity Database (CNDDDB).



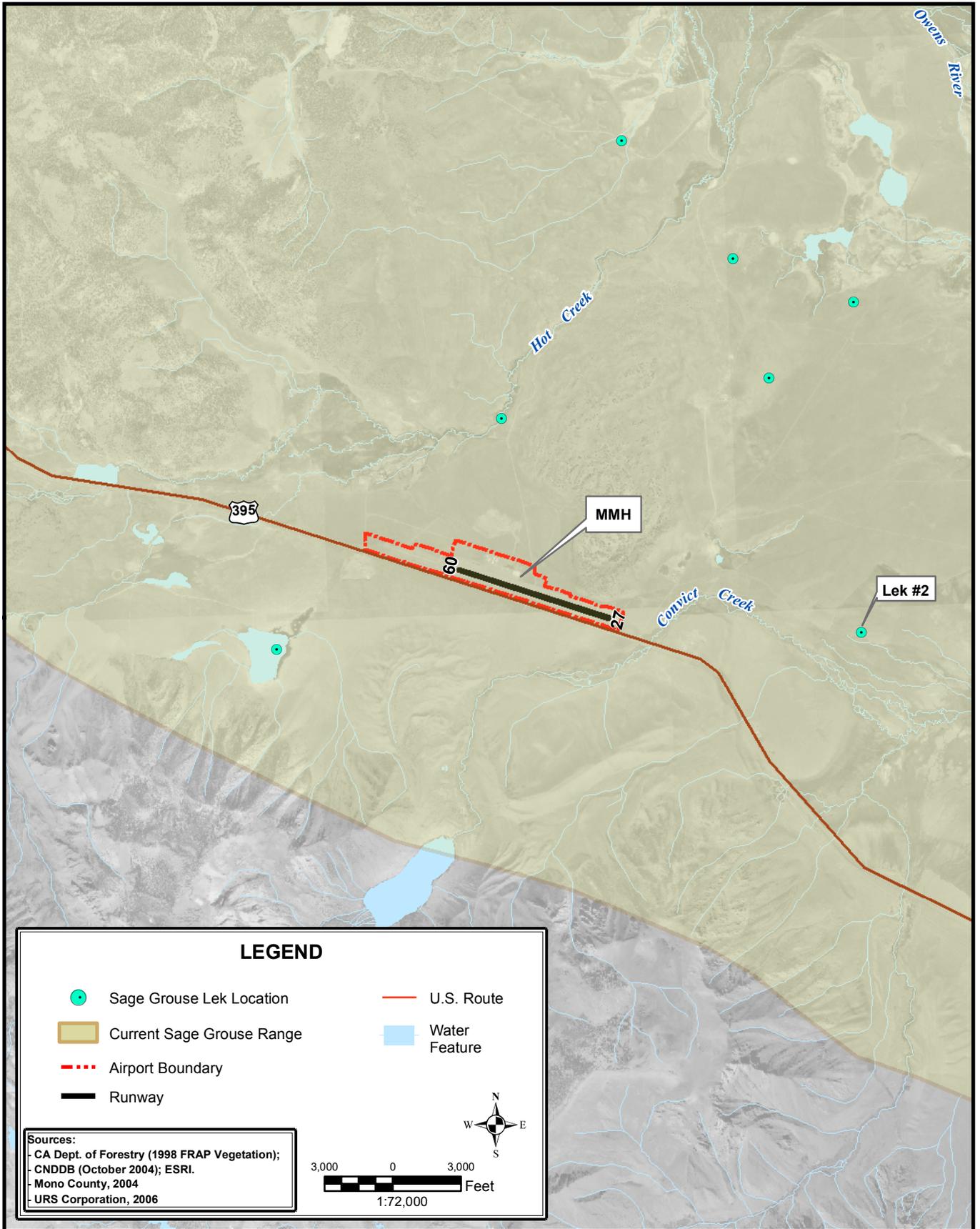
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**VEGETATIVE COMMUNITIES
 ON MAMMOTH YOSEMITE AIRPORT**

**FIGURE
 4.3-3**



Environmental Assessment
Mammoth Yosemite Airport
United Airlines Operations Specifications
Amendment Service to/from MMH

**NON-LISTED SPECIES OF
ELEVATED CONCERN**

**FIGURE
4.3-4**

The potential for occurrence of special status species in the study area for this EA was evaluated for the prior EIS based on three criteria: 1) existing information, 2) qualitative comparisons between the known habitat requirements and biotic and abiotic conditions present, and 3) field reconnaissance conducted by qualified biologists.

Eight special status species were identified by the USFWS and the CNDDDB in the development of the EIS as potentially occurring in the vicinity of MMH (see [Table 4.3-1](#)). Of these eight species, four do not occur, or are unlikely to occur, in the immediate vicinity of MMH because the area is: 1) clearly outside of the known geographic or elevation range of the species or 2) does not contain habitat characteristics known to support the species (see [Appendix C](#)). A description of the remaining two species is provided below.

Owens tui chub - The Owens tui chub (*Gila bicolor snyderi*) is Federally and state listed as endangered. Critical habitat for the Owens tui chub includes two areas: 1) the Owens River from Long Valley Dam downstream for a distance of eight stream miles and 2) a portion of Hot Creek and its outflows and includes areas of land within 50 feet on all sides of these drainages (50 FR 31594). The nearest known occurrence of the Owens tui chub is located at Hot Creek headsprings, approximately 0.75 miles northwest and upstream of the airport (USFWS, 1998), shown in [Figure 4.3-5](#).

Sierra Nevada bighorn sheep - The Sierra Nevada bighorn sheep (*Ovis Canadensis californiana*) is Federally and state listed as endangered. The Wheeler Crest population is approximately 12 miles southeast of the airport and the Lee Vining population is approximately 20 miles northwest of the airport.

**TABLE 4.3-1
SPECIAL STATUS SPECIES IN THE VICINITY OF MMH**

Common Name	Scientific Name	Federal Status	State Status
Amphibian			
Mountain yellow-legged frog	<i>Rana muscosa</i>	C	
Yosemite toad	<i>Bufo canorus</i>	C	
Bird			
Bald eagle	<i>Haliaeetus leucocephalus</i>	DL	E
Sage-Grouse	<i>Centrocercus urophasianus</i>	C	SC
Fish			
Owens tui chub	<i>Gila bicolor snyderi</i>	E/CH	E
Owens sucker	<i>Catostomus fumeiventris</i>		SC
Lahontan cutthroat trout	<i>Oncorhynchus clarki henshawi</i>	T	
Mammal			
Sierra Nevada bighorn sheep	<i>Ovis canadensis californiana</i>	E	E
Pacific Fisher	<i>Martes pennanti</i>	C	

Status Definitions:

- C Candidate for Listing.
- E Listed Endangered: The Endangered Species Act (ESA) specifically prohibits the "take" of a species listed as endangered. Take is defined by the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct."
- T Listed Threatened: The ESA specifically prohibits the "take" of a species listed as threatened. Take is defined by the ESA as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to engage in any such conduct."
- SC Species of Concern: The terms "Species of Concern" or "Species at Risk" should be considered as terms-of-art that describe the entire realm of taxa whose conservation status may be of concern to the USFWS, but neither term has official status.
- CH Critical Habitat.
- DL Delisted.

Source: USFWS October 2006.

4.3.4 Farmlands

Mapping published by the California Department of Conservation, Division of Land Resource Protection in March 2009 indicates that there are no prime or unique farmlands, or farmlands of local or statewide importance, in the vicinity of MMH.

4.4 PAST, CONCURRENT, AND REASONABLY FORESEEABLE PROJECTS AND ACTIONS

4.4.1 Past Projects and Actions

The Town of Mammoth Lakes and Horizon Air have previously requested the following FAA actions:

- Approval of an amendment to operations specifications for Horizon Air to permit scheduled commercial air service to MMH using the Bombardier Q400 Dash 8 aircraft pursuant to 14 CFR Part 119.
- Approval of a Town of Mammoth Lakes' Application for Certificate Amendment pursuant to 14 CFR Part 139, and
- Approval of modifications to the Town of Mammoth Lakes' MMH Airport Certification Manual pursuant to 14 CFR Part 139.

These actions were the subject of a Final EIS published in March 2008, and were approved by later that year. Horizon Air initiated air carrier service between Los Angeles International Airport (LAX) and MMH on December 2008 with one flight per day.

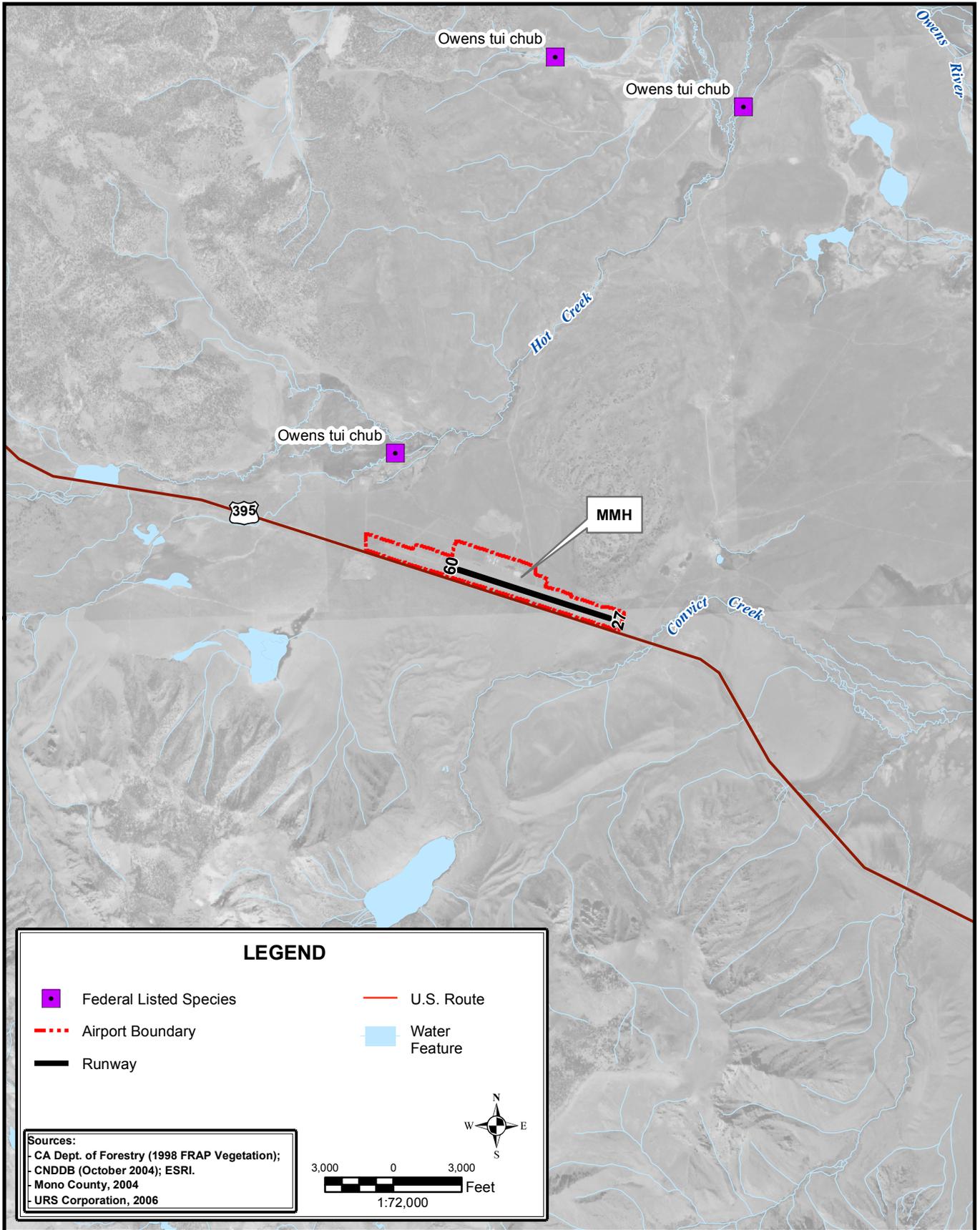
4.4.2 Concurrent Projects and Actions

There are no concurrent new projects or actions on or near the airport that have potential impacts similar to those that may be associated with the Proposed Action. For the 2009-2010 ski season the existing Horizon Air service has been expanded to four flights per day, which includes 2 flights from LAX, and one each from Reno (RNO) and San Jose (SJC).

4.4.3 Future Project and Actions

The existing approved Horizon Air Service is projected to continue to expand over the next several years in response to market opportunities, as evaluated in the 2008 Final EIS. There are no additional reasonably foreseeable projects actions on or in the vicinity of MMH that would have potential impacts similar to those that may be associated with the Proposed Action. The FAA uses a guideline that identifies projects that are likely to be developed within a 5-year time horizon as meeting the definition of "reasonably foreseeable". The Town of Mammoth Lakes has indicated that they plan to initiate studies within the next two years to determine the need for, and feasibility of, new or additional terminal facilities, but the outcome of such studies is uncertain. Given this uncertainty, the FAA has determined that such a possible future project is not "reasonably foreseeable" for the purposes of the environmental assessments in this EA document.

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**FEDERAL ENDANGERED -
 THREATENED SPECIES**

**FIGURE
 4.3-5**