

# Vegetation and Wildlife Survey of Devil's Canyon, Tonto National Forest

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**Introduction:** Devil's Canyon is located in Pinal County Arizona a few miles east of Superior in the Globe Ranger District of the Tonto National Forest. The area is extremely rugged with deep canyons, rocky ridges, and uplands dominated by large boulders and towering spires. Pyroclastic welded tuff is the most common substrate throughout the area and creates beautiful cliffs, arches, and towers.

On 9 July 2007, we surveyed vegetation and wildlife in and around Devil's Canyon. Our objectives were to (1) assess occupancy of sensitive or special status species, (2) determine whether habitat was present for sensitive or special status species, and (3) document all species of woody or succulent plants and all species of vertebrates we encountered. We chose to survey a stretch of Devil's Canyon that had a wide range of environmental diversity. Specifically, we focused on an area that had the most surface water and associated riparian vegetation that we determined from aerial photographs and then ground-truthed in the field. This stretch was south of State Route 60 between Rancho Rio Canyon to a point approximately 2 miles south (Figure 1). We dropped into Devil's Canyon at an elevation of 3,600 feet and ended our survey at just below 3,380 feet where it narrows to a slot canyon with pools and drops, becoming impassable without ropes. This area is in Township 2 South, Range 13 East, mainly in Sections 9 and 16 on the Superior USGS quadrangle (Figure 1).

We surveyed between 4:30 and 15:30 hours. To survey birds, we walked slowly and identified all birds that we detected by sight or sound. We attempted augment detections by periodically whistling a Pygmy-owl call as we walked and by playing recorded territorial vocalizations of the Yellow-billed Cuckoo in areas that supported potential habitat. Observations of birds and plants include those observed from the entire hike including areas in Rancho Rio Canyon and Hackberry Creek (Figure 1).

**Vegetation:** Riparian vegetation was dominated by large stands of Arizona Alder (*Alnus oblongifolia*) (Figure 2), scattered Sycamore (*Platanus wrightii*) and Velvet Ash (*Fraxinus velutina*) that exceeded heights of 60 feet in places and an understory dominated by Button Willow (*Cephalanthus occidentalis* var. *angustifolius*) (Figure 3). Other common trees included Goodding Willow (*Salix gooddingii*) and Arizona White Oak (*Quercus arizonica*). Arizona Alder became less common in the lower portion of canyon that was dominated by Goodding Willow and a few scattered Cottonwoods (*Populus fremontii*). We noted several Bonpland Willow (*Salix bonplandiana*) in the lower canyon near the northern end of their global distribution. The Mexican Blue Oak (*Quercus oblongifolia*) is at the northern end of its global distribution and this population is very small and isolated (Figure 6).

Upland vegetation was dominated by interior chaparral in which Scrub Live-oak (*Quercus turbinella*), Pointleaf Manzanita (*Arctostaphylos pringlei*), Hop Bush (*Dodonaea viscosa*), Birchleaf Mountain Mahogany (*Cercocarpus betuloides*), Jojoba (*Simmondsia chinensis*), Wait-a-minute Bush (*Mimosa biuncifera*), cholla (*Opuntia* sp.) and agave (*Agave* sp.). Vegetation composition throughout uplands was also significantly influenced by Sonoran Desert elements as evidenced by the presence of Saguaros (*Carnegiea gigantea*), which are fairly common on rocky east- and south-facing slopes throughout the area (Figure 4).

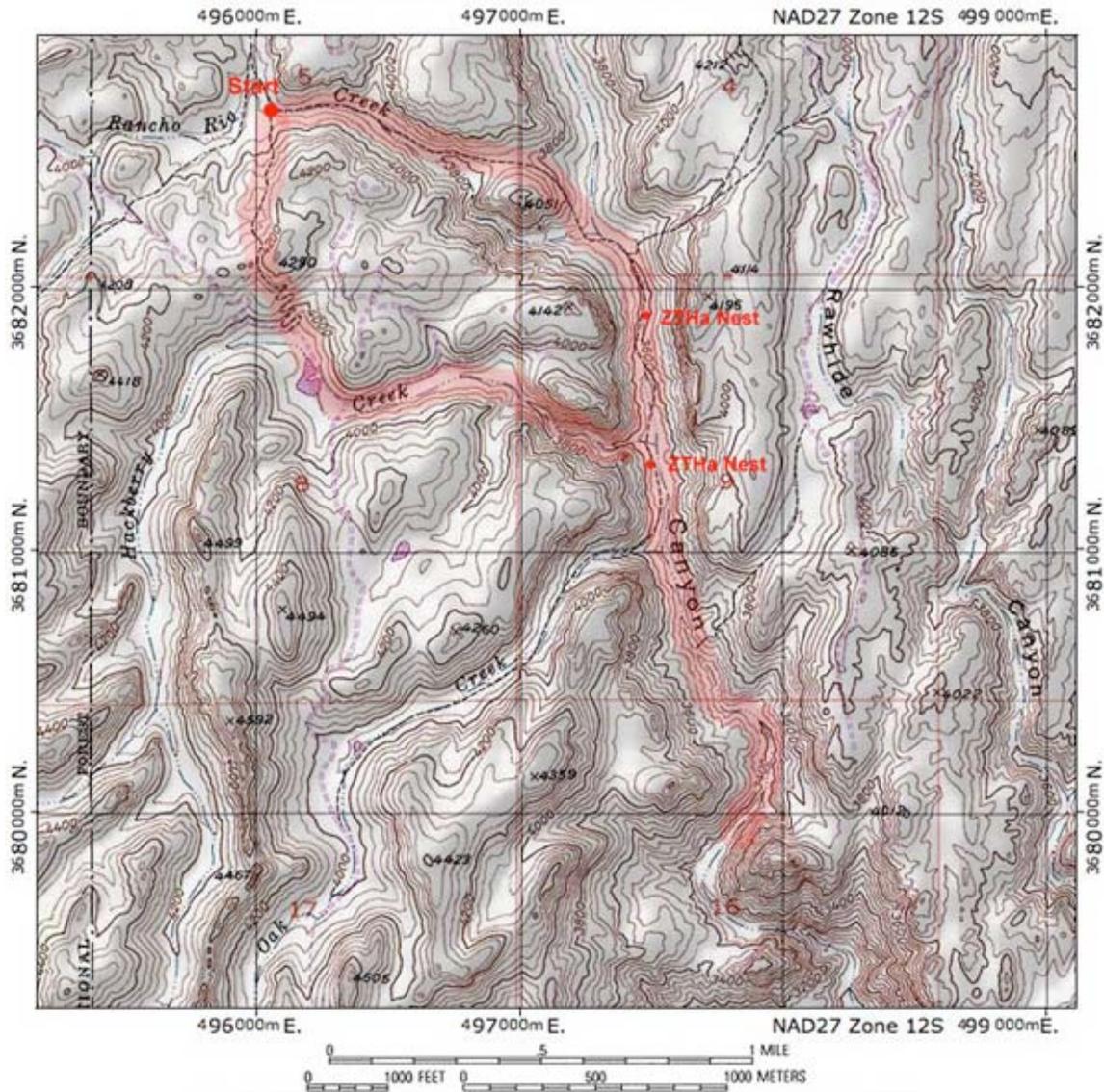


Figure 1: Map of Devil's Canyon and surrounding region that we surveyed for birds and plants on 9 July 2007. Survey route is indicated in red.

Non-native plants were limited to a few species. Tamarisk (*Tamarix ramosissima*) was absent from the canyon, but several small Northern Catalpa (*Catalpa speciosa*) trees were naturalized yet seemed unlikely to spread. Bermuda Grass (*Cynodon dactylon*) has established itself in a few habitable areas on exposed silty terraces above the creek bottom. Water was present and flowing throughout much of the canyon (Figure 5).

**Birds:** We detected 43 species during surveys (Table 1). Of note were 2 pairs of Zone-tailed Hawks that were nesting only 580 meters apart in the upper section of the canyon (Figure 1). These are the closest neighboring nests we have observed in either Arizona or Sonora; the upper nest contained 2 young whereas the lower nest contained one young. We also observed 1 adult

Common Black Hawk near a recently used nest as evidenced by presence of feathers and scat below the nest. The nest was in an Arizona Alder <200 meters from upper Zone-tailed Hawk nest. This adult called vigorously near the nest suggesting the presence of a recently fledged young, which typically leave the nest in the first or second week of July. We also observed another calling adult Common Black Hawk with and a nearby recently fledged young near lower end of survey (Figure 1).

A Peregrine Falcon was observed flying near sheer vertical cliffs just below Rancho Rio Canyon and is presumed to have nested in the area. Evidence of nesting was provided by abundant whitewash in areas where Peregrines typically perch and the presence of several deep horizontal ledges and fishers in the cliff face. This is excellent habitat for Peregrines that typically use nesting cliffs near areas where food is abundant such as that above lush riparian area as in Devil's Canyon.

Riparian-obligate Yellow Warblers and Summer Tanagers were common throughout Devil's Canyon. Yellow Warblers were feeding young.

We did not detect Yellow-billed Cuckoos or Southwestern Willow Flycatcher along this stretch of Devil's Canyon. Although lush, vegetation structure and composition were likely not suitable for Southwest Willow Flycatchers due to limited dense vegetation volume between 1.5 and 5 meters above ground. In Arizona, Cuckoos typically prefer lower elevation riparian areas that support Mesquite, Cottonwood, and Willow and may also require larger patches of riparian vegetation with more understory cover than that observed in Devil's Canyon. Although we have observed cuckoos in other more montane riparian areas similar to that in Devil's Canyon, they are much less common in these areas and may not occur at a given locale every year.

**General Wildlife:** Black Bear seemed to be very common throughout the area based on an abundance of sign that included approximately 20 piles of scat, several sets of fresh tracks, and 3 areas where we noted signposting on trees. Bear scat in the area was composed almost entirely of Manzanita berries. Non-native Sunfish (*Lepomis cyanellus*) and Crayfish (*Cambarellus sp.*) are well established in the Devil's Canyon and have likely had negative impacts on native aquatic species such as fish and frogs. We did not observe Bullfrogs (*Rana catesbeiana*). We observed several Canyon Treefrogs (*Hyla arenicolor*) along the main canyon. Other reptiles observed included Plateau Lizard (*Sceloporus tristichus*), Greater Earless Lizard (*Cophosaurus texanus*), Clark's Spiny Lizard (*Sceloporus clarkii*), Western Whiptail (*Aspidoscelis tigris* ssp. *punctilinealis*), and an unknown Spotted Whiptail (*Aspidoscelis sp.*).

**Special Status Species:** We used three methods to evaluate the potential for special status species in the area. First, on 22 July 2007, we access the AGFD Environmental On-line Review Tool (<http://www.azgfd.gov/hgis/>) to obtain records of special status species within 5 miles of the area we surveyed. Second we consulted the most current listing of threatened, endangered, proposed, and candidate species in Pinal County that we obtained from the USFWS internet website that was last updated 25 July 2006. (<http://www.fws.gov/southwest/es/arizona/Documents/CountyLists/Pinal.pdf>). Third, we evaluated the area on the ground with respect to the habitat requirements of species noted in these searches.

Table 3 lists special status species that may occur in the area and Appendix A lists all special status species or designated Critical Habitat known to occur within 5 miles of the survey area as noted by AGFD Environmental On-line Review Tool. Arizona Hedgehog Cactus (*Echinocereus triglochidiatus* var. *arizonicus*), a federally listed endangered plant, occurs in the area. The Arizona Hedgehog Cactus has been documented in the area of Oak Flat campground by the Arizona Game and Fish Department ([AZGF 200X](#)) and almost certainly occurs in Devil's Canyon and surrounding area. Special status species that are aquatic [e.g. Gila Chub (*Gila intermedia*)] will require additional surveys to determine status yet the presence of non-native Sunfish and Crayfish suggest that existing habitat has been degraded. Critical Habitat has been designated for Gila Chub within 5 miles of the survey area (Appendix A). We discussed the potential for occurrence of Yellow-billed Cuckoo and Southwestern Willow Flycatcher above (see Birds). Common Black Hawk, that we found to have recently nested along the canyon, are listed as sensitive by the USFS. There is some limited potential for occurrence of Mexican Spotted Owls (*Strix occidentalis lucida*) in the canyon; Critical Habitat has been designated for this subspecies within 5 miles (Appendix A).

**Conclusion:** Devil's Canyon is an impressive place. The surrounding countryside has stunning scenery and tremendous recreational values. The canyon itself supports well-developed riparian vegetation that is lush and provides a permanent source of water for wildlife. Devil's Canyon is an interesting transition zone that is influenced by Sonoran Desert, interior chaparral, as well as Madrean vegetation communities and vegetation association that is somewhat unique in Arizona.



Figure 2: Typical Arizona Alder dominated riparian vegetation in the upper portion of Devil's Canyon.



Figure 3: Button Willow (*Cephalanthus occidentalis* var. *angustifolius*) was common in Devil's Canyon.



Figure 4: Typical upland vegetation in Devil's Canyon survey area.



Figure 5: Surface water was present throughout much of Devil's Canyon.

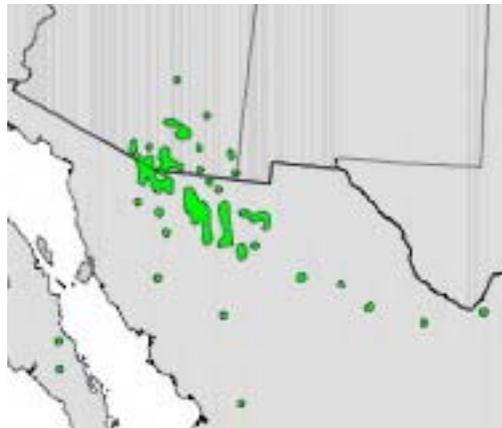


Figure 6: Global Distribution of Mexican Blue Oak (*Quercus oblongifolia*). Map (cropped) by USGS, Earth Surface Processes Team.

Table 1: Birds observed during surveys in Devil's Canyon 9 July 2007.

Common Name	Number Observed	Breeding Status and Notes
Mallard	10	Stock pond in Hackberry Canyon
Great Blue Heron	3	
Turkey Vulture	12	
Common Black Hawk	2ad, 1yg	1 recently occupied nest in Alder
Zone-tailed Hawk	3ad,3yg	Occupied nest w 2 young at 0497409x3681905 in velvet ash Occupied nest w 1 young at 0497485x3681371 in velvet ash
Red-tailed Hawk	2	Pair
Peregrine Falcon	1	0497464x3682123, Likely nest area near individual
White-winged Dove	30	
Mourning Dove	1	
Black-chinned Hummingbird	1	1st year male
Gila Woodpecker	2	
Ladder-backed Woodpecker	10	
Flicker	1	Heard, not confirmed to species, likely gilded
Black Phoebe	2	1 fledged young
Ash-throated Flycatcher	5	Paired
Cassin's Kingbird	2	Paired
Bell's Vireo	15	Singing
Gray Vireo	2	Singing
Hutton's Vireo	5	Singing, feeding young cowbird
Common Raven	10	
Violet-green Swallow	5	
Bridled Titmouse	12	
Verdin	2	
Cactus Wren	4	
Rock Wren	Common	
Canyon Wren	Common	
Bewick's Wren	Common	
Blue-gray Gnatcatcher	3	Family group
Northern Mockingbird	1	
Crissal Thrasher	2	Singing
Phainopepla	150+	Feeding young, likely mass migration
Lucy's Warbler	1	Possible migrant
Yellow Warbler	20-25	Singing, 2 ad feeding young
Summer Tanager	15	Paired
Spotted Towhee	1	
Canyon Towhee	2	
Rufous-crowned Sparrow	12	
Northern Cardinal	10	Family group w 3 young
Black-headed Grosbeak	2	Paired
Brown-headed Cowbird	10	1 young being fed by HoOr, 1 young being fed by hutton's vireo
Hooded Oriole	20	Nest building, feeding young, feeding young brown-headed cowbird
House Finch	10	
Lesser Goldfinch	5	

Table 2: Perennial woody and succulent plants observed in Devil's Canyon 9 July 2007.

Family	Genus	Species	Common Name
Acanthaceae			
	Anisacanthus		
		thurberi	Desert Honeysuckle, Chuparosa
Anacardiaceae			
	Rhus		
		toxicodendron	Poison Ivy
		trilobata	Lemonade Berry, Squawbush
Asclepiadaceae			
	Asclepias		
		linaria	Pine-needle Milkweed
Asteraceae			
	Baccharis		
		sarothroides	Desert Broom
	Ericameria		
		laricifolia	Turpentine Bush
Berberidaceae			
	Berberis		
		freemontii or haematocarpa	Unidentified Barberry
Bignoniaceae			
	Catalpa		
		speciosa	Non-native Catalpa
Cactaceae			
	Carnegieia		
		gigantea	Saguaro
	Cylindropuntia		
		versicolor	Staghorn Cholla
	Ferocactus		
		emoryi	Barrel Cactus
	Opuntia		
		2 unknown species	Prickly Pear
Caprifoliaceae			
	Lonicera		
		arizonica	Arizona Honeysuckle
Crossosomataceae			
	Crossosoma		
		bigelovii	Ragged Rockflower
Cupressaceae			
	Juniperus		
		osteosperma	Utah Juniper
Ericaceae			
	Arctostaphylos		
		pungens	Pointleaf Manzanita
Fabaceae			

	Acacia		
		greggii	Catclaw
	Amorpha		
		fruticosa var. occidentalis	False indigo Bush
	Mimosa		
		biuncifera	Wait-a-minute Bush
	Prosopis		
		velutina	Velvet Mesquite
Fagaceae			
	Quercus		
		arizonica	Arizona White Oak
		emoryi	Emory Oak
		oblongifolia	Mexican Blue Oak
		turbinella	Scrub Live-oak
Juglandaceae			
	Juglans		
		major	Arizona Black Walnut
Liliaceae			
	Agave		
		palmeri	Palmer's Agave
	Dasyilirion		
		wheeleri	Sotol
	Nolina		
		microcarpa	Beargrass
	Yucca		
		arizonica	Arizona Yucca
Oleaceae			
	Fraxinus		
		velutina	Velvet Ash
		cuspidata var. macropetala	Fragrant Ash (likely)
Pinaceae			
	Pinus		
		edulis	Pinyon Pine (see note at bottom)
Platanaceae			
	Platanus		
		wrightii	Arizona sycamore
Poaceae			
	Muhlenbergia		
		dumosa	Bamboo Muhly
Rhamnaceae:			
	Ceanothus		
		greggii	Desert Ceanothus
	Rhamnus		
		californica	California Buckthorn
		crocea	Hollyleaf Buckthorn
	Zizyphus		
		obtusifolia	Greythorn

	Sageretia		
		wrightii	Sageretia
Rosaceae			
	Prunus		
		virginiana	Wild Cherry
Salicaceae			
	Populus		
		fremontii	Fremont Cottonwood.
	Salix		
		bonplandiana	Bonpland Willow
		gooddingii	Goodding Willow
Sapindaceae			
	Dodonaea		
		viscosa	Hop Bush
Simmondsiaceae			
	Simmondsia		
		chinensis	Jojoba
Ulmaceae			
	Celtis		
		reticulata	Netleaf Hackberry
Verbenaceae			
	Aloysia		
		wrightii	Bee Brush, Oregonillo
Vitaceae			
	Parthenocissus		
		vitacea	Virginia Creeper
	Vitis		
		arizonica	Arizona Grape

NOTE: Pinyon Pine sample was all single needle (unlike edulis entered above), but Single-leaf Pinon (*Pinus monophylla*) is known only from the Northwestern portion of AZ.

Table 3: Special status species that have potential to occur in survey area (Pinal County). E=federally-listed endangered, T=federally-listed threatened, C=candidate for federal listing, DL=delisted, AZ=protected by Arizona state law.

Species	Status	Distribution/Habitat Characteristics	Potential Occurrence in Project Area
Arizona Hedgehog ( <i>Echinocereus triglochidiatus</i> var. <i>arizonicus</i> )	E, AZ	Occurs in ecotone between interior chaparral and Madrean evergreen woodland. Pinal and Gila counties only.	Habitat exists within the survey area. Additional survey required to determine status. Species occurs within 5 miles of area (Appendix A)
Acuna Cactus ( <i>Echinomastus erectocentrus</i> var. <i>acunensis</i> )	C	Well-drained knolls and ridges in Sonoran desertscrub. Three known localities in Pima County and 1 in Pinal County.	Unlikely, but possible in larger region. Population near Florence, AZ.
Mexican Spotted Owl ( <i>Strix occidentalis lucida</i> )	T, AZ	Commonly found in mixed conifer woodland at higher elevation. Can also nest in lower elevation canyons with well-developed riparian habitat. Known to use cliff ledges for nesting in some localities.	Although commonly found higher in elevation, is known to nest in lower elevation canyons with well-developed riparian vegetation and cliffs. Possibility of occurrence in Devil's Canyon. Sufficient riparian woodland as well as suitable cliffs for nesting. USFS may have surveyed this area previously and should be consulted for data. Designated Critical Habitat exists within 5 miles (Appendix A).
Cactus Ferruginous Pygmy-owl ( <i>Glaucidium brasilianum cactorum</i> )	DL	Mature Cottonwood/Willow forest, mesquite woodland, Sonoran desertscrub, and semidesert grasslands with well-developed vertical vegetation cover and matures Saguaros with cavities.	Little habitat. Range no longer reaches this part of Arizona. This area is very unlikely to support species except perhaps during dispersal. No longer listed.
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	DL	Needs large rivers, lakes, or reservoirs with abundant prey.	Little habitat in Devil's Canyon. Creek is too narrow.
Southwestern Willow Flycatcher ( <i>Empidonax traillii extimus</i> )	E	Cottonwood/Willow and Tamarisk vegetation communities along rivers and streams.	Vegetation structure and composition likely not suitable due to limited vegetation volume between 1.5 and 5 meters above ground.
Western Yellow-billed Cuckoo ( <i>Coccyzus americanus</i> )	C	Large stands of riparian and/or Mesquite woodland.	Cuckoos are typically found in lower elevation riparian areas that support Mesquite, Cottonwood, and Willow. Although we have observed Cuckoos in other more montane riparian areas similar to Devil's Canyon, they are much less common in these areas. Cuckoo may occur in this area some years.

Lesser Long-nosed Bat ( <i>Leptonycteris curasoae yerbabuena</i> )	E	Desert Scrub Habitat with agave and columnar cacti present as food plants.	Habitat present in Devil's Canyon but may not occur in area because it is at edge of range. Roosting areas and food sources are present in area.
Gila Chub ( <i>Gila intermedia</i> )	E	Pools, springs, cienegas, and streams. 2,000 – 5,500 ft.	Additional surveys required to determine status. Designated Critical Habitat exists within 5 miles (Appendix A).
Gila Topminnow ( <i>Poeciliopsis occidentalis occidentalis</i> )	E	Small streams, springs, and cienegas with vegetated shallows. <4,500 ft.	Additional surveys required to determine status.
Loach Minnow ( <i>Tiaroga cobitis</i> )	T	Swift, shallow water with cobble and gravel. Recurrent flooding and natural hydrograph important. <8,000 ft.	Additional surveys required to determine status.

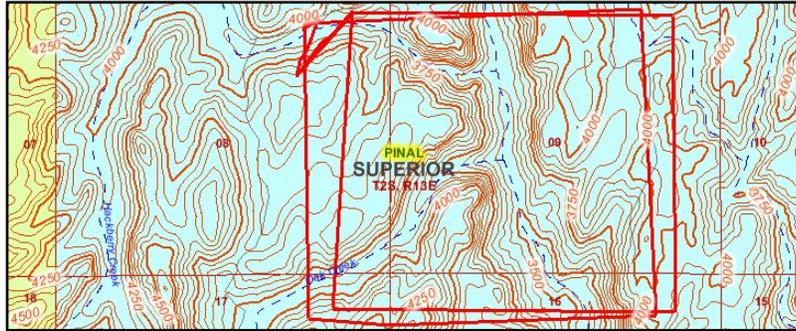
Arizona's On-line Environmental Review Tool

Search ID: 20070722003421

Project Name: Devils

Date: 7/22/2007 12:09:28 AM

**Project Location**



**Project Name:** Devils  
**Submitted By:** AA Flesch  
**On behalf of:** ACOE  
**Project Search ID:** 20070722003421  
**Date:** 7/22/2007 12:09:17 AM  
**Project Category:** Mining, Other minerals (copper, limestone, cinders, shale, salt)  
**Project Coordinates (UTM Zone 12-NAD 83):** 497423.847, 3681157.494 meter  
**Project Length:** 13922.788 meter  
**County:** PINAL  
**USGS 7.5 Minute Quadrangle ID:** 1361  
**Quadrangle Name:** SUPERIOR  
**Project locality is currently being scoped**

**Location Accuracy Disclaimer**

Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Receipt is solely responsible for the project location and thus the correctness of the Project Review Receipt content.

The Department appreciates the opportunity to provide in-depth comments and project review when additional information or environmental documentation becomes available.

**Special Status Species Occurrences/Critical Habitat/Tribal Lands within 5 miles of Project Vicinity:**

Name	Common Name	ESA	USFS	BLM	State
<i>Agosia chryso-gaster chryso-gaster</i>	Gila Longfin Dace	SC		S	
Bat Colony					
<i>Buteogallus anthracinus</i>	Common Black-Hawk		S		WSC
CH for <i>Gila intermedia</i>	Designated Critical Habitat for Gila chub				
CH for <i>Strix occidentalis lucida</i>	Designated Critical Habitat for Mexican spotted owl				
<i>Chionactis occipitalis klauberi</i>	Tucson Shovel-nosed Snake			S	
<i>Echinocereus triglochidiatus</i> var. <i>arizonicus</i>	Arizona Hedgehog Cactus	LE	S		HS
<i>Falco peregrinus anatum</i>	American Peregrine Falcon	SC	S		WSC
<i>Gila robusta</i>	Roundtail Chub	SC	S		WSC
<i>Gopherus agassizii</i> (Sonoran Population)	Sonoran Desert Tortoise	SC			WSC
<i>Macrotus californicus</i>	California Leaf-nosed Bat	SC			WSC
<i>Myotis ciliolabrum</i>	Western Small-footed Myotis	SC		S	
<i>Myotis velifer</i>	Cave Myotis	SC		S	
<i>Myotis yumanensis</i>	Yuma Myotis	SC			
<i>Nyctinomops femorosaccus</i>	Pocketed Free-tailed Bat			S	
<i>Rana yavapaiensis</i>	Lowland Leopard Frog	SC	S		WSC

## Arizona's On-line Environmental Review Tool

Search ID: 20070722003421

Project Name: Devils

Date: 7/22/2007 12:09:28 AM

**Please review the entire receipt for project type recommendations and/or species or location information and retain a copy for future reference.** If any of the information you provided did not accurately reflect this project, or if project plans change, another review should be conducted, as this determination may not be valid.

### Arizona's On-line Environmental Review Tool:

1. This On-line Environmental Review Tool inquiry has generated recommendations regarding the potential impacts of your project on Special Status Species (SSS) and other wildlife of Arizona. SSS include all U.S. Fish and Wildlife Service federally listed, U.S. Bureau of Land Management sensitive, U.S. Forest Service sensitive, and Arizona Game and Fish Department (Department) recognized species of concern.
2. These recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation). These recommendations are preliminary in scope, designed to provide early considerations for all species of wildlife, pertinent to the project type you entered.
3. This receipt, generated by the automated On-line Environmental Review Tool does not constitute an official project review by Department biologists and planners. Further coordination may be necessary as appropriate under the National Environmental Policy Act (NEPA) and/or the Endangered Species Act (ESA).

The U.S. Fish and Wildlife Service (USFWS) has regulatory authority over all federally listed species under the ESA. Contact USFWS Ecological Services Offices: <http://arizonaes.fws.gov/>.

Phoenix Main Office  
2321 W. