

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
ARIZONA
TUCSON FIELD OFFICE

Waterman Acquisition Environmental Assessment

EA# DOI-BLM-AZ-G020-2013-0037-EA

June 2014



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List of Acronyms

ASLD	Arizona State Land Department
AUM	Animal Unit Month
BLM	Bureau of Land Management
DOI	Department of the Interior
FLPMA	Federal Land Policy and Management Act
GIS	Geographic Information System
IFNM	Ironwood Forest National Monument
LLNB	Lesser Long-Nosed Bat
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NTHC	Nichol Turk's Head Cactus
OHV	Off-Highway Vehicle
RMP	Resource Management Plan
ROD	Record of Decision
TFO	Tucson Field Office
TON	Tohono O'Odham Nation
VHA	Vegetation Habitat Management Area

1 INTRODUCTION

1.1 Title:

Waterman Acquisitions

1.2 EA #:

DOI-BLM-AZ-G020-2013-0037-EA

1.3 Location:

Acquisition of lands from Salt River Pima-Maricopa Indian Community and Sonoran Solutions LLC to the Bureau of Land Management (BLM) in the vicinity of the Waterman Mountains southwest of the town of Marana, Pima County, Arizona. The general location is T. 12 S., R. 9 E., Sections 29, 30, 31, 33 and T 11 S., R. 9 E., Section 27 of the Gila and Salt River Principal Meridian. The area is covered by the Waterman Peak 7.5' USGS quadrangle, and shown in Figure 4-1, 4-2, and 4-3.

1.4 Preparing Office:

Tucson Field Office

1.5 BLM Contact:

Linda L. Dunlavey

1.6 Project Code:

LAZ931 L3130000 HN000

Case File: Waterman Parcel AZA-36457, Schumacher Parcel AZA-36454

1.7 Proponent:

Salt River Pima-Maricopa Indian Community and Sonoran Solutions LLC

1.8 Background:

The BLM is proposing to acquire approximately 358 acres of private lands within the Ironwood Forest National Monument (IFNM). The lands surrounding the proposed acquisition parcels are public lands managed by the BLM, Gila District, Tucson Field Office (TFO).

The proposed acquisition parcels are primarily characterized by naturally vegetated desert. There are few primitive roads on the parcels due to rugged terrain. The parcels range from 2,000 to 3,500 feet in elevation.

The proposed acquisition and management of these parcels would extend federal protection for several resources including but not limited to habitat for threatened and endangered vegetation and wildlife, natural characteristics, archaeological objects of scientific interest, and visual

quality of the landscape. The proposed acquisition would also allow BLM to acquire legal access on existing access routes across the parcels to Monument lands.

2 PURPOSE AND NEED FOR THE PROPOSAL AND DECISION TO BE MADE:

2.1 Purpose and Need:

The purpose for the action is to acquire the surface and subsurface estate on 358 acres of private holdings within the IFNM adjacent to the Tohono O’Odham Nation. Acquisition and management by the United States would extend federal protection to the subject property’s mineral, cultural, vegetative, wildlife and scenic resources, and acquire legal access on existing routes across the parcels.

Section 205 of the Federal Land Policy and Management Act of 1976, as amended, (FLPMA) authorizes the BLM to purchase lands provided that such purchase is consistent with the BLM’s mission and applicable land use plans.

The need for this action is based on the following objective identified in the IFNM Approved Resource Management Plan (RMP) (RMP page 76):

- **LR-001:** Secure non-Federal land and interests in land to further the natural and cultural resource and public and administrative access goals for the Monument.

2.2 Decision to be made:

The TFO Field Manager will decide whether or not to acquire subject parcels.

3 SCOPING AND PUBLIC PARTICIPATION:

Internal scoping occurred during the biweekly TFO National Environmental Policy Act (NEPA) meeting on August 20, 2013, consisting of specialists in range management, cultural resources, recreational resources, vegetation, wildlife resources, and access.

3.1 Issues Considered, but Eliminated from Detailed Analysis

The following resources are not affected by the proposed action or alternatives because they do not occur in the proposed acquisition area, or because of the nature of the proposed action:

- Areas of Critical Environmental Concern- The project would not occur in or adjacent to Areas of Critical Environmental Concern;
- Environmental Justice- No disproportionately high or adverse health or environmental effects would impact low income or minority populations (EO 12898) as a result of the proposed action or the alternatives. Monetary change for low income and minority populations would be insignificant;

- Cultural Resources- A Class I cultural survey was completed for the project area. No known sites have been recorded. The slope of the majority of the project area is greater than 25% which means the area has a low potential for cultural sites, properties, and resources.
- Grazing administration- The acquired lands would not be integrated into the adjacent allotments. The terrain on the proposed Waterman acquired parcels is rugged with a slope that is greater than 25% making the terrain unsuitable for livestock use. The parcels would remain fenced;
- Farm Lands (Prime or Unique)-None located within the project area;
- Flood Plain- None located within the project area;
- Native American Religious Concerns- Native Americans have not identified locations of traditional cultural or religious importance in the project area. Native American cultural and religious locations would not be affected by the proposed action or no action alternative;
- Socioeconomic Values- Monetary contribution to the tax base is insignificant.
- Water Quality, drinking or ground- The Proposed Action would not impact water quality for drinking water or ground water;
- Wetlands/Riparian Zones- None located within the project area;
- Wild and Scenic Rivers- None located within the project area;
- Wilderness- None located within the project area;
- Wilderness Characteristics- The public land located in the area of the acquisition is not managed for wilderness characteristics;
- National Energy Policy- The Proposed Action would not impact the National Energy Policy;
- Minerals: If the proposed lands are acquired, new mining claims, mineral leases and sales would be prohibited. The proclamation states all lands will be withdrawn from all forms of entry, location, selection, sale, or leasing or other disposition under the public land laws, including but not limited to withdrawal from location, entry, and patent under the mining laws in the IFNM.

- Water Rights- The environmental site assessment revealed that there is one well located on the Schumacher parcel. The BLM would file for a water right on the well following the proposed acquisition;
- Hazardous or Solid Wastes-On February 19th, 2014 environmental site assessments were approved and revealed no evidence of recognized environmental conditions.

The above resources are not carried forward or discussed further in this document.

3.2 Issues:

The following resource issues were identified by BLM resource staff during the scoping process:

Biological Resources

Issue 1: How would the proposed land acquisition affect habitat for:

- Nichol Turk’s Head Cactus;
- Lesser Long Nosed Bat; and
- Desert Tortoise?

Issue 2: How would the proposed land acquisition affect wildlife habitat?

Issue 3: How would the proposed land acquisition impact the spread of invasive and non-native weeds?

Range Management

Issue 4: How would the proposed land acquisition impact land health in the project area?

Recreation Resources

Issue 5: How would the proposed land acquisition affect recreation opportunities, settings and experiences, and recreation management in the Monument?

Lands and Realty

Issue 6: How would the proposed land acquisition affect the lands and realty program on the IFNM?

Travel Management, Access and Transportation

Issue 7: How would the proposed land acquisition affect travel management, access, transportation routes, and the Monument transportation plan?

Visual Resources

Issue 8: How would the proposed land acquisition affect the visual resources in the Monument and visual resource management?

4 THE PROPOSED ACTION AND ALTERNATIVES

4.1 Description of the Proposed Action:

The Proposed Action is a federal acquisition from a willing seller of approximately 358 acres (Figure 4-1) of private land located within the existing IFNM boundary, described as follows:

T. 12 S., R. 9 E., Gila & Salt River Meridian, Arizona

Sections 29, S $\frac{1}{2}$ S $\frac{1}{2}$ SW $\frac{1}{4}$;

30, W $\frac{1}{2}$ of Lot 10, Lot 8, E $\frac{1}{2}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$, NW $\frac{1}{4}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$, E $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$;

31, E $\frac{1}{4}$ of Lot 5, Lot 6 and 7, N $\frac{1}{2}$ of Lot 8, NE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$, SW $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$, SE $\frac{1}{4}$ NW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SW $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$, Portion of the SW $\frac{1}{4}$ of MS 1390;

33, S $\frac{1}{4}$ SW $\frac{1}{4}$ NW $\frac{1}{4}$, NW $\frac{1}{4}$ SW $\frac{1}{4}$, N $\frac{1}{4}$ S $\frac{1}{4}$ SW $\frac{1}{4}$, S $\frac{1}{4}$ NE $\frac{1}{4}$ SW $\frac{1}{4}$.

T. 11 S., R. 9 E., Gila & Salt River Meridian, Arizona

Section 27, SE $\frac{1}{4}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$, NE $\frac{1}{4}$ SE $\frac{1}{4}$ NE $\frac{1}{4}$.

