

conductivity in this unit ranges from less than 0.3 ft/day to greater than 30 ft/day. The depth to groundwater is between 300 to 500 ft. Groundwater is thought to be unconfined in the upper portion of the aquifer, but this may not be true in all areas. The uppermost aquifer occurs within the Santa Fe Group.

A shallow saturation zone above the regional aquifer, approximately 200 to 250 ft below ground surface has been identified in the Hydrogeologic Region. This zone is located adjacent to and northwest of the Kirtland AFB landfill. It is associated with either a system of multiple perched aquifers or a groundwater mound. The extent of a shallower saturation zone has not been defined and it is unknown if it exists in the vicinity of the four training sites.

3.4 Ecology

The four former training sites that are to be decommissioned are in the Plains and Great Basin Grasslands. These grasslands are generally flat and open, lying from 4,900 to 7,500 feet in elevation. Common vegetation includes needle-and-thread, galleta grass, sand dropseed, grama grasses, Indian ricegrass, fourwing saltbush, broom snakeweed, sagebrush, winter fat, and yucca.

According to the Kirtland AFB Integrated Natural Resource Management Plan, there are no known federally listed threatened or endangered species on the AFB. The western burrowing owl (*Athene cunicularia hypugaea*) is a federal species of concern that has been observed on Kirtland AFB. This bird nests in prairie dog towns. The loggerhead shrike (*Lanius ludovicianus*) is also a federal species of concern. Loggerhead shrikes occupy grassland, pinyon-juniper, and riparian habitats. This species has been observed on the AFB and is found in the area throughout the year.

The gray vireo (*Vireo vicinior*) is the only state-listed threatened species known to be on the AFB. Gray vireos have been observed in ungrazed juniper woodland at the base of the western foothills of the Manzanita Mountains at

elevations between 5,900 and 6,600 feet. This area is located in the easternmost portion of the AFB. Site OT-10 would not present attractive habitat to the gray vireo because of its distance from vireo nesting areas.

Critical habitats are those areas considered essential for maintaining or restoring threatened or endangered species populations. Neither the New Mexico Department of Game and Fish nor the U.S. Fish and Wildlife Service has designated or identified any critical habitat on the AFB.

3.5 Noise

The land use for the training sites and surrounding areas is classified as public or institutional and noise generated by the proposed decommissioning would not affect residents. Noise is quantified by decibels (dB), weighted by a day-night average sound level (DNL). A DNL of 65 dB is often utilized in planning and represents a compromise between community impact and the need for aviation and industrial activities. Areas exposed to DNL above 65 dB are generally not considered suitable for residential use. The DNL in and around the runways at Kirtland AFB typically exceeds 65 dB. Therefore, the immediate areas surrounding the base runways, including the proposed decommissioning area, are not classified for residential use.

Existing potential noise sources at Kirtland AFB are aircraft, firing ranges, explosive testing, and motor vehicles. An assessment of aircraft noise, including Kirtland aircraft operations, was performed at the Albuquerque International Support. The noise baseline attributed to aircraft noise in the proposed OT-10 decommissioning area is 65–70 dB.

Firing ranges and weapons training ranges contribute to moderate, localized noise impacts at Kirtland AFB. Harmful noise levels; that is, those exceeding 140 dB, from weapons testing activities remain within the boundaries/buffer zone of the Kirtland AFB. However, explosive detonations with noise levels of this magnitude are limited to 6–10 tests per year.

Off-road vehicle noise sources, including military transport and

military weapons vehicles, are the primary sources of noise from the training and withdraw areas at Kirtland AFB. The military vehicles operate well below speeds of street traffic and measurements have shown that the military vehicles are up to 10 dB noisier than heavy trucks.

Noise generated by motor vehicles is more prevalent in congested areas of Kirtland AFB. Motor vehicle noise was evaluated in a 1995 Kirtland AFB study in a 24-hour traffic count at Gibson Gate and resulted in 71 dB, averaged over a 24-hour period.

Noise impact analyses conducted for the current activities at the Kirtland AFB concluded that there are no adverse impacts to people or wildlife. Military training activities at the AFB are conducted in remote areas, buffered by land, and are restricted to authorized personnel.

3.6 Historical and Cultural Resources

The area directly surrounding the proposed project area was surveyed for cultural resources and one historic site was located. This site would not be disturbed by the proposed action. No other historic properties have been located surrounding the project area.

3.7 Summary of Radiological Conditions

The four training sites which have been discontinued from use and have been identified by the USAF for decommissioning, were used to train U.S. Department of Defense (DOD), U.S. Department of Energy (DOE), Federal Emergency Management Agency (FEMA), and other federal and state personnel in the detection of dispersed contamination resulting from simulated nuclear weapons accidents. Known quantities of Brazilian thorium oxide sludge were applied and tilled into site soils to simulate dispersed radiological contamination. The thorium oxide sludge served as a low hazard analog for plutonium. A total estimated inventory of approximately 602 kilograms (kg) of thorium-232 was applied at the inactive sites. The estimated thorium-232 inventory, by site, is presented in the following table.

Training site	Approximate area of site in acres (hectares)	Approximate area contaminated in acres (hectares)	Estimated thorium-232 (kg)
TS5	13 (5.26)	1.7 (0.687)	215
TS6	19 (7.69)	6.7 (2.71)	307
TS7	8 (3.23)	0.6 (0.24)	36
TS8	2 (0.81)	0.4 (0.16)	44