

Manti – La Sal National Forest Plan Revision Assessments

Topic 5 – At-risk Species

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For:

The Manti – La Sal National Forest

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At-Risk Species

At-risk species include Forest Species of Conservation Concern (SCC) and Federally Threatened, Endangered, Proposed and Candidate species.

Table 1. List of all At-Risk Species for the Manti-La Sal National Forest.

Category	Status	Common Name	Species
Non-plant	Threatened	Mexican Spotted Owl	<i>Strix occidentalis</i>
Non-plant	Endangered	Southwestern Willow Flycatcher	<i>Empidonax trailii extimus</i>
Non-plant	Threatened	Yellow-billed Cuckoo	<i>Coccyzus americanus</i>
Non-plant	Threatened	Canadian Lynx	<i>Lynx canadensis</i>
Non-plant	Proposed	Heliotrope Milkvetch	<i>Astragalus montii</i> Welsh
Non-plant	Threatened	Greenback Cutthroat Trout	<i>Oncorhynchus clarkia stomias</i>
Non-plant	SCC	American Pika	<i>Ochotona princeps</i>
Non-plant	SCC	Black-rosy Finch	<i>Leucosticte atrata</i>
Non-plant	SCC	Boreal Toad	<i>Anaxyrus boreas</i>
Non-plant	SCC	Townsend's Big-eared Bat	<i>Corynorhinus townsendii</i>
Non-plant	SCC	Fringed Myotis	<i>Myotis thysanodes</i>
Non-plant	SCC	Greater Sage-grouse	<i>Centrocercus urophasianus</i>
Non-plant	SCC	Bluehead Sucker	<i>Catostomus discobolus</i>
Non-plant	SCC	Bonneville Cutthroat Trout	<i>Oncorhynchus clarki utah</i>
Non-plant	SCC	Colorado River Cutthroat Trout	<i>Oncorhynchus clarki utah</i>
Non-plant	SCC	Utah Sallfly	<i>Sweltsa cristata</i>
Plant	Threatened	Heliotrope milkvetch	<i>Astragalus montii</i> Welsh
Plant	SCC	Isley's Milkvetch	<i>Astragalus isleyi</i> Welsh
Plant	SCC	La Sal Daisy	<i>Erigeron mancus</i> Rydberg
Plant	SCC	Baker's Oreoxis	<i>Oreoxis bakeri</i> Coulter & Rose
Plant	SCC	La Sal Mountains' Groundsel	<i>Senecio fremontii</i> var. <i>inexpectans</i> Cronquist
Plant	SCC	Geyer's onion	<i>Allium geyeri</i> var. <i>chatterleyi</i>
Plant	SCC	Link Trail Columbine	<i>Aquilegia flavescens</i> var. <i>rubicunda</i>
Plant	SCC	Pinnate Spring-parsley	<i>Cymopterus beckii</i>
Plant	SCC	Kachina Daisy	<i>Erigeron kachinensis</i>
Plant	SCC	Canyon Sweetvetch	<i>Hedysarum occidentale</i> var. <i>canone</i>

Plant	SCC	Navajo Beardtongue	<i>Penstemon navajoa</i>
Plant	SCC	Eastwood's Podistera	<i>Podistera eastwoodiae</i>
Plant	SCC	Arizona Willow	<i>Salix arizonica</i>

Terrestrial Wildlife

Scale

The scale used to analyze at-risk wildlife species is LTAs. The USFWS uses counties to consider T&E species, so some species are listed for counties that include the plan area, but may not have suitable or occupied habitat for the species. All species listed for counties in the plan area are considered below, but will not be further analyzed if they do not occur/have habitat on NFS lands.

Indicators

The indicators used in the assessment of wildlife species are habitat are ecological conditions/habitat for each species. Population information is used where available.

Threatened, Endangered, Proposed, Candidate

There are county lists that include all Federally Threatened and Endangered (T&E) species recorded within that county. The Forest boundary crosses 10 counties within Utah and Colorado. Within those counties, federally listed T&E that are recorded within one (or more) of the counties, but not known to occur on the Forest include:

- Utah prairie dog (*Cynomys parvidens*)
- Gunnison sage-grouse (*Centrocercus minimus*)
- North American wolverine (*Gulo gulo luscus*)
- California condor (*Gymnogyps californianus*)

There are four federally listed T&E species that are known to occur on the Forest or species for which the US Fish and Wildlife Service has identified suitable habitat for a T&E species within the Forest boundary. These species are discussed in greater detail below.

Mexican Spotted Owl (*Strix occidentalis*)

Existing Conditions

Mexican spotted owls (MSO), a federally listed threatened species, are known to occur on the Monticello District of the Forest. This large, dark-eyed owl is found in mature, mixed conifer forests with dense, uneven-aged stands. Breeding owls in southern Utah primarily utilize deep, steep-

walled canyons with mature coniferous or deciduous trees in the bottoms. They are relatively intolerant of high temperatures, and roost and nest in shady forests or in the cracks of deep slot canyons. Nest sites are generally found on cliff ledges in Douglas fir (*Pseudotsuga menziesii*) and to a lesser extent ponderosa pine/Gambel's oak (*Quercus gambelii*) vegetation types. They forage in mature forests of mixed conifers and Gambel's oak, possibly due to the availability of preferred prey (woodrats, *Neotoma* sp.) and avoidance of great horned owls (*Bubo virginianus*). Predators of MSO include great horned owls, northern goshawks, red-tailed hawks (*Buteo jamaicensis*) and golden eagles.

On the Monticello District, Mexican spotted owls and suitable habitat is found in all the MC LTAs, most notably in MC_LTAG2, MC_LTAG3 and MC_LTAG4. Important components in their habitat in mixed conifer/pinyon-juniper woodland and riparian vegetation types in canyon habitat are the presence of water, clumps or stringers of trees, steep canyon walls and a high percentage of litter and woody debris.

The MSO was federally listed in 1993. A Recovery Plan for the Mexican Spotted Owl was completed in December 1995, and revised in 2012 (USFWS 2012). The critical habitat designation was finalized in 2004, and includes the western half of the Monticello district. Habitat models have been developed for use in Utah; the 1997 general habitat model and a potential breeding/roosting habitat model (Willey-Spotskey 2000). Information from these sources, including the primary constituent elements (habitat requirements) and canyon habitat described in the recovery plan, the critical habitat breeding/roosting habitat model and professional knowledge of the site-specific area are used in determining potential MSO habitat and areas where protocol survey is required.

Most habitat deemed appropriate for the Mexican Spotted Owl has been surveyed on the Moab/Monticello Ranger District. To date, all nests located have been within canyon country, and Protected Activity Centers (PACs) have been designated. There are seven designated PACs on the Monticello District. Surveys in the 1990's and in 2002-2010 on the district (MLNF 2010) have not detected breeding owls on the Moab district, or on adjacent BLM land which has also been extensively surveyed. Recent surveys have confirmed the continued occupancy of the existing owl territories/PACs on the Monticello District, and one new territory was documented in 2012 surveys.

Trends

The current range-wide population trend is uncertain, and apparently varies among different regions occupied by the metapopulation (NatureServe 2015). A status review (USFWS 2013) noted that the increased number of areas occupied since 1995 does not indicate an increase in abundance, but is a positive indicator. Occupancy in known territories has been stable on the Forest.

The limiting factors to the population are the availability of nesting/roosting habitat, prey availability and competition for nest habitat from other raptors. Specific threats to the population in the Colorado Plateau area are high levels of recreation in canyon habitat, overgrazing, road development in canyons, oil/gas/mining development and catastrophic fire and timber harvest in upland forests (USFWS 2012).

Designated Critical Habitat

Within the four corners states, there is 8.6 million-acres of federal land designated as critical habitat for the MSO. The Manti-La Sal National Forest contains 202,825-acres accounting for ~9% of MSO designated critical habitat within Utah. There are 7 Protected Activity Centers (PACs) around known breeding territories designated on the Forest, totaling 6,865 acres with additional management restrictions.

Table 2. Acres of designated critical habitat for MSO on federal lands within AZ, CO, NM and UT.

Area	Designated MSO critical habitat (acres)
Federal land in AZ, CO, NM and UT	8.6 million
Utah	2,252,857
MLNF*	202, 825
Protected/restricted habitat within designated critical habitat on MLNF*	115,573

**There is additional suitable habitat on the MLNF meeting the primary constituent elements outside of the designated critical habitat.*

Data Gaps

Additional inventory in suitable habitat.

Southwestern Willow Flycatcher (*Empidonax traillii extimus*)

Existing Conditions

One of four subspecies of willow flycatcher, the migratory southwestern willow flycatcher (SWWF) occurs in New Mexico, Arizona, southern California, and the southern parts of Utah and Colorado. The SWWF is a riparian obligate species, nesting in dense clumps of willow or shrubs with similar structure (alder, some tamarisk) along low-gradient streams, wetlands, beaver ponds, wet meadows and rivers. Dense bunchy multi-stemmed shrubs appear to be a crucial habitat element, though continuous dense acreage is not required (ie, openings often present). Thickets of trees and shrubs approximately 4-7 m tall, with a high percentage of canopy cover and dense foliage from 0-4 m off ground, form preferred nest sites for this bird.

The US Fish and Wildlife Service listed the southwestern willow flycatcher as an endangered species in 1995 (USFWS 1995b). This migratory bird is endangered by extensive loss and alteration of riparian habitat, and by brood parasitism in some areas. River and stream impoundments, ground water pumping, and overuse of riparian areas have altered up to 90 percent of the flycatcher’s historical habitat (USFWS 2004).

Range maps for SWWF often include southeastern Utah, and the 2002 Recovery Plan (USFWS) included the Monticello district of the Manti-La Sal National Forest in the Upper Colorado Recovery Unit. Critical habitat designated in 2013 included portions of the Virgin River, Paria River and

San Juan River in Utah (USFWS 2013). Identification to subspecies may be problematic near the limits of SWWF range, eg in southern Utah. Research on distribution by song differentiation indicates that pure strains of *Empidonax traillii extimus* may occur at low elevations (<4500') as far north as 37° N latitude (the Utah-Arizona state line) (Sedgwick 2001). DWR surveys (Wright and Couch 2006) did not find any breeding willow flycatchers south of 38°N or identify any suitable habitat on NFS lands. Some conflict exists as to whether the range of this subspecies extends any farther north than 20 miles into Utah. However, the USFWS Utah Field Office still considers the Colorado and Green River drainages through San Juan, Grand and Emery counties as potential habitat.

Trends

The trend in resident populations in areas monitored in AZ, NV and CA has shown an annual decline (McLeod and Pellegrini 2013).

Surveys to date have not located any southwestern willow flycatchers on the Manti-La Sal National Forest, though not all potential habitat has been surveyed according to protocol. Suitable and potential habitat as described by the USFWS does occur, in willow patches along waterways or near small lakes or wet meadows. The amount of suitable habitat is limited along the predominantly intermittent streams and narrow canyon systems on the Monticello District.

Data Gaps

Updated distribution and range maps.

Yellow-billed Cuckoo (*Coccyzus americanus*)

Existing Conditions

The yellow-billed cuckoo is a riparian obligate bird that feeds in cottonwood groves and nests in willow thickets. It migrates to South America for the winter and arrives in the US in late May or early June. It migrates south in August. These birds have the shortest combined incubation/nestling period of any bird species. It nests in open-cup structures that are small, flat, shallow and flimsy made of twigs, vines and rootlets. Nest sites have been correlated with large and relatively large willow-cottonwood patches, dense understories, high local humidity, low local temperature, and in proximity to slow or standing water. Their habitat requirements include low dense understories with branches 3-5 m (9-15 feet) above the ground, typically willow. They are rarely found in forest patches less than 24 ha (59 acres) in size. They feed on insects, primarily caterpillars and grasshoppers.

In addition to outright destruction of riparian habitat, the yellow-billed cuckoo is intolerant of forest fragmentation. Overgrazing is thought to be a significant threat to the yellow-billed cuckoo range wide (USFWS 2001). Grazing may reduce or eliminate the willow understory and the recruitment of cottonwoods by trampling and grazing of young shoots. The invasion of tamarisk generally means extirpation of willow-cottonwood complexes. Water diversions, damming and conversion to agriculture have also diminished willow-cottonwood complexes.

The yellow-billed cuckoo was listed as a Threatened species on October 3, 2014. Critical habitat was proposed in November 2014, and the current maps do not include any lands on the Manti-La Sal National Forest. Since 1990 there have been several casual observations of yellow-billed cuckoos in southeastern Utah, including breeding along the Colorado River in Moab and birds located along the Green, San Juan and Dolores Rivers. No birds have been observed on the Moab/Monticello District. No observations have been made on the North Zone of the Forest. The required dense, deciduous, multi-storied, low-elevation riparian forest is not available on any of the districts.

Trends

Yellow-billed cuckoos are rare west of the Rocky Mountains and populations in Utah have experienced significant declines (Utah Wildlife Action Plan Joint Team 2015) and the distribution and habitat use in the state is poorly understood. This species is not well monitored by the Breeding Bird Survey for any part of its range (Utah Wildlife Action Plan Joint Team 2015).

Little work had been consistently done on this elusive bird, and no effort had been made to define potential breeding areas, derive a population estimate for the state, or to establish breeding habitat associations for Utah-specific habitat conditions (Utah Wildlife Action Plan Joint Team 2015).

The UDWR has surveyed for yellow-billed over the last several years. One of the survey areas is in Huntington Canyon beginning approximately 1.5 mi NW of Huntington City on SR 31 to Deer Creek. Those surveys have resulted in 3 observations of yellow-billed cuckoo within the Huntington area, occurring in June 2003, July 2012, and August 2012 (UDWR, Personal Communication 2017). All three observations were adjacent to irrigated farmlands in the lower part of the canyon. The DWR's predictive model indicates that habitat for the yellow-billed cuckoo only occurs along Huntington Creek and does not go any further up Huntington Canyon than approximately 3 miles past the junction of SR 10 and SR 31 (UDWR, Personal Communication 2017).

Data Gaps

Detailed occurrence data for this species within the Forest's boundary and neighboring areas.

Canada lynx (*Lynx canadensis*)

Existing Conditions

The Canada lynx is a medium-sized wild cat with a large home range based largely on the availability of their primary prey, snowshoe hare (*Lepus americanus*). The cyclic nature of lynx population numbers can be directly tied to cycles in hare populations. Lynx will feed on other small mammals and birds such as squirrel, beaver and grouse in the summer or when hare numbers are low. Canada lynx primarily occupy alpine, conifer and mixed conifer forests in boreal and montane regions, with a key element of cold winters with deep snow. They typically den in hollow trees, under stumps or in thick brush. Dens are found in old growth forests with a high density of logs. Three primary habitat components for lynx include foraging habitat that supports snowshoe hare and provides for hunting cover, denning habitat of old spruce/fir forests and dispersal habitat with varied vegetative composition and structure.

The primary factor that caused the lynx to be listed in 2000 was the lack of guidance for the conservation of lynx and snowshoe hare habitat in federal land management plans. Conservation agreements are now in place, but a final recovery plan has been delayed by challenges over listing status, distinct population segments and critical habitat designation.

The primary concern for Canada lynx is habitat loss/fragmentation and loss of connectivity between populations. In the contiguous U.S., overall numbers and range are substantially reduced from historic levels. Other factors impacting their existence include road system expansion, urbanization, agriculture, trapping, recreational development (ski areas) and fire suppression effects to forest structure. There is also concern over competition with bobcats and coyotes in some areas.

South Zone

Lynx have been transplanted into southwestern Colorado. Several individuals have dispersed into Utah, but no known breeding populations have been established in the state. The USFWS Utah Field Office does not recognize the Moab and Monticello District of the Manti-La Sal National Forest as potential lynx habitat. Lynx are on the list for Montrose County in Colorado due to potential habitat on the Uncompahgre Plateau. There is no snowshoe hare population on the La Sal Mountains in Utah or Colorado. In addition, the portion of the Moab District that falls within Colorado is predominantly ponderosa pine (*Pinus ponderosa*), pinyon/juniper (*Pinus edulis/Juniperus utahensis*) and mountain brush. These vegetation types do not contain the fundamental elements considered necessary for lynx habitat (USFWS 2009b). Lynx are well-known long-distance dispersers. Any individuals on the La Sal or Abajo Mountains would be dispersing/transient lynx, which may be found in completely unsuitable habitats.

North Zone

Prior to 2001, there was only one historic record of a lynx specimen from the Wasatch Plateau (Durrant, 1952) but no recent confirmed sightings. The Manti-La Sal National Forest participated in a three-year nation-wide survey for Canada lynx from 1999 through 2001. There was one lynx detection in 2001 in the Joe's Valley area of the Manti-La Sal National Forest. Motion detection cameras were set up in this area following this detection but did not capture any photos of lynx. It was not known at the time if the hair sample was from a resident or dispersing lynx, but due to the low number of lynx sightings and detections on the Wasatch Plateau, the detection was thought to be from a disperser rather than a resident. The USFWS later concluded that lynx occurring in Utah are dispersers rather than residents because there is no evidence of lynx reproduction in Utah and most of the few existing records correspond to cyclic population highs (USDI, U.S. Fish and Wildlife Service 2003). Also, the boreal forest habitat in Utah is remote and far from source lynx populations (USDI, U.S. Fish and Wildlife Service 2003).

Trends

No local trend data available.

Data Gaps

None identified.

Species of Conservation Concern (SCC)

Per the 2012 Planning Rule, each Forest must review all known species, flora and fauna, that occur within the Forest boundary to see if they qualify as an SCC species per the directives (Appendix 1). Additional information on the evaluation process and the individual species evaluation sheets can be found in the MLNF Potential SCC Review Final Procedural Report (Cummins 2017) and the Final Species Evaluation Report (Cummins et al 2017).

Using BASI, the Regional Office identified seventy-six species for review by Forest specialists including 23 non-plant species. Of these, 10 non-plant species were recommended for further consideration.

American Pika (*Ochotona princeps*)

Existing Conditions

American pikas are small montane mammals related to rabbits (order Lagomorpha). Populations are widely distributed across the mountains of western North America. On the MLNF, the pika is found on the Wasatch Plateau and La Sal Mountains in high elevation, alpine habitats above 9000 ft in association with talus slopes. They are restricted to rocky talus slopes, especially the talus/alpine vegetation interface. Their den sites are under the rocks. They do not hibernate, but harvest grasses and forbs which are stored in hay piles for winter consumption, which is important for surviving long, severe winters.

Climate change is the primary threat to the species (USFWS 2010). Alpine ecosystems are considered one of the most sensitive habitat types to adverse impacts from climate change related stressors (IAP 2016). This threat may be direct (pikas are highly temperature-sensitive; increased ambient temperatures can result in death and reduce the area they can occupy) or indirect through changes in treeline, forage production and snowpack. Recent research has documented the loss of several pika populations in the state and region over the last 5 years due to climate related factors (Beever et al 2016). Grazing by domestic livestock and native or introduced ungulates may impact populations on a local level (USFWS 2010).

Trends

Limited survey data indicates a well-distributed and stable population, with high occupancy rates in suitable habitat on the La Sals, but on the Wasatch Plateau there is reduced distribution since 1985, with small isolated populations subject to elimination (UDWR 2009).

Data Gaps

Causes of observed population declines on Wasatch Plateau.

Black-rosy finch (*Leucosticte atrata*)

Existing Conditions

The black rosy-finch breeds in alpine areas, usually near rocky slopes and cliffs. Their nests are placed in cracks or holes of cliffs, on small cliff ledge under overhanging rocks, or under rocks in talus slides. The black rosy-finch feeds on seeds and insects. This species is mainly an altitudinal migrant, going to lower elevations if adverse weather occurs during winter. It winters in open country, including mountain meadows, high deserts and valleys.

Impacts from recreation activity are thought to be minor, as the species seems tolerant of human presence (Johnson 2002). Grazing (domestic livestock and/or introduced ungulates) would have a negative impact if it reduced food supply or resulted in an increase in brown-headed cowbirds (nest parasite) in alpine habitat (Johnson 2002). Climate change and resulting changes to snowpack (drought), treeline elevation, or breeding habitat quality, is considered to be a potential threat/risk (WAP 2015). The Partners In Flight Landbird Conservation Plan (Rosenberg et al 2016) includes the black rosy-finch as a Watch List species with extremely high vulnerability due to small population and range, high threats and range-wide declines.

Other considerations for local conservation concern are: limited range, specificity of habitat requirements and apparently low population numbers in the plan area. A resumption of hard rock mining in breeding habitat, or large-scale mining, development or habitat conversion in winter habitat may have negative impacts in some areas of its range.

Trends

Although not well-sampled by Breeding Bird Surveys due to its remote alpine habitat, trends are believed to be declining rangewide, and in combination with an overall small population size, it was considered a species of continental concern with extremely high vulnerability in 2016 Partners in Flight Landbird Conservation Plan (Rosenberg et al 2016). Trends specific to the Manti-La Sal National Forest have not been determined.

Data Gaps

Limiting factor (summer breeding range or winter range). Population using the Forest.

Boreal Toad (*Anaxyrus boreas*)

Existing Conditions

Habitats in the Southern Rocky Mountains include mainly subalpine lakes, reservoirs, ponds, creek pools, marshy areas, wet meadows, and adjacent terrestrial habitats. Individuals seeks shelter under logs or rocks or in rodent burrows or other below-ground spaces. Eggs and larvae develop in shallow areas of ponds, lakes, or reservoirs, or in pools of slow-moving streams (NatureServe 2015, UDNR 2003).

Genetic work indicates that the Utah population, along with those in Colorado and Wyoming form a clade, with one genetically unique population on one southern mountain range in Utah (WAP 2015). Populations are declining throughout their range (NatureServe 2015, IUCN 2007). Both Utah and Colorado have documented long-term declines in the populations for these species (SWAP 2015, UDNR 2003).

Sparse on Forest, one breeding population found last year (2015) on East Mountain. Additional survey work was completed in the 2016 field season for several locations on the Forest. Habitat management actions are planned for 2017.

Trends

This species is experiencing both short (10-30%) and long term declines (<50%) across its range (NatureServe 2015). Trend is unknown on Forest.

Data Gaps

Lack of available data to demonstrate distribution, trend and abundance across the Forest for this species.

Townsend's Big-eared Bat (*Corynorhinus townsendii*)

Existing Conditions

The Townsend's big-eared bat uses caves and mines year-round for maternity colonies and hibernacula. The greatest threats include disturbance and closure of abandoned mines and from white nose syndrome (WAP 2015). White-nose syndrome has not yet been documented as afflicting Townsend's big-eared bats, but this fungal disease of bats now occurs throughout much of the eastern portion of the range of *C. townsendii* (NatureServe 2015). Mortality associated with wind turbines is a potential threat (NatureServe 2015). This species is also particularly vulnerable to human disturbance at roost sites (UDNR 2003). Climate change-related impacts to pinyon-juniper, big sagebrush and riparian habitats from warming temperatures, drought, lower summer streamflows and increased wildfire (IAP 2016) may also adversely impact the species.

Trends

Generally rare, although they may be locally common near appropriate roosting habitat (WAP 2015). Found throughout Utah in a wide variety of habitats but closely tied to caves and abandoned mines (UDNR 2003). Populations thought to be declining over the long-term. Abundance and trend in the plan area are unknown.

Data Gaps

Location of important maternity/roosting and hibernacula sites.

Fringed Myotis (*Myotis thysanodes*)

Existing Conditions

Overall the fringed myotis is widely distributed in the western US, but the species is uncommon in Utah (UCDC 2016). It occurs primarily at middle elevations (2,400 to 8,900-ft) in desert, riparian, grassland, and woodland habitats. Caves, mines and rock crevices are important habitat components for roosting. This species forages primarily in close proximity to the tree canopy, and its diet includes beetles and moths.

There is a very high threat severity from invasive species including disease (white-nose syndrome) (WAP 2015). Habitat modification and human disturbance are also high risks (NatureServe 2015, UDNR 2000). The lower and mid-elevation habitats occupied by this species are vulnerable to changes from increased temperatures and severe or multiyear drought. This species relies on water sources and riparian areas; threats to these habitat types from climate-change related warming temperatures, decreased snowpack, shifting timing of snowmelt and lower summer streamflows could also impact this species (UDNR 2003, CNHP 2015).

Trends

Its abundance varies locally (WAP 2015, UDNR 2000). Abundance and trend in the plan area are unknown (UDNR 2003).

Data Gaps

Population trends on the Forest.

Greater Sage Grouse (*Centrocercus urophasianus*)

Existing Conditions

Scattered populations of *Centrocercus urophasianus* occur throughout UT, primarily in habitat dominated by sagebrush (*Artemisia spp.*), excluding the southeastern quarter of the state (UDNR 2003). The Utah Wildlife Action Plan (WAP 2015) estimates that within the state, current populations only cover 41% of historic habitat. State-wide, the UT greater sage-grouse population has declined since 1967, with the 2001 population estimated at 12,999 birds (UDNR 2002).

For the Manti-La Sal National Forest, the USDA, Forest Service, greater sage-grouse record of decision (2015), defines the desired habitat conditions as, "...large contiguous areas of native vegetation, approximately 6-to-62 square miles in area..." There are two distinct populations of greater sage that breed, nest, brood, and winter within the planning area. These two populations are the Wildcat Knolls and Horn Mountain populations located on the south end of the Wasatch Plateau in Emery and Sevier Counties, Utah. These two populations are within the Parker Mountain-Emery Sage Grouse Management Area (SGMA). A third population (Emma Park) is located on the north part of the plateau near Scofield Reservoir; however, this population breeds and nests outside the planning area and limited data suggests that they may potentially spend part of their life cycle (late-brood rearing) on or near the planning area. This population is part of the Carbon SGMA.

The elevations at Wildcat Knolls and Horn Mountain range from 8,200 – 9,500 ft. in elevation, characterized by sagebrush-steppe habitat, surrounded by escarpments with 500 – 1,000 ft. vertical cliffs on the eastern side of the plateau, deep canyons, and mountain habitats. Annual precipitation averages about 13 in. /year, the highest summer precipitation occurs in August (1.7 in) and the highest snowfall occurs in January – February (61 in) (Perkins 2010).

Sagebrush vegetation is comprised of Mountain big sagebrush (*Artemisia Nut. ssp. vaseyana*) and black sagebrush (*Artemisia nova*) types. Other species in the plant community include: serviceberry (*Amelanchier alnifolia*), birch leaf mountain mahogany (*Cercocarpus montanus Raf.*), and curl-leaf mountain mahogany (*Cercocarpus ledifolius*). Serviceberry occurs in areas with wetter and deeper soils. Mountain big sagebrush is primarily found in the drainage corridors, while black sagebrush, dwarf rabbit brush (*Chrysothamnus depressus*), and low rabbit brush (*Chrysothamnus visidiflorus*) occur on drier areas. Ponderosa pines are located around the edge of the escarpment and canyon slopes and aspen/conifer is located on the mountain slopes above these sites. Herbaceous vegetation is diverse with dominant grass species including mutton bluegrass (*Poa fendleriana*), letterman needlegrass (*Achnatherum lettermanii*), and Salina wildrye (*Leymus salinus*). Historic range seedings with smooth brome and crested wheatgrass has created monocultures in some areas that lack species diversity. These areas were treated at Wildcat Knolls in 2008 to try and restore forbs and grasses, important for sage grouse brood rearing. Plant community structure on the Horn Mountain is similar to Wildcat Knolls, except that mountain brush communities are more abundant, including: mountain mahogany (*Cercocarpus montanus*) and scattered pinyon pine (*Pinus edulis*) (Perkins 2010).

Trends

The sage grouse populations on Horn Mountain have been monitored since the late 1970's by USFS and UDWR Biologists. In 1987, UDWR biologists began translocating sage-grouse to the Wildcat Knolls area. Over a four year period, 53 sage-grouse were moved to the Wildcat Knolls site from various parts of the state. Prior to monitoring efforts that began in 1990, UDWR biologists did not record any sage grouse activity on the Wildcat Knolls area (Perkins 2010). 2016 Peak male lek attendance for Wildcat Knolls was 47, which was the highest ever recorded (USDA, Forest Service 2016). A winter count for both cocks and hens was conducted in 2006, with an estimated count of 100 birds.

On Horn Mountain, four leks have been monitored since 1990, with the highest number of birds coming from the South Horn lek. Peak male lek attendance in 2016 was 15, the highest ever recorded was 18 in 2006 (USDA, Forest Service 2016). Sage grouse have never been translocated to the Horn Mountain study area (Perkins 2010).

Trend within the planning area seems to be stable to slightly increasing; however, these populations will never increase by more than 100-200 birds based on habitat and geographic restrictions (Messmer, Personal Communication 2008).

Data Gaps

None identified.

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Aquatic Wildlife

Threatened, Endangered, Proposed, Candidate

There are county lists that include all Federally Threatened and Endangered (T&E) species recorded within that county. The Forest boundary crosses 10 counties within Utah and Colorado. Within those counties, federally listed T&E that are recorded within one (or more) of the counties, but not known to occur on the Forest include:

Bonytail (*Gila elegans*)

Humpback chub (*Gila cypha*)

Pikeminnow (*Ptychocheilus oregonensis*)

Razorback sucker (*Xyrauchen texanus*)

It is important to note that although these four species do not occur within the plan area, actions such as water withdrawals that may be taken on within the Forest boundary have the potential to impact these species and must be considered.

At this time, there is one population of cutthroat trout that is currently identified as Greenback cutthroat trout (*Oncorhynchus clarkia stomias*) within the Forest boundary. Recent DNA analysis indicates that the greenback cutthroat trout population currently identified on the Forest are actually a sub-species of the Colorado Cutthroat trout. This species is discussed in further detail below.

Greenback Cutthroat Trout (*Oncorhynchus clarkia stomias*)

Existing Conditions

Recent DNA analysis indicates that the greenback cutthroat trout population currently identified on the Forest are actually a sub-species of the Colorado Cutthroat trout.

This species requires cool, clear water and well-vegetated streambanks for cover and bank stability; instream cover in the form of deep pools and boulders and logs also is important; adapted to relatively cold water, thrives at high elevations (NatureServe 2015). The Utah Wildlife Action Plan (2015) estimates that this species currently inhabits approximately 1/3 of its available habitat.

Historically, natural system modification from mining, agriculture, water and other development contributed to the extirpation or reduction of large numbers of populations of Colorado River cutthroat trout. Currently, the introductions and invasions of nonnative trout probably represent the greatest cause of recent declines and the major impediment to restoration of this fish in much of its historical range. Many populations appear to remain vulnerable to this threat either because barriers to ongoing invasions are absent or because existing barriers may be temporary or have

nonnative fish passed over them illegally. Ironically, the barriers themselves pose a threat because most populations of Colorado River cutthroat trout are restricted to short, headwater stream segments (SWAP 2015, USDA 2008).

Climate change is an additional threat to cutthroat trout species. Potential impacts from a changing climate include: warming air temperatures and potential changes in the amount, timing, and type (snow versus rain) of precipitation (IAP 2016). The scale and location of these changes, these will generally combine to cause warmer water temperatures, earlier snowmelt runoff, earlier declines to lower summer baseflows, and downstream contraction of perennial flow initiation from headwaters. Warming temperatures are expected to result in habitats for trout to continue to shift upstream; over the last four decades, this has been occurring at a recently estimated rate of 1000-1600 ft/decade. Additionally, smaller snowpacks and earlier runoff are projected to continue reducing habitat volume and size while potentially increasing fragmentation.

Lack of connectivity to other populations renders them vulnerable in the short term to extirpation from natural disturbances such as fire, post-fire debris torrents, or floods and in the long term to loss of genetic variability and the potential for evolving in response to changing environmental conditions. This lack of connectivity also contributes to the greatest future threat to the persistence of this subspecies—climate change (WAP 2015, SWAP 2015, USDA 2008, IAP 2016).

Additional threats include incompatible agriculture, energy production, transportation and service corridors (SWAP 2015).

Trends

The distribution of the Bonneville, Colorado River, Yellowstone and Westslope cutthroat trout has declined >50% (IAP 2016).

Data Gaps

Completion of the Cutthroat trout DNA analysis.

Species of Conservation Concern (SCC)

Per the 2012 Planning Rule, each Forest must review all known species, flora and fauna, that occur within the Forest boundary to see if they qualify as an SCC species per the directives (Appendix 1). Additional information on the evaluation process and the individual species evaluation sheets can be found in the Final MLNF Potential SCC Review Procedural Report (Cummins 2017) and the Final Species Evaluation Report (Cummins et al 2017).

Using BASI, the Regional Office identified seventy-six species for review by Forest specialists including 23 non-plant species. Of these, 10 non-plant species were recommended for further consideration.

Bluehead Sucker (*Catostomus discobolus*)

Existing Conditions

Bluehead suckers are found in most historical habitats although declines have been noted in the White River and in the upper Green River into Wyoming (UDWR 2005). The International Union for the Conservation of Nature (IUCN) lists the status of the entire bluehead sucker population as 'stable' (IUCN 2007). The species is locally abundant in all of the three major sub-drainages of the San Rafael River. In the Bonneville Basin, Weber River, blueheads were found in 2003 and 2004; but not in streams surveyed in 2005 (UDWR, 2005).

Bluehead sucker are found in the mainstem Green, Colorado, and San Juan rivers, including the Duchesne, White, Strawberry, Price, San Rafael, Fremont, and Escalante rivers and Muddy Creek tributaries. They are also found in the Weber, Ogden, and Bear Rivers in the Bonneville basin (UDWR 2005). Within the planning area, surveys conducted by Forest Service biologists in 2012 and 2014 found bluehead suckers in both Ferron and Lowry creeks (MLNF 2012, MLNF 2014). There are no other populations that have been found within the planning area.

Trends

There is no data available to establish a trend for the Forest's populations of this species.

Data Gaps

Lack of available data for local populations.

Bonneville Cutthroat Trout (*Oncorhynchus clarki utah*)

Existing Conditions

This species occurs within the Bonneville Basin streams and lakes and also occurs within a limited portion of the Virgin River Drainage (UDNR 2003). Most are found in the headwater streams and high-elevation river reaches, but a few populations occur in perennial streams located in the Deep Creek Mountains

Trends

Populations of this species are much reduced from historical levels (UDNR 2003). The distribution of the Bonneville, Colorado River, Yellowstone and Westslope cutthroat trout has declined >50% (IAP 2016). On the Forest, populations are sparse due to diversion and other non-native species, mostly in headwaters, trend is stable moving slightly upward with conservation efforts (P. Manders pers. obs. 2016)

Data Gaps

Lack of available data to demonstrate trend and abundance across the Forest for this species.

Colorado River Cutthroat Trout (*Oncorhynchus clarki pleuriticus*)

Existing Conditions

This species requires cool, clear water and well-vegetated streambanks for cover and bank stability; instream cover in the form of deep pools and boulders and logs also is important; adapted to relatively cold water, thrives at high elevations (NatureServe 2015). The Utah Wildlife Action Plan (2015) estimates that this species currently inhabits approximately 1/3 of its available habitat.

Historically, natural system modification from mining, agriculture, water and other development contributed to the extirpation or reduction of large numbers of populations of Colorado River cutthroat trout. Currently, the introductions and invasions of nonnative trout probably represent the greatest cause of recent declines and the major impediment to restoration of this fish in much of its historical range. Many populations appear to remain vulnerable to this threat either because barriers to ongoing invasions are absent or because existing barriers may be temporary or have nonnative fish passed over them illegally. Ironically, the barriers themselves pose a threat because most populations of Colorado River cutthroat trout are restricted to short, headwater stream segments (SWAP 2015, USDA 2008).

Climate change is an additional threat to cutthroat trout species. Potential impacts from a changing climate include: warming air temperatures and potential changes in the amount, timing, and type (snow versus rain) of precipitation (IAP 2016). The scale and location of these changes, these will generally combine to cause warmer water temperatures, earlier snowmelt runoff, earlier declines to lower summer baseflows, and downstream contraction of perennial flow initiation from headwaters. Warming temperatures are expected to result in habitats for trout to continue to shift upstream; over the last four decades, this has been occurring at a recently estimated rate of 1000-1600 ft/decade. Additionally, smaller snowpacks and earlier runoff are projected to continue reducing habitat volume and size while potentially increasing fragmentation.

Lack of connectivity to other populations renders them vulnerable in the short term to extirpation from natural disturbances such as fire, post-fire debris torrents, or floods and in the long term to loss of genetic variability and the potential for evolving in response to changing environmental conditions. This lack of connectivity also contributes to the greatest future threat to the persistence of this subspecies—climate change (WAP 2015, SWAP 2015, USDA 2008, IAP 2016).

Additional threats include incompatible agriculture, energy production, transportation and service corridors (SWAP 2015).

Trends

The distribution of the Bonneville, Colorado River, Yellowstone and Westslope cutthroat trout has declined >50% (IAP 2016). Common where populations have been located within the planning area, mostly in headwaters, the local trend is stable, moving slightly upward with conservation efforts (P. Manders pers. obs. 2016).

Data Gaps

Completion of the Cutthroat trout DNA analysis.

Utah Sallfly (*Sweltsa cristata*)

Existing Conditions

This species is known to occur in 3 locations in the La Sal and Abajo Mountains (Baumann 2006). The aquatic nymphal stage occurs only in spring brooks and small headwater streams with low flow and cold, clean water with high dissolved oxygen content. The adults are weak flyers, and thus poor dispersers, and need a water connection to link habitats.

The species has a very limited known range (Call and Baumann 2002). It is extremely sensitive to pollution and sedimentation, including from livestock and other uses (Baumann 2006). Water diversions and a continually increasing demand on fresh water resources in Utah contribute to habitat alteration and fragmentation (Call and Baumann 2002, Baumann 2006). Drought and changing climate conditions also pose a threat to this species.

Trends

There is not sufficient information to determine population trend.

Data Gaps

There is not sufficient information to determine population trend.

Terrestrial Vegetation

Scale

LTAs and vegetation communities are the levels of focus used for analysis.

Indicators

The indicators used in the assessment of wildlife species are habitat are ecological conditions/habitat for each species. Population information is used where available.

Threatened, Endangered, Proposed, Candidate

The Manti-La Sal National Forest has only one species under the Threatened, Endangered, Proposed or Candidate category. That species is *Astragalus montii* Welsh, and will be discussed below.

Heliotrope milkvetch (*Astragalus montii* Welsh)

Existing Conditions

The 1986 Forest Plan identified ASMO11 as a Forest Sensitive, with a note that it was proposed for listing. Currently the MLNF and the US Fish and Wildlife Service (USFWS) are cooperating to develop a *Recovery Monitoring Plan* for the Heliotrope milkvetch.

Threatened. ASMO11. Heliotrope milkvetch is currently known from three locations on the southern portion of the Wasatch Plateau. ASMO11 occurs in WP_LTAG2, this land type is on the Wasatch Plateau and is characterized by glacial cirques and slopes, in Flagstaff Limestone. Vegetation includes spruce/fir, high mountain brush, forbs, and grasses. WP_LTAG4 is also on the Wasatch Plateau, it is characterized by plateau tops in Flagstaff limestone. Vegetation communities are the same as WP_LTAG2.

“Known from the Tertiary Flagstaff Limestone in openings in spruce/fir forest, or at plateau margins, at ca 3350 to 3450 m on the Wasatch Plateau, in San Pete [sic] and Sevier (White Mountain) cos.” (Welsh et al. 2015). High elevation, windblown ridges, and snowdrift sites (Thompson nd). Plants occur on all exposures but most seem to occur on south and west aspects, slopes range from 0-10% (Thompson nd).

Stressors have reported to be livestock grazing, ATVs, and mining. However, Tuhy (1988) argued that livestock grazing is of little consequence and may actually reduce competition from other species. In 2015 the MLNF installed a log fence to prevent ATV access across White Mountain.

Trends

Heliotrope milkvetch was discovered by M. Lewis and R. Thompson in 1976 (Welsh 1978). In 1988, Tuhy submitted a report to the MLNF regarding the status of ASMO11. His report considered the three known locations where the plant occurs. Tuhy (1988) reported that Heliotrope Mtn site had an estimated 1,500-2,000 plants the Ferron Mtn site-conceivably 400,000 plants, and White Mtn site-conservatively estimated at 460,000 plants. Figure 1 graphs the number of plants recorded at the Heliotrope Mountain study plot for the seven years data was collected. At that time Tuhy (1988) felt that precipitation (too much) may be a factor in the decline of plant numbers in 1984 and 1985. He also argued that livestock grazing is of little consequence and may actually reduce competition from other species growing near ASMO11.

In 2015 a group from the Forest, Region, and the USFWS surveyed for the plant on Heliotrope Mtn. The plant was relocated in previously known locations and in two unrecorded locations with an estimated population of 65 plants in one of the new locations.

In 2015 a survey of Heliotrope Mountain located 9 small populations on the northern portion of the plateau.

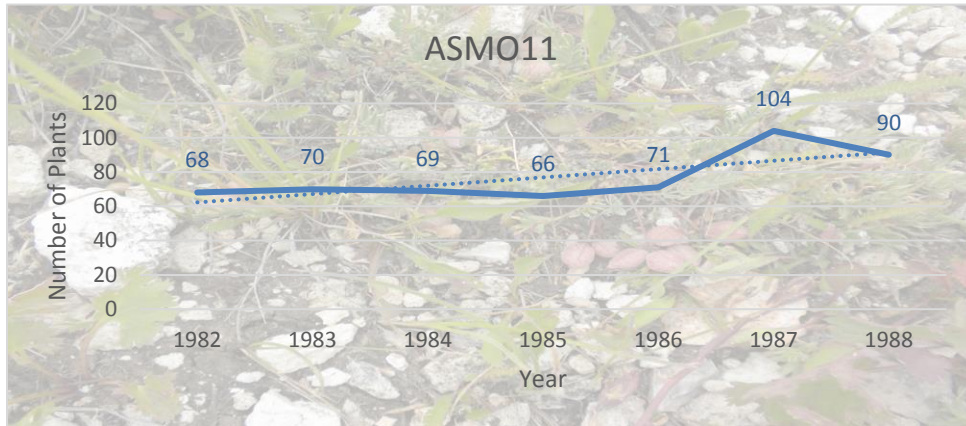


Figure 1. Number of ASMO11 plants recorded each year of the study conducted on Heliotrope Mountain.

In July 2016 a survey for ASMO11 was conducted by the MLNF Ecologist on Black Mountain, west of Heliotrope Mountain. No plants were found nor did the area appear to be suitable habitat.

Data Gaps

Forest needs to determine plant population. Additionally, it may be conducive to relocate the original study plots established in the 1980's in order to track trend..

Species of Conservation Concern (SCC)

The forest is currently recommending 12 plant species to the Regional Forester for further consideration as SCC. Several of these species are located within the same community type and share similar threats.

Isely's Milkvetch (*Astragalus isleyi* Welsh)

Existing Conditions

This spring-blooming milkvetch is endemic to the west slope of the La Sal Mountains in Grand and San Juan Counties (Franklin 2005). It is found only in desert shrub and pinyon-juniper communities at 5000-6600 ft in elevation on sandy to gravelly clay, saline and selenium soils derived from the Mancos and Morrison formations. The species has a narrow range, and a small population on BLM and USFS lands. Mining, recreational use, especially off-road motorized use, are the biggest threats to the species and its habitat. Other impacts in occupied habitat are from powerline maintenance, dispersed camping, and unauthorized roads. The potential effects of severe drought, increased wildfire and other climate change

related impacts are unknown. Petitioned and under status review (USFWS 2009) with a finding that listing may be warranted. It is also a BLM sensitive plant species and a UNPS (2016) Rare Plant List “Extremely High Priority Species”.

Trends

While population numbers may be highly variable between years depending on spring precipitation, the overall population appears stable as all currently known habitat areas have remained occupied.

Data Gaps

None identified.

La Sal Daisy (*Erigeron mancus* Rydberg)

Existing Conditions

This alpine daisy is endemic to the La Sal Mountains (Welsh et al 1993). It occurs on the peaks above timberline in grass-sedge and forb communities at elevations of 9,900-12,200 feet. The species appears locally abundant in suitable sites, but it is restricted to the narrow spine of the La Sal range.

Increasing recreational activity was identified as a potential threat by Franklin (2005). The narrow alpine habitat of the La Sal Mountains is experiencing increased traffic by recreational users and introduced mountain goats (MLNF 2016, Smith and Fowler 2015, Wild Utah Project 2015). Trampling, excessive grazing and other localized site disturbance could have adverse impacts to the population. The combination of the effects of climate change could compound with the effects of other threats (NatureServe 2015). A portion of the habitat on the northern portion of the peaks has patented mining claims with a potential for exploratory activities in the future.

Trends

A study in 2008 did not find evidence for widespread impacts on the alpine turf habitat in the middle group of the La Sals (Smith 2008). The impact study plots were re-sampled in 2015, and while some localized impacts were recorded, there was no evidence of widespread adverse effects (Wild Utah Project 2015). Monitoring of alpine vegetation, focused on La Sal daisy and associated cushion plant species, was initiated in 2014 in response to the introduction of non-indigenous mountain goats (MLNF 2016). Additional research on the elevational distribution of La Sal daisy and associated species was conducted to establish baseline information on the population and identify potential climate change impacts (Fowler and Smith 2010). The elevational transect was resampled in 2015, and preliminary analysis of the data shows no change in population density or elevational centroid (Smith and Fowler 2015).

Data Gaps

Continue surveying and mapping of occupied habitat in the La Sal Mountains.

Baker's Oreoxis (*Oreoxis bakerii* Coulter & Rose)

Existing Conditions

In Utah, this spring-parsley species is found only in the La Sal Mountains in alpine grass-forb communities above 11,500 ft.

No specific threats to the species have been identified, however increasing recreational activity has been identified as a potential threat to other alpine plant species (NatureServe 2015 and Franklin 2005). The narrow alpine habitat of the La Sal Mountains is experiencing increased traffic by recreational users and introduced mountain goats (MLNF 2015, Wild Utah Project 2015). Wild Utah Project (2015) noted “evidence of goat wallowing and grazing impacts to soil and vegetation, including uniformly grazed *Oreoxis bakeri*.” Trampling, excessive grazing and other localized site disturbance could have adverse impacts to the population.

Trends

No trend data has been reported. The species has been recorded during 2015-2016 alpine vegetation monitoring, and occurred on ~25% of the alpine cushion plant monitoring sites (n = 68)(MLNF 2015). It has been noted that the species is very difficult to distinguish in the field from the sympatric and nearly identical *Oreoxis alpina*.

Data Gaps

Comprehensive survey data.

La Sal Mountains' Groundsel (*Senecio fremontii* var. *inexpectans* Cronquist)

Existing Conditions

This species inhabits alpine ridge crests and talus slopes, and is endemic to the La Sal Mountains (Franklin 2005). It is highly associated with snow cornices, swales and drainage bottoms where snow lingers into June. Modeling of *Senecio fremontii* var *inexpectatus* habitat indicated approximately 500 acres of potential habitat in the La Sal Mountains. Surveys to date have documented 20 acres of occupied habitat (MLNF 2015).

Increased recreation activity within the limited alpine habitat on the La Sal Mountains has been noted as a potential threat to the species (NatureServe 2015, Franklin 2005). The narrow alpine habitat of the La Sal Mountains is experiencing increased traffic by recreational users and introduced mountain goats. Trampling, excessive grazing and other localized site disturbance could have adverse impacts to the population. The barren areas where this species tends to grow, in steep, loose and rocky soils, are especially susceptible to disturbance and erosion.

Recent monitoring (MLNF 2015) has noted fall browsing on *Senecio fremontii* var *inexpectatus* by introduced mountain goats, which could pose a threat for a species which relies solely on seeds for reproduction (Prendusi 2013). The combination of the effects of climate change could compound with the effects of other threats, especially for species which is closely tied to persistent snowbanks.

Trends

No population trend data is available.

Data Gaps

Additional survey/ground-truthing of habitat polygons.

Geyer's onion (*Allium geyeri* var. *chatterleyi*)

Existing Conditions

This wild onion is found in pinyon/juniper and ponderosa pine/manzanita community types where there is open, shallow, fine-textured sandy loam soil and rock outcrops. It occurs between 6,600 and 8,200 feet in elevation. The subspecies is a narrow endemic occurring on the west slope of the Abajo Mountains and Elk Ridge.

It has been found in the Chippean Rocks, Little Dry Mesa, Harts Draw and White Rim areas on the Monticello district. While it is not a preferred forage species and not sought out and consumed by livestock, it may be impacted by trampling. It appears to be grazed by wildlife, and showed no adverse population impacts from light-moderate fire (MLNF 2013). Off-road vehicle use threatens to impact the species in some areas.

Trends

The global short term trend for the species is stable (NatureServe 2015).

Data Gaps

Recent comprehensive surveys lacking.

Link Trail Columbine (*Aquilegia flavescens* var. *rubicunda*)

Existing Conditions

Aquilegia flavescens var. *rubicunda* (Aquilegia rubicunda Welsh *et al.* 2015) occurs in spring seeps and perennial wet sites at the bases of the Mesa Verde group sandstone. It was first collected in 1908 west of the town of Emery. Since then it has been found in four other areas including Straight Canyon, where a persistent population exists despite continued disturbance (rock and mud slides). Current population estimates range from 1,300 to over 1,700 plants. AQRU is reportedly impacted by livestock trampling, water trough developments, and road maintenance.

Trends

The plants continues to persist in well-traveled areas.

Data Gaps

The Forest needs to establish long term trend monitoring plots. Conduct additional surveys, including previously known locations, to determine extent of species.

Pinnate Spring-parsley (*Cymopterus beckii*)

Existing Conditions

A perennial herb in the carrot family up to 3 feet tall, pinnate spring-parsley produces bright yellow flowers in compact clusters in the spring. The habitat for this plant is characterized as sandy soils weathered from Navajo sandstone and on slickrock ledges and cracks. Occurrence includes crevices, and ledges from gradual to shear slickrock slopes from 6880 8200 ft. (Franklin 1992). . It is generally in association with ponderosa pine/manzanita and oakbrush/snowberry community types.

In the plan area, populations have been located on the Monticello district on Elk Ridge in the Cliff Dwellers Pasture, Causeway and Chippean Rocks areas. There are 8 element occurrences on the Forest totaling < 5000 plants (Franklin 1992). Franklin (1992) states that this plant is generally isolated and not subject to any evident threats. However, this species could be impacted by trampling/trailing by livestock and recreationists.

Trends

The Utah Natural History Programs' GIS data reports 45 collections from the plan area (UNHP 2015). NatureServe (2015) cites a 2012 report from the Utah Native Plant Society (UNPS) that states that the number of individuals has “greatly increased” across its range, which includes two widely scattered locations in Utah on the Abajo Mountains/Elk Ridge and in Capital Reef National Park and into Arizona and the Navajo Nation. Short-term trend is stable (NatureServe 2009).

Data Gaps

Recent comprehensive surveys lacking.

Kachina Daisy (*Erigeron kachinensis*)

Existing Conditions

This Colorado Plateau endemic is known from a few sites in southeastern Utah and adjacent Colorado. It has been found in widely scattered locations on the Monticello district and adjacent BLM land. It grows in seeps and hanging gardens on Mossback and Navajo sandstone

formations and in moist pockets on open slickrock in ponderosa pine habitat types at elevations of 7,000 to 8,000 feet (Welsh et al 1993, Atwood et al 1991).

This plant's habitat is specific to seeps and cracks within the fins and rock ledges of sandstone walls. Livestock grazing rarely disturbs this inaccessible habitat type within the canyons. Known populations in the plan area have not been adversely affected by fire (MLNF 2013). Identified threats include recreation (rock climbing) and drought (NatureServe 2015).

Severe drought or climate-related drying of springs and seeps may impact portions of this species habitat (CNHP 2015). In many areas on the Forest, the sandstone bedrock is very effective at collecting and channeling the limited precipitation to the cracks where this plant grows.

Trends

There are eighteen Element Occurrences documented for the MLNF with an estimated 2500-3000 plants, and numbers on adjacent BLM lands may be as high as 10,000 (Franklin 1992). The records (62) in the Utah Natural Heritage database are all from the early 1990's, and no further inventory has been done by the state. Known populations on the Forest appear stable (MLNF 2013). The known occurrences in the plan area are protected by inaccessibility of habitat, and are not threatened by management activities.

Data Gaps

Recent comprehensive survey.

Canyon Sweetvetch (*Hedysarum occidentale* var. *canone*)

Existing Conditions

Cronquist *et al.* (1989) place this species under synonymy with *H. occidentale*, along with *H. lancifolium*, *H. marginatum*, and *H. uintahense*. Their rationale for combining the five species is that leaflet, raceme, and calyx characteristics "...occur separately elsewhere in the whole range of *H. occidentale* and do not form a convincing diagnostic syndrome."

Welsh proposed the *canone* varietal level in 1978, eleven years prior to the Cronquist *et al.* determination so they had access to the Welsh determination and rationale. Welsh *et al.* (2015) cite the differences between var. *canone* and var. *occidentale* as; leaflet size, flower size, and locality, all of which have potential for overlap, or uncertainty when keying out the species.

The USDA (2016), NatureServe (2015), and ITIS (2016) follow Welsh *et al.* (2015) in nomenclature.

Trends

Trend is stable to upward. 2016 vegetation surveys indicated the plant to be common in the known locations in the plan area and moving into disturbed sites (road to Anderson Mine) (Fugal et al. 2016). In 2016 it was also located on BLM administered lands, in Cottonwood Canyon.

Data Gaps

No current population data. Lack extensive potential survey locations.

Navajo Beardtongue (*Penstemon navajoa*)

Existing Conditions

This species is endemic in extreme southeast Utah, San Juan County. Long known from only the upper elevations of Navajo Mountain on the Navajo Nation, recent collections place it at the head of Dark Canyon, on Chippean Ridge and in the Abajo Mountains on the Manti-La Sal National Forest. It is found at high elevations in ponderosa pine-mixed conifer, ponderosa pine-Gambel's oak, grassland meadow-ponderosa pine, and, at one of the newer locations, aspen-Gambel's oak communities" (Franklin 2005).

Potential climate change-related effects such as increased wildfire are not known to be a threat to this understory forb in the diverse fire-adapted habitats occupied by this species. It is considered secure and stable with no real threats on the Navajo Nation. There are no identified threats on NFS lands where this species occurs.

Trends

There is no information on the status of the Dark Canyon or Abajo Mountain locations, i.e., estimates of population size, habitat condition or potential threats (Franklin 2005).

Data Gaps

No known population or trend data available for the Forest.

Eastwood's Podistera (*Podistera eastwoodiae*)

Existing Conditions

This carrot-family species has been recorded during recent work in the La Sal Mountains, growing at the base of talus rock slides in open subalpine and treeline ecotone habitats (Fowler et al 2014, Smith et al 2014). It has not been found in La Sal alpine habitats during recent surveys (MLNF 2015). It is also found in Colorado and New Mexico (NatureServe 2015).

No specific threats to the species have been identified. Increasing recreational activity has been identified as a potential threat to true alpine plant species (NatureServe 2015 and Franklin 2005), however recreation does not have as much impact on the subalpine areas where this species is found. A small percentage of these areas are accessible and grazed by livestock. These areas are also utilized by pika (Smith et al 2014). Trampling, excessive grazing and other localized site disturbance could have adverse impacts to the population. However there is currently no evidence to indicate substantial concern for this subalpine species.

Trends

No abundance or trend data is available.

Data Gaps

Comprehensive survey is needed. The species is documented from only a few locations on the La Sal Mountains.

Arizona Willow (*Salix arizonica*)

Existing Conditions

Many more populations are known today compared to the mid 1990s when it was nearly listed under the Endangered Species Act. Some new population reports should be confirmed, however. Found mostly in riparian areas on volcanic soils, where threatened by livestock grazing. At least two small populations protected in Cedar Breaks NM. Can hybridize with *Salix brachycarpa* and not all populations may be genetically pure. Tends to form thickets which may represent few distinct genets (Alexander 2016). Only one population of 17 plants occurs on the Manti-La Sal NF (Thompson 1997) The majority of the populations (59) occur in Arizona (Thompson 1997).

Trends

Upward trend. Based on 2004 data, total SAAR14 plant cover (ft²) on the Forest increased 540% between the years 2001 and 2004

Data Gaps

Need current population and cover data.

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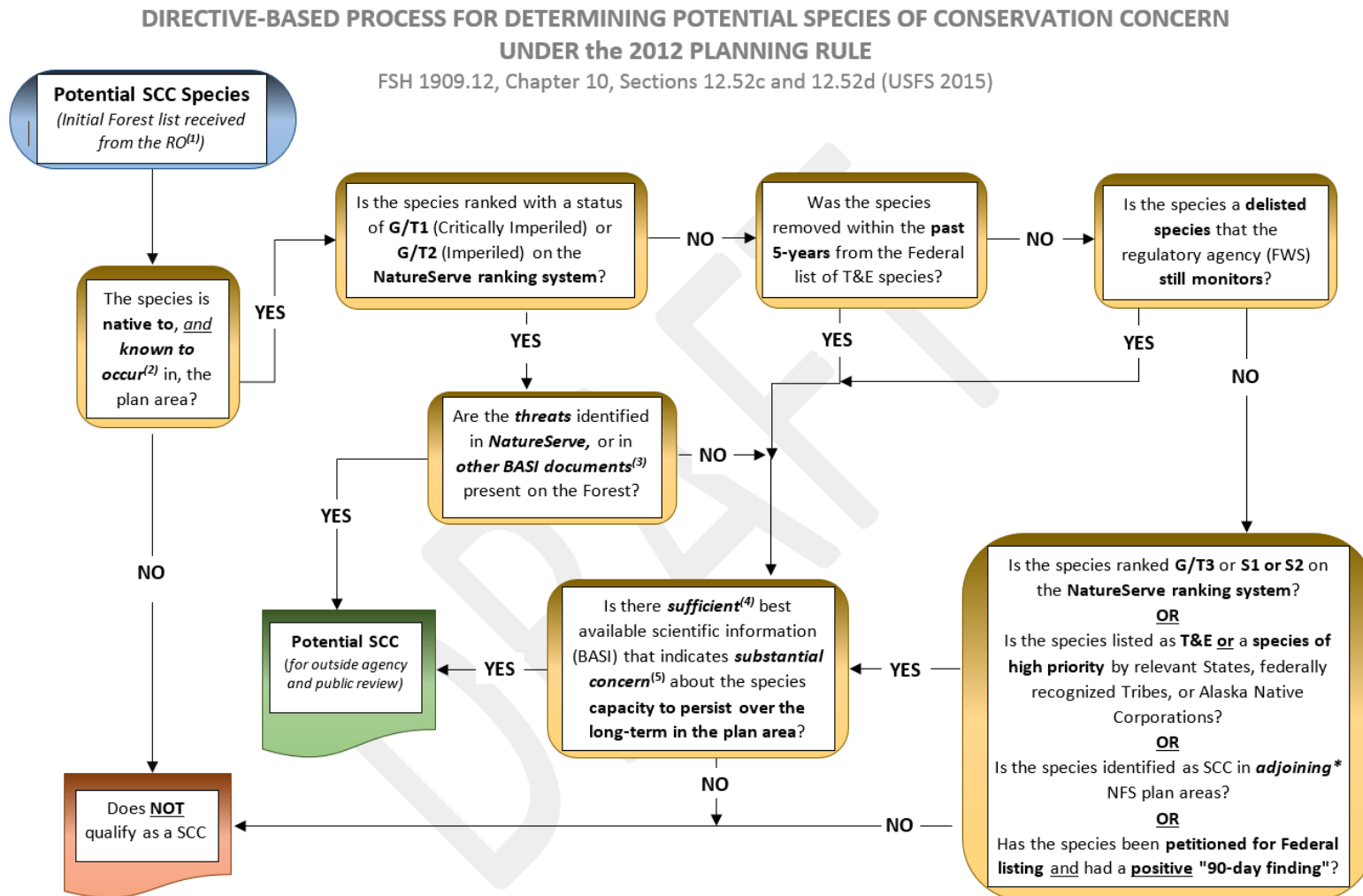
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Appendix A: Directive-based flow chart for evaluation of potential Species of Conservation Concern (SCC).



Species of Conservation Concern (SCC): "...is a species, other than federally recognized threatened, endangered, proposed or candidate species, that is known to occur in the plan area and for which the regional forester has determined that the best available scientific information indicates substantial concern about the species' capacity to persist over the long-term in the plan area." [USDA 2012; 36 CFR 219.9(c)].

Manti-La Sal Forest Plan Revision Assessments -
Topic 5 – At-risk Species

(1)	RO Species List	The initial Forest <i>“native and known to occur”</i> potential SCC species list is generated using BASI in the form of: (a) the USFS NRIS wildlife Database; (b) TESP database; (c) and the State Heritage database.
(2)	<i>“...native to and known to occur ...”</i>	<i>“An organism that was historically present in a particular ecosystem as a result of natural migratory or evolutionary processes and not as a result of an accident or deliberate introduction...”</i> (§219.19) <i>“A species is known to occur in a plan area if, at the time of plan development the best available scientific information indicates that a species is established or is becoming established.”</i> (FSH 1909.12(10)(12.52)).
(3)	Other BASI documents	In instances where there is not sufficient information for NatureServe to identify threats for a species, other BASI documents will be used if available. These include: (a) historical Forest documents (such as surveys and site visit information); (b) State Natural History species-related documents; and (c) additional information relating to the community type that species occurs in (such as the USFS Regional Intermountain Adaptation Partnership (IAP)).
(4)	<i>“...sufficient...”</i>	As available data and habitat condition varies between species, ‘sufficient’ BASI was deemed to have been met when BASI was available to address population/trend and distribution of a species in addition to any known threats. The determination of ‘sufficient’ BASI was on a species basis by IDT specialist*. *For a G1/T1 or G2/T2 designated species, a lack of available BASI to address all identified threats, OR a lack of any available BASI to identify threats, meets the criteria for ‘sufficient’ BASI to indicate “...substantial concern about the species capacity to persist over the long-term in the plan area.”
(5)	<i>“...substantial concern...”</i>	<i>“...best demonstrated by some combination of threats either directly or indirectly to its characteristic habitat: decline in the sizes and/or numbers of its populations and/or declines in its habitats.”</i> (USFS 2016)

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