

Species of Conservation Concern – Objection Response

Tonto National Forest Plan Revision process, objection instruction response
October 17, 2023

The review in response to the objection by Freeport McMoran found that the record did not clearly include background on adjustments made to the SCC list. Additional information related to the Sierra Ancha talussnail, A mayfly, Ancha mountainsnail, fringed myotis, Pale Townsend’s big-eared bat, Richinbar talussnail, and Roosevelt talussnail was requested.

Objection Instruction

Provide an account of the new information or changed circumstances that resulted in the inclusion of the seven species initially listed as not appropriate as SCC in the Assessment Report (a white paper or an update to the SCC list is sufficient for documentation). For those species with asterisks (*), also provide clearer documentation of their presence in the plan area (i.e., established or becoming established) and that there is substantial concern for their ability to persist in the plan area.

- Sierra Ancha talussnail*
- A mayfly
- Ancha mountainsnail*
- Fringed myotis*
- Pale Townsend’s Big-eared Bat
- Richinbar talussnail*
- Roosevelt talussnail*

Provide this additional documentation and rationale for the Tonto SCC list on the Forest’s SCC webpage.

Objection Instruction Response

The SCC objection instruction copied above has been addressed in Table 1. Account of new information or changed circumstances and rationale for inclusion as SCC and Table 2. Account of presence in the plan area and threats to species persistence in the plan area. A more complete account of each species of conservation concern is available in the final environmental impact statement, record of decision, and project record.

Table 1. Account of new information or changed circumstances and rationale for inclusion as SCC

Species	New information or changed circumstances	Rational for inclusion
Sierra Ancha talussnail*	Previously, this snail has been known from a single observation occurring on Reynolds Creek (three miles above Pleasant Valley Road, Reynolds Falls Asbestos Mine Gila County; Arizona, Alt. ca. 6,000 ft.; 13 adults,	The only known location for this species is associated with ponderosa pine-evergreen oak. This ERU is highly departed from historic conditions, largely as a result of fire exclusion, with infilling

	<p>A. M. Strong, May 1929) (Berry 1948). While considered possibly extirpated in the NatureServe database (NatureServe 2017), recent surveys by AGFD and U.S. Forest Service appear to have detected an additional specimen, though genetic tests are pending (Arizona Game and Fish, unpublished data). This talussnail has a G1 ranking which requires the forest to consider threats caused by stressors on and off the plan area. Additionally, during Tonto plan development, the revised AZGFD SGCN value changed from Tier 3 to Tier 2 (greater need for conservation).</p>	<p>of canopy gaps, increased tree density, and reductions in understory. These changes put this ERU at particular risk of uncharacteristic, high-severity fire. The 100-year projection is somewhat better, however, with a moderate departure forecast.</p> <p>If other populations of this species exists, they may be subject to reproductive isolation. Generally this is true of most Sonorella species as they tend to be highly endemic.</p> <p>Due to the lack of information regarding this species, its highly endemic nature, and the current NatureServe ranking, we have included it in our potential SCC list per the requirements of the 2012 planning rule.</p>
<p>A mayfly</p>	<p>A mayfly (<i>Fallecon eatoni</i>) was not included in the 2017 Assessment Report, but was included in the first SCC list approval by the Regional Forester in 2017. This species was inadvertently omitted, but should have been evaluated due the requirement to consider species with a G1 NatureServe ranking.</p>	<p>Restricted distribution and possibly low numbers are cited as reasons for concern for this species (McCafferty 2006), however, this suggestion may be somewhat dubious as population trend and distribution for this mayfly are generally unknown and surveys have not been conducted. Generally, mayflies in some areas of North America may be at risk due to existing or impending habitat degradation. Four North American mayflies (<i>Ephemera compar</i>, <i>Isonychia diversa</i>, <i>Pentagenia robusta</i>, <i>Siphonurus luridipennis</i>) have been considered extinct in recent years. (Purdue University Department of Entomology 1995.). While no specific threats are known for <i>Fallecon eatoni</i>, the aquatic and riparian habitats within the Lower and Upper Salt River zone are considered highly departed. Non-native, invasive species are widespread and common, and watershed flows and channels have been dramatically altered over time. These desert riparian ecosystems are considered at high risk in the future due to projected drought conditions and</p>

		<p>increasing water demand from the adjacent metropolitan area. Heavy recreation along some parts of the Salt River may also have an impact on rare aquatic species.</p> <p>Due to the possibility of small populations, overall risks to aquatic and riparian systems, and a NatureServe ranking of G1G2, we have included this mayfly in our list of potential SCC.</p>
Ancha mountainsnail*	<p>This talussnail was included due to better AZGFD information on occurrence, and the G1 ranking which requires the forest to consider threats caused by stressors on and off the plan area. Also, during the Tonto Plan development, the AZGFD SGCN value changed from Tier 3 to Tier 2 (greater need for conservation).</p> <p>This mountain snail is only known from a single collection by Walton and Gregg on Oct. 10, 1949 about three miles north of Reynolds Creek, Sierra Ancha, Gila County, Arizona at an altitude of about 7,200 ft (Gregg 1953). The specimens were found in limestone rockslides on the northeast slopes and appear to be sympatric with <i>Sonorella anchana</i> and <i>Sonorella strongiana</i> which were also found in the same area.</p>	<p>The known locality for this species suggests that it would be associated with Ponderosa Pine-Evergreen Oak and Mixed Conifer ERUs on the forest. These systems are moderately to highly departed at present, largely due to the increased potential for high-intensity fire. Such fire may pose a threat to snails by altering moisture regimes and needed vegetation. It has also been suggested that grazing may pose a challenge for some <i>Oreohelix</i> as they cannot move across heavily grazed areas (Arizona Game and Fish Department 2003c). The restricted distribution of <i>O. anchana</i> increases risk of population reduction or extinction due to chance events.</p>
Fringed myotis*	<p>Bats were added in part due to public comment and confirmation with the Arizona Game and Fish Department. During the Tonto Plan development, the AZGFD SGCN value changed from unassigned in 2012 to Tier 2 (greater need for conservation).</p> <p>Fringed myotis occur in middle elevations, in deserts, grasslands, and woodlands. They use a wide range of roosting habitats, including rock crevices, caves, mines, large snags, under exfoliating bark, and buildings (Arizona Game and Fish Department 2011).</p>	<p>Population modeling has suggested that fringed myotis maybe particularly susceptible to climate change effects in the southwestern U.S. (Arizona and New Mexico) as the region is projected to become drier and surface water more scarce (Hayes and Adams 2017). Human disturbance of roost sites is also considered a threat to the species, especially at maternity colonies. Disturbance could include recreational caving, mine exploration, abandoned mine closure, vandalization, timber harvest (loss of snags and roost sites), and destruction of buildings and bridges used for roosting (NatureServe 2020).</p>

		<p>This bat species is known to be affected by white-nose syndrome, and the fungus that causes the disease may have been detected on bats found in Arizona at Grand Canyon National Park (NPS New Release: Bat Fungus Potentially Detected at Grand Canyon). While population level effects are unknown, more information on abundance and trend is needed.</p> <p>While we have relatively little data on the local issues affecting fringed myotis, recent concerns expressed by local experts suggest the above concerns for this bat species are likely substantial (personal communication, Angie McIntire, Arizona Game and Fish Department Bat Biologist; and Aaron Sidder, Bat Conservation International). As such we are recommending fringed myotis as a potential SCC and have incorporated plan components to address needed ecological conditions in the revised forest plan.</p>
<p>Pale Townsend's big-eared bat</p>	<p>This species was included as potential SCC in part due to public comment and confirmation with the Arizona Game and Fish Department of the species importance. During the Tonto Plan development, the AZGFD SGCN value changed from Tier 3 in 2012 to Tier 1 (greatest need for conservation).</p> <p>All Arizona populations of Townsends big-eared bats are considered from the subspecies <i>C. t. pallescens</i>, one of two species in the genus <i>Corynorhinus</i> found in North America. This bat is a cave and abandoned mine obligate (Arizona Game and Fish Department 2003b) and is one of the mostly commonly encountered species in surveys of abandoned mines in Arizona, though rarely in large numbers (personal communication, Aaron Sidder, Bat Conservation International).</p> <p>Roosting habitat in summer includes caves, mines, and occasionally old buildings found</p>	<p>While it is difficult to assess the status of <i>C. t. pallescens</i> populations on the Tonto National Forest based on existing data, local species experts have voiced specific concerns that are supported by the literature available (personal communication, Angie McIntire, Arizona Game and Fish Department Bat Biologist; and Aaron Sidder, Bat Conservation International). The human population in Arizona has increased dramatically in recent years as have impacts from forest visitors. Mining, which has long and active history on the forest, as well as closures of abandoned mines closures are likely to be a continued issue for Townsend's big-eared bats. As such, we recommend <i>C. t. pallescens</i> as a potential SCC and have sought to include plan components that address corresponding ecological conditions.</p>

	<p>in desert scrublands to woodlands and coniferous forests. Winter hibernacula occurs in cold caves, lava tubes, and mines primarily in uplands and mountains (Arizona Game and Fish Department 2003b). Unlike a number of bats, this species prefers to hang from open ceilings at roost sites, generally avoiding the use of cracks and crevices (Arizona Game and Fish Department 2003b).</p> <p>It is thought that populations of <i>C. t. pallescens</i> are declining in the western part of its range as substantial declines have been documented in several western states (Gruver and D.A. 2006; NatureServe 2020).</p>	
<p>Richinbar talussnail*</p>	<p>This talussnail was added to the 2nd iteration of the SCC list (2019) in part due to public comment and confirmation with the Arizona Game and Fish Department of the species importance and considering it was now ranked as a G2 species which requires <i>consideration as we do not have sufficient data to suggest that they are secure on the forest</i>. During the Tonto Plan development, the AZGFD SGCN value changed from Tier 3 in 2012 to Tier 2 (great need for conservation).</p>	<p>Potential conservation concerns are generic to all land snail populations in the planning area, and may include: wildfires and prescribed burns, road and trail construction, and mining. Sonorella species are vulnerable to any disturbance that would remove talus or rocky habitat and increase interstitial sedimentation, and (for forest-dwelling species) any activities that open forest canopy, alter stream hydrogeomorphology, or otherwise change local moisture conditions may impact those populations (USDA Forest Service 1999). There is still uncertainty on what impacts climate change and prolonged drought in the American Southwest will have on native land snail populations (Sorensen et al. 2018).</p>
<p>Roosevelt talussnail*</p>	<p>This talussnail was added to the 2nd iteration of the SCC list (2019) in part due to public comment and confirmation with the Arizona Game and Fish Department of the species importance and considering it was now ranked as a G2 species which requires <i>consideration as we do not have sufficient data to suggest that they are secure on the forest</i>. During the Tonto Plan development, the AZGFD SGCN value changed from Tier 3 in 2012 to Tier 2 (great need for conservation).</p>	<p>Potential conservation concerns are generic to all land snail populations in the planning area, and may include: wildfires and prescribed burns, road and trail construction, and mining. Sonorella species are vulnerable to any disturbance that would remove talus or rocky habitat and increase interstitial sedimentation, and (for forest-dwelling species) any activities that open forest canopy, alter stream hydrogeomorphology, or otherwise change local moisture</p>

		conditions may impact those populations (USDA Forest Service 1999). There is still uncertainty on what impacts climate change and prolonged drought in the American Southwest will have on native land snail populations (Sorensen et al. 2018).
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Table 2. Account of presence in the plan area and threats to species persistence in the plan area.

Species	Presence in the plan area (i.e., established or becoming established)	Substantial concern for their ability to persist in the plan area. (Threats to Species Persistence FEIS Volume 2, Table 96)
Sierra Ancha talussnail	Previously, this snail has been known from a single observation occurring on Reynolds Creek (three miles above Pleasant Valley Road, Reynolds Falls Asbestos Mine Gila County; Arizona, Alt. ca. 6,000 ft.; 13 adults, A. M. Strong, May 1929) (Berry 1948). While considered possibly extirpated in the NatureServe database (NatureServe 2017), recent surveys by AGFD and U.S. Forest Service appear to have detected an additional specimen, though genetic tests are pending (Arizona Game and Fish, unpublished data). Generally, all <i>Sonorella</i> and <i>Oreohelix</i> are visually identical; species are usually identified based on internal anatomical features (Stevens and Ledbetter 2014).	Construction activities; lack of information necessary for effective conservation; pesticides or other pollutants; restricted distribution; road construction and maintenance; vegetation and timber management
Ancha mountainsnail	This mountain snail is only known from a single collection by Walton and Gregg on Oct. 10, 1949 about three miles north of Reynolds Creek, Sierra Ancha, Gila County, Arizona at an altitude of about 7,200 ft (Gregg 1953). The specimens were found in limestone rockslides on the northeast slopes and appear to be sympatric with <i>Sonorella anchana</i> and <i>Sonorella strongiana</i> which were also found in the same area.	Altered moisture regimes; habitat loss or departure; impacts from livestock grazing; restricted distribution; uncharacteristic, high-intensity fire
Pale Townsend's big-eared bat	All Arizona populations of Townsends big-eared bats are considered from the subspecies <i>C. t. pallescens</i> , one of two species in the genus <i>Corynorhinus</i> found in North America. This bat is a cave and abandoned mine obligate (Arizona Game and Fish Department 2003b) and is one of the mostly commonly encountered species in surveys of abandoned mines in Arizona, though rarely in	Threat, mining activity and development, recreation impacts to caves, vandalism of caves, mine shaft and adit closures

	large numbers (personal communication, Aaron Sidder, Bat Conservation International).	
Richinbar talussnail	Sonorella are rarely encountered, usually occupying interstitial crevices in loose, rocky debris slope habitats, emerging during or after precipitation events. Little is known about the life histories of individual species, with the exception of some short-term observations of captive specimens (Sorensen et al. 2018).	Altered moisture regimes: aquatic habitat departure: climate change: mining activity and development: streamflow or channel alterations: uncharacteristic, high-intensity fire: vegetation and timber management

References

- Arizona Game and Fish Department. 2003b. *Corynorhinus townsendii pallescens*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 6 pp.
- Arizona Game and Fish Department. 2003c. *Oreohelix yavapai cummingsi*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 1-4 pp.
- Arizona Game and Fish Department. 2008b. *Sonorella micromphala*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 1-4 pp.
- Arizona Game and Fish Department. 2011. *Myotis thysanodes*. Unpublished abstract compiled and edited by the Heritage Data Management System, Arizona Game and Fish Department, Phoenix, AZ. 6 pp.
- Arizona Game and Fish Department. 2012. Arizona's State Wildlife Action Plan: 2012-2022. Arizona Game and Fish Department, Phoenix, Arizona.
- Berry, S.S. 1948. Snails of the Sierra Ancha, Arizona. *The American Midland Naturalist*. 39(1): 151-159. DOI: 10.2307/2421436.
- Diamond, G.F.; Diamond, J.M. 2014. Bats and Mines: Evaluating Townsend's Big-eared Bat (*Corynorhinus townsendii*) Maternity Colony Behavioral Response to Gating. *Western North American Naturalist*. 74(4): 416-426. DOI: 10.3398/064.074.0407.
- Gregg, W.O. 1953. Two new land snails from Arizona. *Bulletin So. Calif. Academy of Sciences*.
- Gruver, J.C.; D.A., K. 2006. Townsend's Big-eared Bat (*Corynorhinus townsendii*): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: <http://www.fs.fed.us/r2/projects/scp/assessments/townsendbiggearedbat.pdf> [date of access].
- Hayes, M.A.; Adams, R.A. 2017. Simulated bat populations erode when exposed to climate change projections for western North America. *Plos One*. 12(7) DOI: 10.1371/journal.pone.0180693.
- McCafferty, W.P. 2006. Rediscovery of *Fallceon eatoni* (Kimmins) (Ephemeroptera : Baetidae) - Note. *Proceedings of the Entomological Society of Washington*. 108(1): 248-248.

- Meyer, M.D.; McCafferty, W.P. 2008. Mayflies (Ephemeroptera) of the Far Western United States. Part 3: California. Transactions of the American Entomological Society. 134(3-4): 337-430. DOI: 10.3157/0002-8320-134.3.337.
- NatureServe. 2017. NatureServe Explorer: An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. Available <http://explorer.natureserve.org>. (Accessed: July 11, 2017).
- NatureServe. 2020. NatureServe Explorer [web application]. NatureServe, Arlington, Virginia. Available <https://explorer.natureserve.org/>. (Accessed: November 2020).
- O'Shea, T.J.; Vaughan, T.A. 1999. Population changes in bats from central Arizona: 1972 and 1997. Southwestern Naturalist. 44(4): 495-500. DOI: 10.2307/3672349.
- Purdue University Department of Entomology. 1995. (W.P. McCafferty ed.) Last updated 9 July 2002. Mayfly Central- The Mayflies of North America. Online. Available: <http://www.entm.purdue.edu/entomology/research/mayfly/Contents.html>.
- Sorensen, J.A.; B.A. Williams; Scobie., E. 2018. Tonto National Forest Sensitive Invertebrates Guide. Nongame and Endangered Wildlife Program Technical Report 318. Arizona Game and Fish Department, Phoenix, Arizona.
- Stevens, L.E.; Ledbetter, J.D. 2014. A Guidebook to the Rare Invertebrates of the Coconino National Forest, Northern Arizona. Flagstaff: Museum of Northern Arizona.
- USDA Forest Service. 1999. Conservation Assessment and Strategy – Wet Canyon talussnail *Sonorella macrophallus* (Gastropoda: Pulmonata: Helminthoglyptidae) Pinaleño Mountains, Graham County, Arizona. Coronado National Forest, Safford Ranger District. 31 pp.