Parcel Name	Acreage
Waterman	336 acres
Schumacher	22 acres
Total:	358 acres

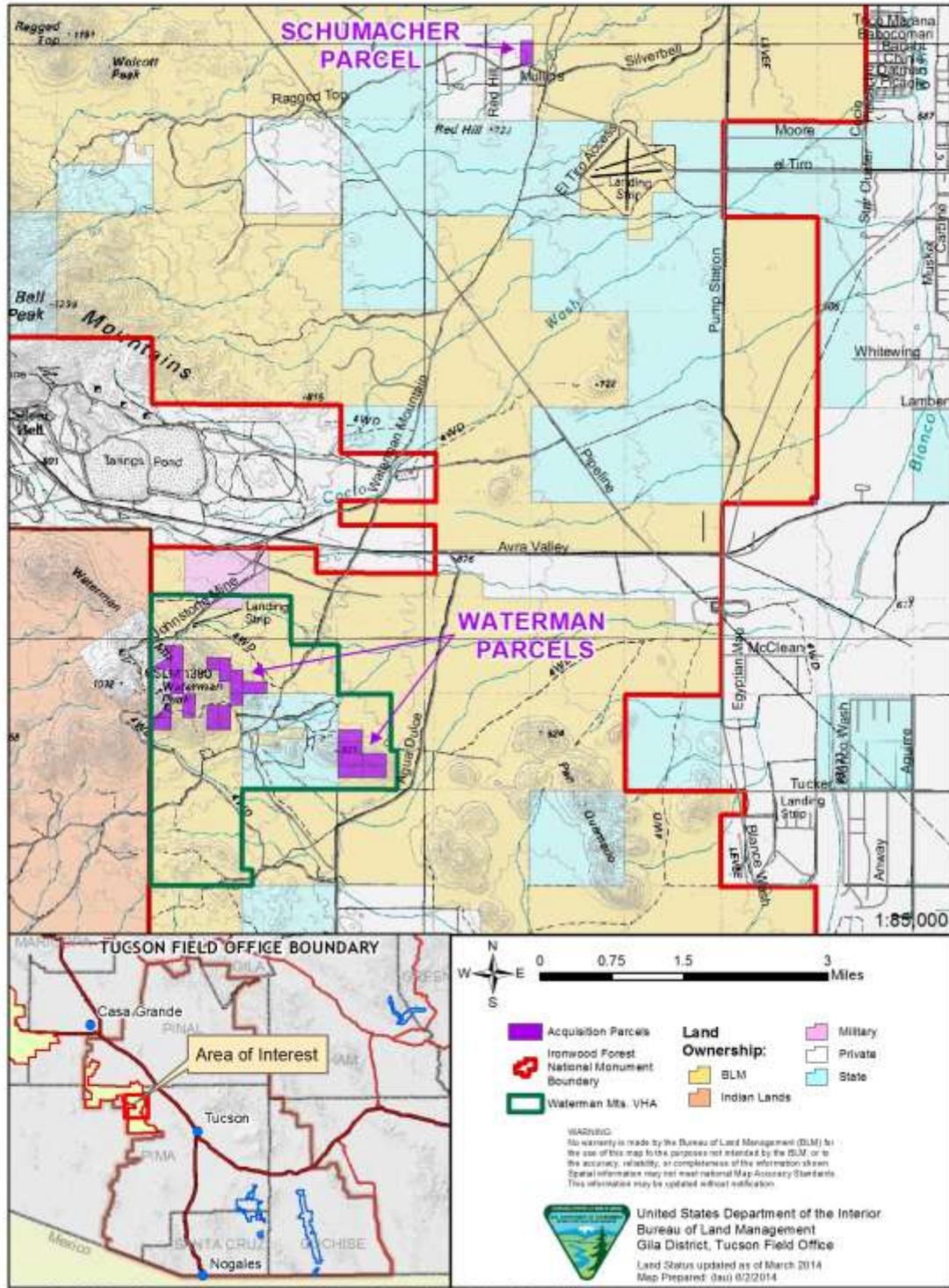


Figure 4-1. Proposed Acquisition Parcels

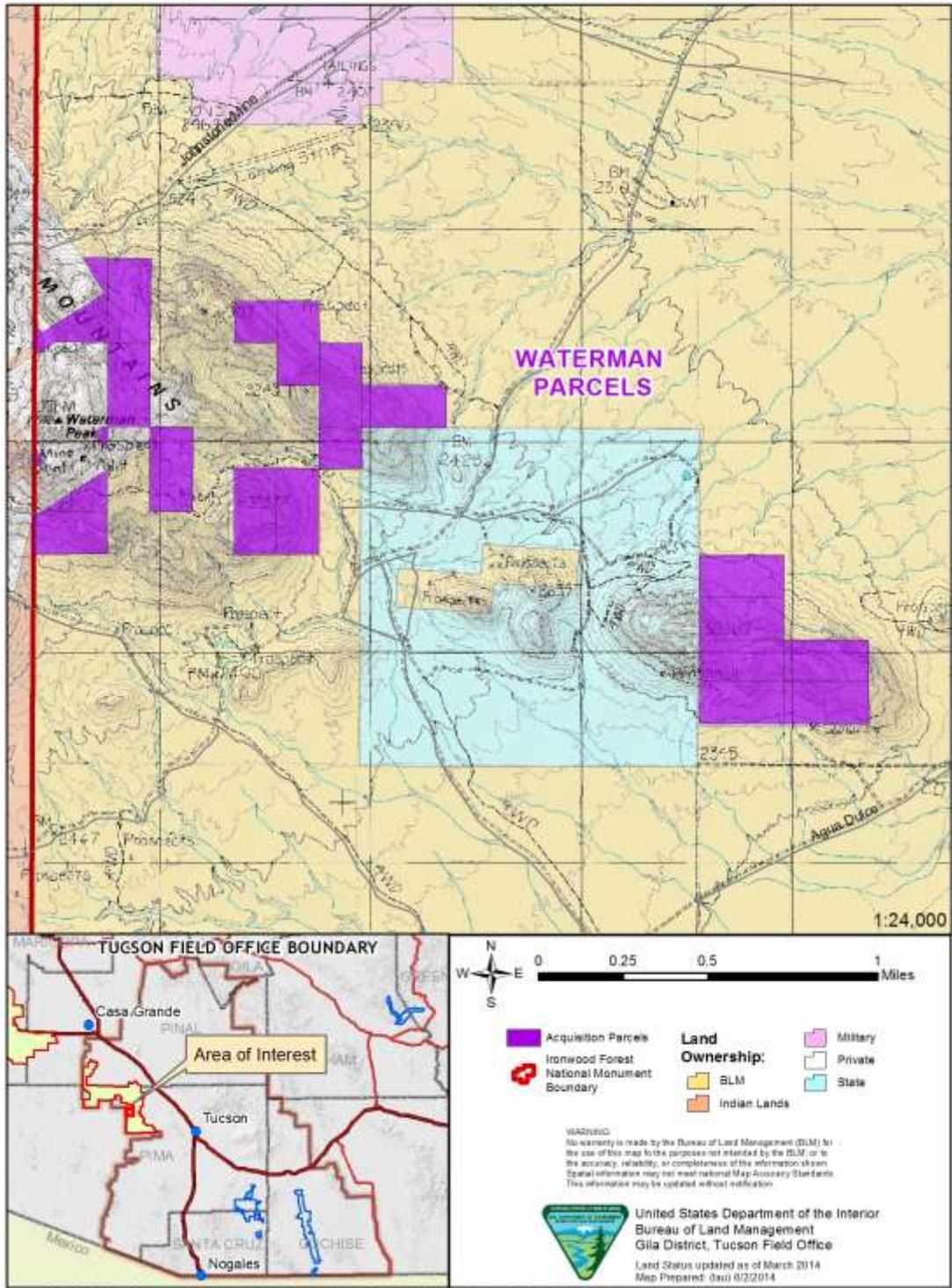


Figure 4-2. Proposed Waterman Parcels

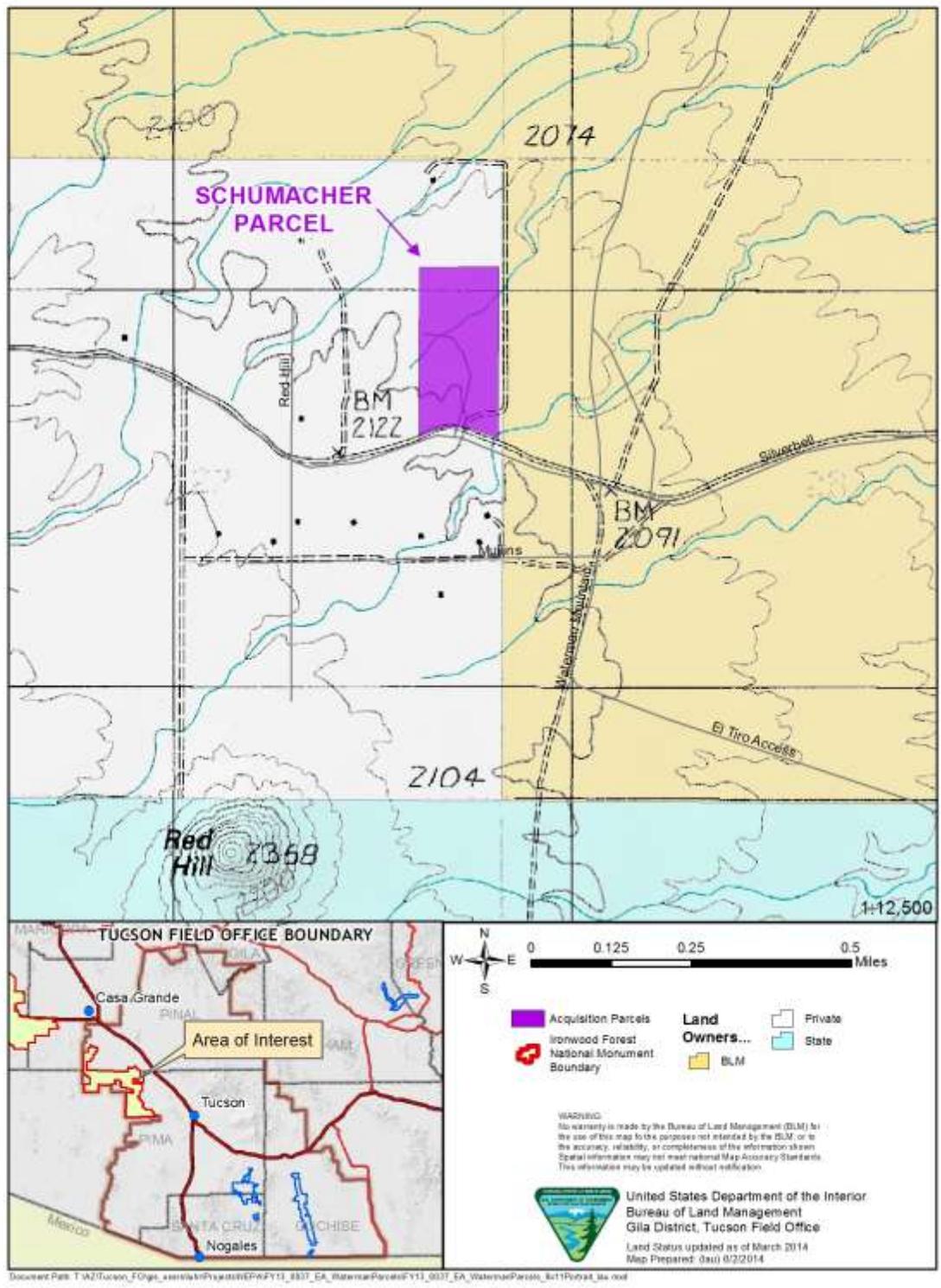


Figure 4-3. Proposed Schumacher Parcel

The above described property consists of several parcels that are currently owned by Salt River Pima-Maricopa Indian Community and the parcel in T. 11 S. R. 9 E. is owned by Sonoran Solutions LLC .

Acquisition of the parcels by the United States would be subject to valid existing rights determined to be acceptable by the Department of Interior, Office of the Solicitor. There has been some land uses on the parcels, with past access, mining, and quarry activity present on some of the parcels. No development of the property is planned by the BLM.

The environmental site assessment revealed that there is one well located on the Schumacher parcel. The BLM would file for a water right on the well following the proposed acquisition.

The proposed Waterman Acquisition parcels are surrounded by the Waterman Mountains Vegetation Habitat Management Area (VHA) (Figure 4-1). If acquired, the 336 acres of the Waterman Acquisition parcels would be added to the Waterman Mountains VHA.

If acquired by the United States, the property would be managed in accordance with the IFNM RMP and as part of the VHA as stated on page 28 of the IFNM Record of Decision (ROD) (2013), “In accordance with the proclamation, acquired lands and interests within the Monument’s boundary will be added to the Monument and will be managed consistently with the IFNM RMP.”

4.2 No Action Alternative:

Under the No Action Alternative, the property would not be acquired by the United States. The property would remain in non-federal ownership and future uses of the property would be governed by the laws, regulations, and ordinances of the State of Arizona and Pima County. Landowners would have to follow federal regulations and policy concerning access across monument lands to access the parcels on Waterman Mountain.

4.3 Conformance with Land Use Plan:

The proposed action is subject to the IFNM RMP, approved February 2013. This proposed action has been reviewed to determine if it conforms to the land use plan terms and conditions as required by 43 CFR 1610.5, BLM MS 1617.3.

The proposed action is in conformance with the IFNM RMP, approved February 2013:

- **LR-003:** Acquire lands and interest in land from willing sellers to further protection of Monument objects and/or achieve management objectives. Priority lands for consideration (1) contain ecologically or administratively important areas (e.g., riparian areas and wildlife movement corridors); (2) expand undisturbed blocks of public land; (3) protect existing blocks of habitat; or (4) provide legal access to Monument lands.

The RMP states: “In accordance with the proclamation, acquired lands and interests within the Monument’s boundary will be added to the Monument and will be managed consistently with the IFNM RMP.” (IFNM ROD p. 28).

The proposed acquisition parcels are within the Waterman Mountains VHA, established in the RMP to protect Nichol Turk's Head Cactus, a federally listed endangered species. The acquisition parcels would be managed as part of the VHA.

Relationship to Statutes, Regulations or Other Plans or Policies:

The proposed action conforms with 43 CFR, Part 2100, which requires BLM to evaluate land proposed for acquisition on a case-by-case basis. Acquisition of lands within the IFNM would be consistent with the following other laws, treaties, and executive orders; regulations; and policies, plans, and protocols; including, but not limited to:

Laws, Treaties and Executive Orders:

- Federal Land Management and Policy Act of 1976, as amended (FLPMA)
- National Historic Preservation Act of 1966, as amended (NHPA)
- National Environmental Policy Act of 1969 (42 U.S.C. 4321, 4331-4335, and 4341-4347) which have the same objective as that given in the BLM Regulations (NEPA).

Regulations, Policies, Plans and Protocols:

- BLM Handbook H-2100-1 Acquisition
- BLM Handbook H-2101-4 Acquisition Environmental Site Assessments
- BLM Policy for Pre-Acquisition Environmental Site Assessments (H-2101-04)
- Department of the Interior (DOI), 602 Departmental Manual, Chapter 2 (602 DM 2)

5 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES:

5.1 Issue 1: How would the proposed land acquisition affect habitat for the Nichols Turk's Head Cactus, Lesser Long-Nosed Bat, and Desert Tortoise?

5.1.1 Existing Environment

5.1.1.1 Nichol Turk's Head Cactus

Background

Distribution and Status: Nichol Turk's Head Cactus (*Echinocactus horizonthalonius* var. *nicholii*) grows on alluvial fans, inclined terraces and saddles of the Waterman Mountains on limestone-derived soils between 3,281 to 3,829 feet elevation. Threats to the species include mining, off-road vehicle traffic, and collection (USDI FWS 1986). The species is associated with the Arizona Upland subdivision (Brown and Lowe 1982) of the Sonoran Desertscrub habitat type. Under the Endangered Species Act [Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)], the species was listed as endangered by the U.S. Fish and Wildlife Service in 1979. No critical habitat was designated for the species.

Current land uses on and near Waterman acquisition parcels relative to Nichol Turk's Head Cactus

Motorized recreation and camping occur on and near some of the proposed acquisition parcels (USDI BLM 2014). These activities result in minor resource damage including tire tracks, fire rings and damaged vegetation (Figure 1), and are threats to Nichol Turk's Head Cactus (direct mortality and habitat destruction).



Figure 5-1. Fire ring, vehicle tracks, and trimmed mesquite tree at campsite on Waterman Acquisition parcels, Ironwood Forest National Monument, May 8, 2014 (USDI BLM 2014)

Proposed Action Relationship to Nichol Turk's Head Cactus

Nichol Turk's Head Cactus is located on some of the acquisition parcels. The Waterman acquisition parcels will be managed as part of the surrounding Waterman Mountains Vegetation Habitat Management Area to protect the Nichol Turk's Head Cactus. There is potential for Nichol Turk's Head Cactus on more of the Waterman Acquisition parcels than is currently known, as represented by the following information:

- The species is known from nearby BLM land within IFNM;
- The subject parcels lie within the known elevation range of the species; and
- Soil types on subject parcels are limestone derived.

5.1.1.2 Lesser Long-Nosed Bat

Background:

Distribution and Status: The lesser long-nosed bat (*Leptonycteris curasoae yerbauena*) is a nectarivorous (nectar feeding) bat species that occupies portions of southern Arizona from spring to early fall. Under the Endangered Species Act [Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)] the species was listed as endangered by the U.S. Fish and Wildlife Service in 1988. No critical habitat was designated for the species. Threats to the species include: roost site disturbance and destruction, and habitat fragmentation and loss (USDI FWS 1994).

Habitat and Home Range: Lesser Long-Nosed Bat occupancy of southern Arizona corresponds to the saguaro and agave blooming periods. Nectar and pollen from saguaro cactus flowers are the primary food source in the early summer. Paniculate agave nectar and pollen are the primary food sources in late summer and early fall. Habitat types that typically contain high densities of plants with food reserves for lesser long-nosed bat in southeastern Arizona include Sonoran desertscrub, semidesert grassland, and oak woodland. Lesser long-nosed bats utilize caves and mines as roost sites, and select those sites based on proximity to food resources. Lesser long-nosed bats are known to forage up to 48 km from roost sites (Krebs 2002).

Proposed Action Relationship to Lesser Long-Nosed Bats

There is potential for Lesser Long-Nosed Bats use of the subject parcels as represented by the following information:

- Evidence of nectivorous bat use (possibly Lesser Long-Nosed Bats) of night roosts near Waterman peak has been observed (Krebs and Petryszyn 2002). Waterman peak is approximately 200 yards from acquisition parcels which could indicate that the acquisition parcels lay within foraging range of Lesser Long-Nosed Bats roosting in the Waterman's.
- The closest known Lesser Long-Nosed Bat maternity roost to the acquisition parcels is located approximately 16 km southwest of the southern end of the Sawtooth Mountains and approximately 39 km from Ragged Top at the northern end of the Silver Bell Mountains. Lesser Long-Nosed Bat is capable of flying distances of 48 km or more one way during a single night's foraging excursion; therefore Lesser Long-Nosed Bat roosting in the nearby Waterman Mountains could easily utilize columnar cacti or agave on the acquisition parcels if these forage resource exist.
- Columnar cacti and agave occur on the subject parcels.
- Cave resources are known from the general vicinity and if cave resources occur on subject parcels, these resources could represent potential roost sites for Lesser Long-Nosed Bat.

5.1.1.3 Desert Tortoise

Background:

Distribution and Status: The Sonoran desert tortoise (*Gopherus morafkai*) (desert tortoise) is distributed south and east of the Colorado River in Arizona (Barrett and Johnson 1990, pp. 45; Lamb et al. 1989, p. 84). The species is a candidate for listing under the Endangered Species Act (Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.)), and listing is currently being reviewed by USFWS (Federal Register 50 CFR Part 17 [Docket No. FWS-R9-ES-2012-0050; MO- 4500030113]. Listing appears imminent. In 1988, the BLM developed a rangewide plan for improving the status of desert tortoise. Part of that plan included the categorization of habitat (Table 1), to provide for the future protection and management of the categorized areas and their associated desert tortoise populations (USDI BLM 1988).

Habitat and Home Range: Within its' Arizona range, desert tortoise are most known from Arizona Upland and Lower Colorado River subdivisions of Sonoran desertscrub and Mojave desertscrub vegetation types. Densities of desert tortoise are highest in Arizona Upland subdivision vegetative type (Brown and Lowe 1982). Desert tortoises occur most commonly on rocky, steep slopes and bajadas. Desert tortoises in Arizona generally occur within elevations from ~510 to 5,300 ft. (155 to 1,615 m) (USDI FWS 2013). A tortoise study (Barrett 1990) in the Picacho Mountains area found that average home range size for tortoises was 45 ac/19 ha (range 7.2-127.2 ac/ 3-53 ha). Home range size was not significantly different between sexes. Tortoises used an average of eight dens each and reused previously occupied dens. Tortoise's occupied larger dens in summer than in other seasons and moved to steeper rocky slopes in winter. The Sonoran desert tortoise is a herbivore, and has is known to eat 199 different species of plants, including herbs (55.3 percent), grasses (17.6 percent), woody plants (22.1 percent), and succulents (5 percent) (Ogden 1993, pp. 18; Van Devender et al. 2002; pp. 175176; Brennan and Holecross 2006, p. 54; Oftedal 2007, p. 21; Ernst and Lovich 2009, p. 562; Meyer et al. 2010).

Current public uses on and near Waterman acquisition parcels relative to Desert Tortoise

Motorized recreation and camping occur on and near some of the proposed acquisition parcels (USDI BLM 2014). These activities result in minor resource damage including tire tracks, fire rings and damaged vegetation (Figure 5-1). Motorized recreation poses risks of direct mortality and habitat destruction for desert tortoise.

Proposed Action Relationship to Desert Tortoise

No desert tortoise surveys have been conducted to BLM's knowledge on the parcels to be acquired; however desert tortoise surveys and studies have been conducted on the adjacent IFNM, most notably documented by Averill-Murray and Averill-Murray (2002). Despite the lack of desert tortoise surveys on the acquisition parcels, the following information indicates that desert tortoise occur in the general landscape and are likely to occur on the acquisition parcels:

- The parcels lie near BLM Category 2 and Category 3 desert tortoise habitat (Table 5-1, Figure 5-2) as described in "Desert tortoise habitat management on the public lands, a range wide plan" (USDI BLM 1988).
- Nearby surveys (Table 5-2) on adjacent IFNM indicate that desert tortoise are present, and considering that average home ranges up to approximately 130 acres, adjacent tortoise range could easily encompass parts or all of the proposed acquisition parcels.
- The parcels represent Arizona upland subdivision habitat type, a habitat type known to be occupied by desert tortoise (Figures 5-3 and 5-4).
- The proposed acquisition parcels range from 2,000 to 3,500 feet in elevation, thus falling within the known elevational range of desert tortoise.

Table 5-1. Description of BLM desert tortoise habitat categories, source " Desert tortoise habitat management on the public lands: a range wide plan (USDI BLM 1988) in Averill-Murray and Averill-Murray (2002).

Item	Category 1	Category 2	Category 3
Category Goals	Maintain stable, viable populations and protect existing tortoise habitat values; increase populations, where possible	Maintain stable, viable populations and halt further declines in tortoise habitat values	Limit tortoise habitat and population declines to the extent possible by mitigating impacts
Criterion 1	Habitat area essential to maintenance of large, viable populations	Habitat area may be essential to maintenance of viable populations	Habitat area not essential to maintenance of viable populations
Criterion 2	Conflicts resolvable	Most conflicts resolvable	Most conflicts not resolvable
Criterion 3	Medium to high density or low density contiguous with medium or high density	Medium to high density or low density contiguous with medium or high density	Low to medium density not contiguous with medium or high density
Criterion 4	Increasing, stable, or decreasing populations	Stable or decreasing populations	Stable or decreasing populations
Area on IFNM (uncategorized: 23,127 ha)	6,970 ha	17,673 ha	29,016 ha

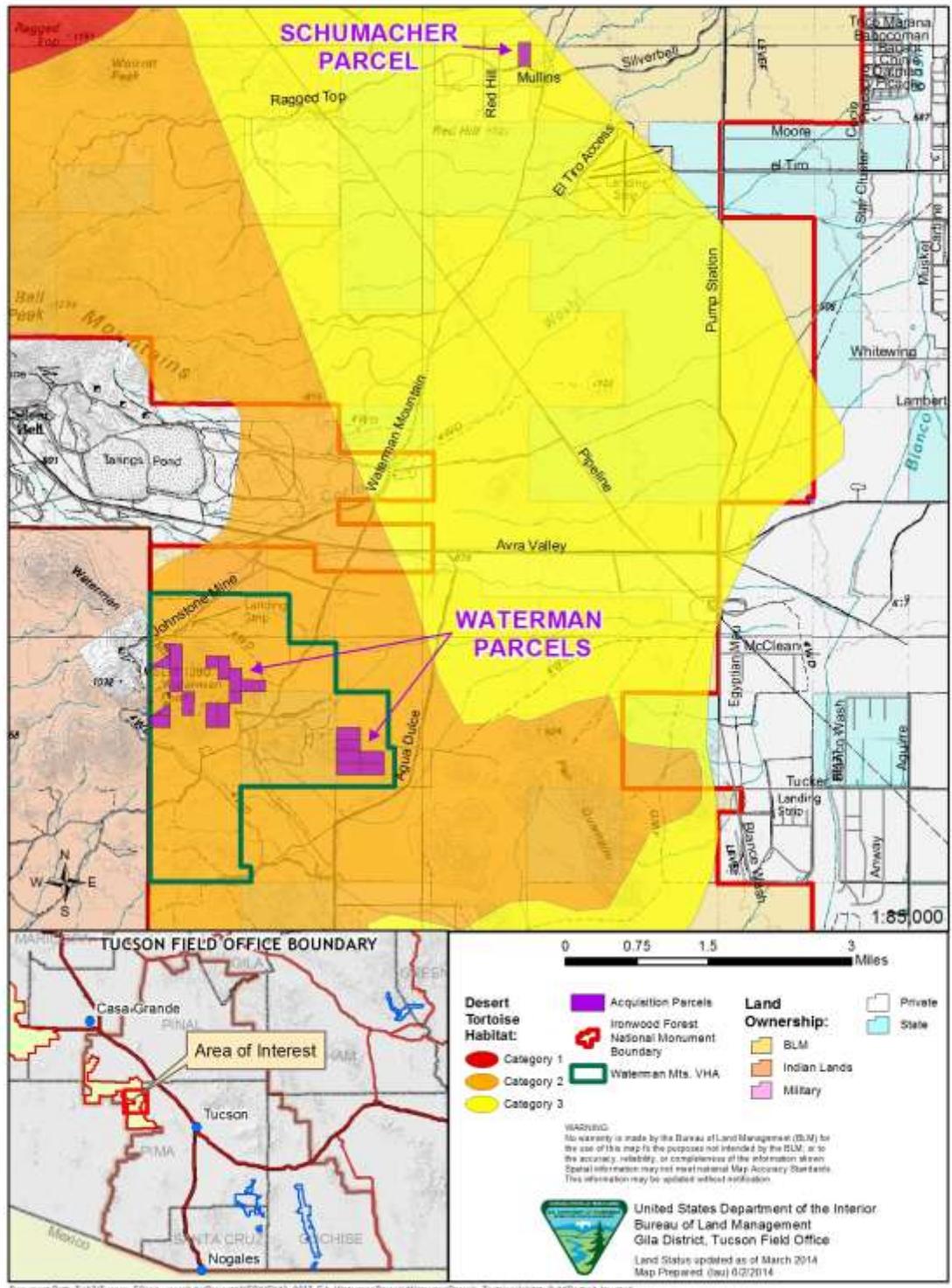


Figure 5-2. Desert tortoise habitat categorization near proposed acquisition parcels

Table 5-2. Summary of tortoise surveys conducted on Ironwood Forest National Monument in 2001 (excerpted from Averill-Murray and Averill-Murray 2002)

Mountain Range ¹	Transect With:		Encounter Rate ²	Incidentals ³
	Tortoises (n)	Tortoise Sign		
West Silverbell Mountains 29.50 km	10 (20)	17	0.68	6
Sawtooth Mountains 5.00 km	2 (3)	5	0.60	1
Silverbell Mountains 18.75 km	5 (10)	10	0.53	7 (45)*
Samaniego Hills 11.00 km	2 (4)	4	0.36	1
Waterman Mountains 17.00 km	3 (5)	9	0.29	0
Pan Quemado 6.00 km	1 (1)	4	0.17	2
Roskrige Mountains 19.00 km	0	6	0.00	2
Malpais Hill 2.00 km	0	0	0.00	0
Total	23 (43)	55	-----	-----

¹Including surrounding valleys.

²Number of tortoises per transect km. One individual tortoise in the West Silverbells was encountered twice.

³Number of times tortoises were seen incidental to transect surveys. The same tortoise may have been seen on more than one occasion. *In the Silverbell Mountains, the number in parentheses represents encounters of tortoises incidental to radio telemetry at Ragged Top.



Figure 5-3- View of Waterman Mountains portion of proposed acquisition

5.1.2 Environmental Consequences

5.1.2.1 *Alternative 1: Proposed Action*

5.1.2.1.1 **Nichol Turk's Head Cactus**

The proposed acquisition would convert 336 acres of potential Nichol Turk's Head Cactus habitat from private ownership to public ownership. This change of ownership would effectively convert the management of the acreage from singular private use to management under the Ironwood Forest National Monument (IFNM) Resource Management Plan (RMP). The Nichol Turk's Head Cactus habitat present on the proposed acquisition parcels would be managed in accordance with the Ironwood Forest National Monument (IFNM) Resource Management Plan (IFNM RMP, page 30) and the conservation measures from the Final Biological Opinion and Conference Report for Ironwood Forest National Monument (IFNM) Resource Management Plan (02EAAZ00-2012-F-0257), and under BLM's multiple use land management mandate (FLMPA 1977). FLPMA authorities and other federal authorities such as Section 7 of the Endangered Species Act (Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) would become applicable to management of Nichols Turk's Head Cactus on the acquired parcels.

Conservation measures for Nichol Turk's Head Cactus include:

- Monitor disturbance, such as expansion of campsite areas and expansion of road corridors, to monitor effects of recreation activities to Nichol Turk's Head Cactus habitat and to adaptively manage recreational activities to address impacts. Utilize photogrammetric analysis of satellite imagery in a GIS based platform.
- Establish a systematic monitoring protocol for Nichol Turk's Head Cactus to more effectively evaluate the status of the subspecies on IFNM and work collaboratively with others to evaluate the status of the subspecies across its known range. Establish a database with geo-referenced locations of stands of Nichol Turk's Head Cactus and digital images of those stands to provide a means to evaluate survivorship and assess threats such as Off-Highway Vehicle (OHV) impacts.
- Work with others to survey private and Arizona State Land Department (ASLD) managed lands within IFNM to prioritize lands to acquire or secure for conservation of Nichol Turk's Head Cactus.
- Work with the Tohono O'Odham Nation to survey Nichol Turk's Head Cactus on the tribal lands.

As such, the potential for protection of Nichol Turk's Head Cactus would be greater under the proposed action. These protections are contingent upon BLM actively managing the acquired lands under the auspices of the cited authorities. Motorized recreation and camping occur near and on some of the proposed acquisition parcels (USDI 2014). These activities result in minor

resource damage including tire tracks, fire rings and damaged vegetation (Figure 5-1), and pose direct (Nichol Turk's Head Cactus destruction) and indirect (habitat disturbance/destruction) to Nichol Turk's Head Cactus. Per the authorities noted above, these uses and impacts can be monitored and managed to prevent damage to Nichol Turk's Head Cactus.

5.1.2.1.2 Lesser Long-Nosed Bat

The proposed acquisition would convert 358 acres of potential foraging habitat for Lesser Long Nosed Bats from private ownership to public ownership. This change of ownership would effectively convert the management of the acreage from singular private use to management under the Ironwood Forest National Monument (IFNM) Resource Management Plan (RMP). Lesser Long Nosed Bats foraging habitat present on the proposed acquisition parcels would be managed in accordance with the Ironwood Forest National Monument (IFNM) Resource Management Plan (IFNM RMP, page 30) and the conservation measures from the Final Biological Opinion and Conference Report for Ironwood Forest National Monument (IFNM) Resource Management Plan (02EAAZ00-2012-F-0257). Conservation measures are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information which would be administered under BLM's multiple use land management mandate (FLMPA 1977). FLPMA authorities and other federal authorities such as Section 7 of the Endangered Species Act (Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) would become applicable to Lesser Long Nosed Bats foraging habitat on the acquired parcels.

Conservation measures for Lesser Long Nosed Bat include:

- Monitor disturbance, such as expansion of campsite areas and expansion of road corridors, to monitor effects of recreation activities to Lesser Long Nosed Bat foraging habitat and recruitment of forage plans and to adaptively manage recreational activities to address impacts. Utilize photogrammetric analysis of satellite imagery in a Geographic Information System (GIS) based platform.
- Survey IFNM lands and work with others to survey private and ASLD managed lands within IFNM for roosts utilized by Lesser Long Nosed Bats.

Additionally, if the acquisition parcels contain cave or abandoned mine resources that are used as Lesser Long Nosed Bat roost sites, those roost features could be protected through the installation of bat gates designed to Standards accepted by FWS and Bat Conservational International to allow bat access but prevent harm and harassment to roosting bats and degradation of roost suitability

As such, the potential for protection of Lesser Long Nosed Bats would be greater under the proposed action. These protections are contingent upon BLM actively managing the acquired lands under the auspices of the cited authorities. Motorized recreation and camping occur near and on some of the proposed acquisition parcels (USDI 2014). These activities result in minor resource damage including tire tracks, fire rings and damaged vegetation (Figure 5-1), and are threats to Lesser Long Nosed Bats, particularly the potential for vegetative damage to agave and

saguaro. Per the authorities noted above, these uses and impacts can be monitored and managed to prevent damage to LLNB forage resources.

5.1.2.1.3 Desert Tortoise

The proposed acquisition would convert 358 acres of potential Category 2 desert tortoise habitat from private ownership to public ownership. This change of ownership would effectively convert the management of the acreage from singular private use to Ironwood Forest National Monument (IFNM) Resource Management Plan (RMP). Desert tortoise habitat could be managed as a priority special status species habitat according to the IFNM RMP (p. 46) and the BLM's provisions for management of Category 2 desert tortoise habitat (USDI BLM 1988) could be implemented to conserve desert tortoise habitat, and would be administered under BLM's multiple use land management mandate (FLMPA 1977). FLPMA authorities and other federal authorities such as Section 7 of the Endangered Species Act (Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et seq.) would become applicable to desert tortoise habitat on the subject parcels if the parcels are acquired and if the species, currently a candidate for listing, is eventually listed.

As such, the potential for protection of desert tortoise would be greater under the proposed action. These protections are contingent upon BLM actively managing the acquired lands under the auspices of the cited authorities. Motorized recreation and camping occur near and on some of the proposed acquisition parcels (USDI 2014). These activities result in minor resource damage including tire tracks, fire rings and damaged vegetation (Figure 5-1), and are threats to desert tortoise, particularly mortality caused by motorized recreation. Per the authorities noted above, these uses and impacts can be monitored and managed to prevent desert tortoise mortality and habitat destruction.

5.1.3 Alternative 2: No Action Alternative

Under the No Action Alternative 358 acres of potential habitat for the Nichol Turk's Head Cactus and foraging habitat and roost sites for the lesser long-nosed bat would not be protected under Section 7 of the Endangered Species Act. Desert tortoise habitat Category 2 would not be managed as a priority special status species habitat on the acquisition parcels. Conservation measures from the Final Biological Opinion and Conference Report for Ironwood Forest National Monument (IFNM) Resource Management Plan (02EAAZ00-2012-F-0257) would not be applied to management of the three species and their habitats mentioned above on the parcels.

5.2 Issue 2: How would the proposed land acquisition affect wildlife habitat?

5.2.1 Existing Environment

There is a wide diversity of game and nongame wildlife species, including migratory birds, typically found in the Sonoran Desert as well as suitable habitats. Examples are desert big horn sheep and javelina which may occur in the area. Ironwood-bursage habitat is associated with more than 674 species, including 64 mammalian and 80 bird species (IFNM RMP USDI BLM 2013). These species are typical of Sonoran desertscrub habitats in southern Arizona.

5.2.2 Environmental Consequences

Proposed Action: Acquiring the additional parcels will increase habitat managed by BLM by 358 acres, and thereby provide BLM the opportunity on those acres to engage in wildlife species habitat conservation and improvement projects, including buffelgrass eradication, wildlife water catchment development, installation of bat gates on caves and abandoned mine features that harbor bat species, and wildlife species and habitat monitoring and protection.

No Action Alternative: Under the no action alternative, BLM would not acquire the 358 acres of habitat, and would not be afforded the opportunity to improve the condition of habitat for wildlife through active management projects such as buffelgrass eradication, wildlife water catchment development, installation of bat gates on caves and abandoned mine features that harbor bat species, and species and habitat monitoring and protection.

5.3 Issue 3: How would the proposed land acquisition affect the spread of invasive and non-native weeds?

5.3.1 Existing Environment

Buffelgrass (*Pennisetum ciliaris*) is a perennial shrub-like grass from the family Poaceae that is known for its high drought tolerance, fire adaptation and tendency to grow in dense clumps. It is an invasive, non-native with origins in Africa, Indonesia, Asia and the Middle East (Tellman 2002).

Once present in an area, Buffelgrass can create a monoculture by outcompeting native plant species for space, water and sunlight. Buffelgrass produces tremendous fuel loading, which is an issue in the Sonoran desert environment with typically non-fire adapted succulent plants such as agave and cacti. Buffelgrass is best controlled by manual extraction or with herbicides (<http://www.tsusinvasives.org/database/buffelgrass.html>).

Buffelgrass is present in sparse patches in the acquisition area. Nothing is currently being done to eradicate the Buffelgrass in the acquisition area.

5.3.2 Environmental Consequences

Proposed Action: The parcels, if acquired by BLM, would become subject to BLM's program to eradicate buffelgrass in the Ironwood Forest National Monument (IFNM). By acquiring these parcels, BLM would have an opportunity to actively control buffelgrass on 358 acres of the acquired parcels. Buffelgrass would decrease over time because of active management.

No Action Alternative: Under the No Action Alternative, buffelgrass on the proposed acquired parcels would remain and could potentially spread to adjacent and nearby BLM land.

5.4 Issue 4: How would the proposed land acquisition impact land health in the project area?

5.4.1 Existing Environment

Land Health Assessment: Relative to the Arizona Standards for Rangeland Health and Guidelines for Grazing Administration (1997), BLM conducted a rangeland health assessment (USDI BLM 2008) for the Aqua Dulce Grazing Allotment which is adjacent to the proposed Waterman acquisition parcels and it is assumed that conditions on the Aqua Dulce Grazing allotment are comparable to those on the proposed Waterman acquisition parcels. Land health assessments are designed to determine the hydrologic, soil and vegetative ecological functionality of parcels of public land relative to the uses that BLM typically authorizes, including livestock grazing and recreation. The Aqua Dulce land health assessment did not identify any areas where soil conditions or accelerated erosion occurred. The assessment indicated that the water cycle processes were functioning properly; moderate peak runoff events were maintained because soil cover (vegetation, litter, and gravel) was adequate, soils exhibited good infiltration of precipitation received, and water-flow patterns were within expected parameters for the site to accommodate expected water and sediment loads. The assessment further indicated that diversity and condition of the plant community was more than adequate to sustain the wildlife species that occur in the area.

Ecological Site Descriptions: Ecological sites comprise a land classification system that describes ecological potential and ecosystem dynamics of land areas. The descriptions are based on soils, vegetation and hydrologic processes. Ground cover (Table 5.3) as it relates soil stability is one of the ecologic factors quantified in ecological site descriptions. Ecological sites are used to stratify the landscape and organize ecological information for purposes of monitoring, assessment, and management. (USDA NRCS 2014). The proposed acquisition parcels are encompassed by 6 ecological sites (Figures 8 and 9). These are:

- Clay Loam Upland 10-13” precipitation zone.
- Loamy Upland 10-13” precipitation zone
- Limestone Hills 10-13” precipitation zone
- Limy Upland 10-13 precipitation zone
- Granitic Upland 10-13 precipitation zone
- Limy Upland 10-13 precipitation zone

Ground cover (Table 5.3) as it relates to soil stability is one of the ecologic factors quantified in ecological site descriptions. Other factors quantified in ecological site descriptions include forage production by plant class, plant species diversity, climatic factors and soil characteristics.

Table 5-3. Soil Surface cover on ecological sites associated with the Waterman and Schumacher exchange parcels (USDA NRCS 2014).

Soil Surface Cover (%)									
Ecological Site Name	Grasses	Forbs	Shrubs	Trees	Biological Crust	Litter	Surface Fragments >1/4”<3”	Surface Fragments >3”	Bare Ground

Clay Loam Upland	1-3	0-1	0-2	--	5-15	15-70	0-60	0-10	10-75
Loamy Upland	0-4	0-2	1-4	0-1	15-30	10-70	1-65	0-10	25-75
Limestone Hills	0-1	0-1	1-3	0-1	0-5	5-40	30-60	5-25	5-25
Limy Upland	0-1	0-1	1-3	0-1	5-25	5-45	20-85	0-15	5-45
Granitic Upland	0-1	0-1	1-2	0-1	0-5	5-30	35-70	5-15	5-55

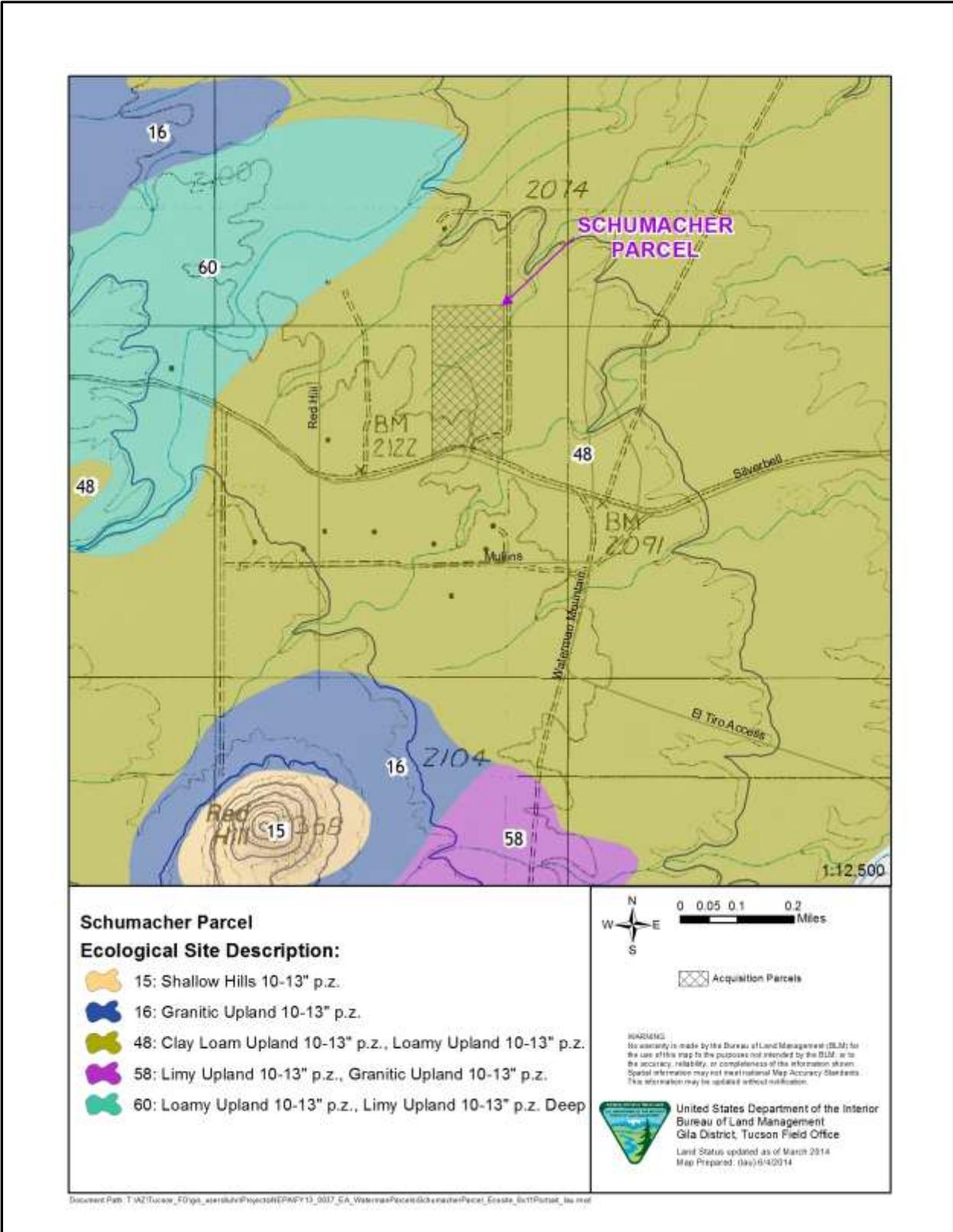
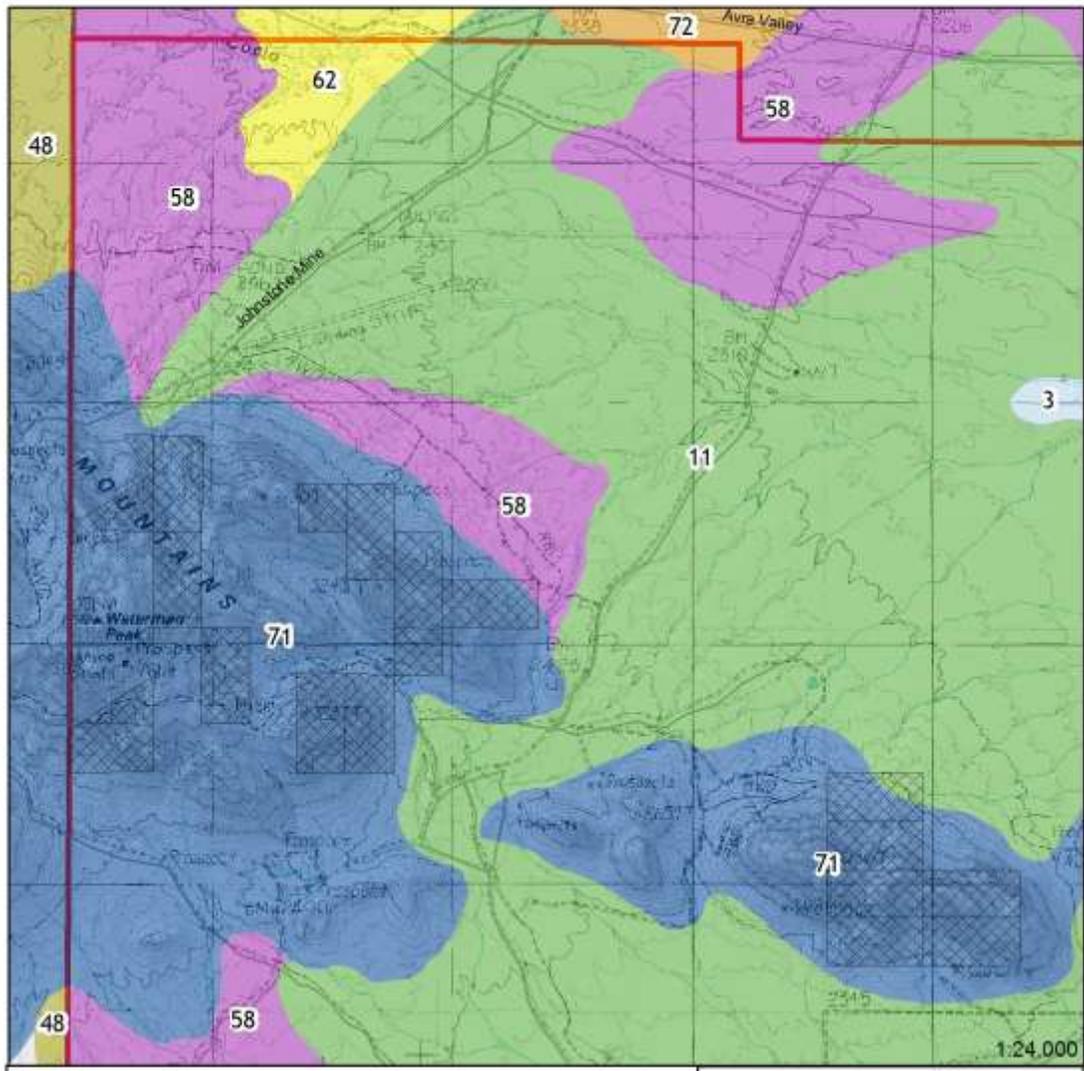


Figure 5-4. Ecological sites encompassing the Schumacher Exchange Parcel



Waterman Parcels

Ecological Site Description

- 3: Sandy Wash 10-13" p.z.
- 11: Limy Upland 10-13" p.z.
- 48: Clay Loam Upland 10-13" p.z., Loamy Upland 10-13" p.z.
- 58: Limy Upland 10-13" p.z., Granitic Upland 10-13" p.z.
- 62: Loamy Upland 10-13" p.z.
- 71: Limestone Hills 10-13" p.z.
- 72: Loamy Upland 10-13" p.z., Limy Fan 10-13" p.z.



- Acquisition Parcels
- Ironwood Forest National Monument Boundary

WARNING:
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United States Department of the Interior
 Bureau of Land Management
 Gila District, Tucson Field Office
 Land Status updated as of March 2014
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Figure 5-6- Ecological sites encompassing the Waterman exchange parcels

5.4.2 Environmental Consequences

Proposed Action: The acquisition area would be subject to the BLM's Arizona Standards for Rangeland Health (USDI BLM 1997) which include objectives for soil stability, vegetative cover, plant diversity and hydrologic function. Current ecologic condition will be compared to the parameters identified in the ecological site descriptions. If ecological factors are not meeting site potential, then management actions can be taken to improve ecologic condition and function.

No Action Alternative: Under the No Action Alternative, the acquisition parcels would remain in private ownership and would not be subject to the BLM's Arizona Standards for Rangeland Health, approved April 28, 1997.

5.5 Issue 5: How would the proposed land acquisition affect recreation opportunities, settings and experiences, and recreation management in the Monument?

5.5.1 Existing Environment

The IFNM was designated as a Special Recreation Management Area to intensively manage recreation resources for undeveloped recreation settings and experiences, and Recreation Management Zones (RMZ) were identified to achieve specific recreation management objectives. The proposed acquisition parcels within the Waterman Mountains VHA are within a Semi-Primitive Motorized RMZ, with the parcels on the mountain within a Semi-Primitive Non-Motorized RMZ. Recreational use of Monument lands surrounding these parcels consists of primarily dispersed recreational activities such as hunting, hiking, sightseeing, and primitive camping. Existing routes affected by the Waterman parcels are designated to provide non-motorized access for public use. These parcels receive public recreational use incidental to recreational use on adjacent Monument lands. The Schumacher acquisition parcel is in a residential area within the Monument in a Roaded Natural RMZ. This parcel does not receive public recreational use by Monument visitors.

5.5.2 Environmental Consequences

Proposed Action: Outstanding recreational opportunities in a semi-primitive, undeveloped setting are available in the IFNM. The acquisition parcels will receive use throughout the year by members of the public due to the high resource values that are present. Visitors could engage in a variety of dispersed, recreational activities, including hiking/walking/running, sightseeing, wildlife viewing, camping, vehicle touring, picnicking, hunting, and horseback riding.

The Waterman acquisition parcels will be managed as part of the Semi-Primitive Motorized and Semi-Primitive Non-Motorized RMZs, and subject to the recreation use restrictions identified to achieve the purposes of the VHA. Consistent with recreation management in the VHA,

dispersed recreational use will be allowed on the acquired parcels, with public use and access limited to non-motorized travel. Acquisition of the Waterman parcels will provide legal access on two existing routes across the parcels. The acquisition of the parcels is not likely to attract additional public use to the area since they do not provide additional outstanding attractions, but will improve manageability and eliminate inadvertent trespass by visitors. The parcels that are likely to receive the greatest amount of public use are those along the existing mining claim access route that originates at the Waterman Group Site. The acquisition will not alter the setting or the recreational opportunities available, but will add to the land base available for recreational use.

No Action Alternative: Under the No Action Alternative private land inholdings would continue to be legally unavailable for public recreational use, and legal access on the existing access routes across the Waterman acquisition parcels would not be achieved.

5.6 Issue 6: How would the proposed land acquisition affect the lands and realty program in the IFNM?

5.6.1 Existing Environment

The IFNM RMP states that BLM adjustments to land tenure in the IFNM decision area occur or can occur under a variety of realty actions. Under the Proclamation (Presidential Proclamation 7320—Establishment of the Ironwood Forest National Monument), all land and interests in land in the IFNM decision area will remain under BLM’s administration. Under the Proclamation an exchange process could occur if it would further the protective purposes of the monument.

Acquisitions can occur through land exchanges, purchases, easements, and other land transfers.

Title V of Federal Land Policy and Management Act (FLPMA) authorizes the Secretary of the Interior to issue right-of-way grants (i.e. authorizations to use specific pieces of land for specific facilities for specific periods of time), over, upon, under, or through public lands (except land designated as wilderness). The Proclamation allows existing rights-of-way to be maintained within the IFNM without being subject to the higher standard that may be applied to future right-of-way grants by virtue of the monument designation. At the time the Proclamation was signed, several rights-of-way for roads, pipelines, power lines, and communication facilities were in place in the IFNM.

5.6.2 Environmental Consequences

Proposed Action: The lands proposed to be acquired are inholdings within the IFNM. The acquisition would transfer the property into public ownership and management. Acquisition of the property by the United States, Bureau of Land Management would be subject to any valid existing rights identified in the First American Title Insurance Company reports numbered No.231-5566634 and No. 231-5480683.

The proposed Schumacher acquisition parcel would be managed in accordance with the IFNM RMP. Future proposals for rights-of-way for access and utilities on the proposed Schumacher acquisition parcels would be considered and issued on a case-by case basis consistent with the protection of the Monument objects (IFNM ROD p. 76). Future proposals for land use authorizations on the Schumacher parcel would be managed to accommodate use, maintenance, and operation with minimal impacts to Monument objects.

The proposed Waterman acquisition parcel would be managed in accordance with the IFNM RMP and special land use restrictions established for the VHA. Future proposals for land use authorizations on the proposed Waterman acquisition parcels would be prohibited except along routes designated for motorized use (IFNM ROD p. 46).

No Action Alternative: Under the No Action Alternative, the parcels would remain in private ownership and future proposals for land use authorizations by non-BLM entities would be managed at the discretion of the private landowner. BLM would need to seek a right-of-way for legal public non-motorized access over the proposed Waterman acquisition parcels.

5.7 Issue 7: How would the proposed land acquisition affect travel management, access, transportation routes, and the Monument transportation plan?

5.7.1 Existing Environment

Motorized travel is limited to designated roads and primitive roads throughout the Monument in accordance with designations established in the RMP pursuant to 43 CFR 8342. The Monument route inventory identified existing routes in the Waterman Mountains VHA which were constructed to access patented mining claims. The route designations established concurrently with the RMP allocations identified the existing routes as non-motorized routes or administrative access routes to protect vegetation resources and other resource values. The proposed Schumacher parcel is accessible from Pima County's Silverbell Road, but there is no existing road or driveway into the property.

5.7.2 Environmental Consequences

Proposed Action: Existing access within the proposed acquisition parcels is consistent with the network that has been established for IFNM. The management goals and objectives are to provide adequate, legal, and safe access to the monument while protecting the monument objects. Acquiring the additional parcels will allow for further management of existing roads and trails within and around the parcels.

The acquisition parcels will be designated as 'Limited to Designated Roads and Trails' consistent with designations for adjacent Monument lands. The existing access routes across the Waterman parcels will be designated as non-motorized routes, and managed as non-motorized trails available for public use by non-motorized and non-mechanized access travel. Approximately 0.8 miles of non-motorized route will be added to the IFNM transportation system in the Waterman VHA.

No Action Alternative: Under the No Action Alternative, the proposed Schumacher and Waterman acquisition parcels would remain in private ownership. The 0.8 miles of non-motorized route on the proposed Waterman acquisition parcel would not be incorporated into the IFNM transportation system in the Waterman VHA. The 0.8 miles of non-motorized route in the Waterman VHA would be on private land and would not be available for public non-motorized, non-mechanized use.

5.8 Issue 8: How would the proposed land acquisition affect the visual resources in the Monument and visual resource management?

5.8.1 Existing Environment

The proposed Waterman acquisition parcels are within an area allocated for VRM Class II objectives to retain the existing character of the landscape. The level of change to the characteristic landscape from management activities in a VRM Class II area should be low. The Waterman parcels are visible primarily from on-site access routes, except the quarry parcels which are visible in the foreground from the Agua Dulce Road.

The impacts on the visual quality of Monument lands surrounding these parcels is limited to local views, and do not affect overall scenic quality. The Waterman parcels are largely in natural condition, with some visual impacts related to past mining road construction and mining and quarry related excavation. These parcels contain important visual resources due to the surrounding scenic quality, and visible location on prominent mountain slopes.

The proposed Schumacher parcel is adjacent to an area allocated for VRM Class II objectives to retain the existing character of the landscape. The Schumacher parcel is undeveloped, but is located in a rural residential area. This parcel is along Silverbell road, but is not visible and does not contribute to or detract from Monument visual resources. This parcel is primarily visible from existing residences on adjacent private lands.

5.8.2 Environmental Consequences

Proposed Action: The acquisition would add 358 acres to the VRM Class II allocations, but would not cause a change in the characteristic landscape, and therefore the visual impact would be low and consistent with VRM Class II objectives. The acquisition will prevent potential future impacts on Monument visual resources from possible land use activities on the private lands. Natural scenery viewed along Agua Dulce Road would be protected from potential quarry development on the Waterman quarry parcel.

No Action Alternative: Under the No Action Alternative, visual resources in the Monument landscape surrounding the parcels would remain unchanged. 358 acres of land would not be added to the VRM Class II allocation in the IFNM.

6 CUMULATIVE ACTIONS

The CEQ defines cumulative effects (also known as cumulative impacts) as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what (federal or non-federal) agency or person undertakes such actions” (43 CFR 1508.7).

The intensity, or severity, of the cumulative effects considers the magnitude, geographic extent, duration, and frequency of the effects. The magnitude of the effect reflects the relative size or amount of the effect; the geographic extent considers how widespread the effect may be; and frequency refers to whether the effect is a one-time, intermittent, or chronic event.

6.1 Past Actions

Past actions in the area surrounding the proposed acquisition parcels include mining and quarry excavation, primitive road construction from past mining exploration, recreational activities such as hunting, dispersed camping, and hiking.

6.2 Present Actions

The area surrounding the proposed acquisition parcels is used for several different purposes. Some of the surrounding area is grazed by domestic livestock. Recreation activities in the area include motorized use and camping.

6.3 Reasonably Foreseeable Future Actions

The reasonably foreseeable future actions (RFFAs) in the vicinity of the proposed acquisition area include recreational use and non-motorized public access.

6.3.1 Effect of the Proposed Action

The acquisition of the Waterman parcels will add approximately 336 acres to the monument. Acquisition of the Schumacher parcel will add an additional 22 acres to the Monument lands. Together the acquisitions will reduce the private land inholdings by approx. 6%. (Total private land inholdings are approximately 5,449 acres. If the lands are acquired the private inholding would be reduced to 5,091 acres).

Acquisition of the proposed parcels would provide BLM opportunity to manage resources identified in this EA to further protection of objects identified in the Ironwood Forest National Monument Resource Management Plan, and other authorities applicable to BLM including FLMPA and ESA. Resource management activities currently underway or planned on IFNM would now extend to these parcels, including:

- Identification and treatment of invasive, nonnative plant species
- Applying Biological Opinion terms and conditions to Nichol Turk’s Head Cactus and LLNB
- Installation of bat gates on cave and mine features to protect LLNB as appropriate
- Managing recreation to protect Monument objects and achieve recreation management objectives.
- Managing desert tortoise habitat per the IFNM RMP and BLM’s range wide plan

- Monitoring of resources and ground impacts
- Protection of cultural and historic objects
- Legal access for administrative purposes and public use on existing routes on or across the acquisition parcels.
- The acquisition parcels will add approximately 0.8 miles of non-motorized trail to the Monument transportation system.
- Acquisition will add approximately 300 acres to the Semi-Primitive Motorized RMZ, approximately 36 acres to the Semi-Primitive Non-Motorized RMZ, and 22 acres to the Roaded Natural RMZ.
- Additional lands under the limited designation, additional trail mileage for the TMP.

6.3.2 Effect of the No Action Alternative

Under the No Action Alternative, private land inholdings would not be reduced and would remain at 5,446 acres in the IFNM. New private development would also be permissible under planning and building ordinances of the local governments on the proposed acquisition parcels that would remain in private ownership.

Over time it is possible that there would be impacts to not only the private lands but also to the adjacent public lands within the proposed acquisition area.

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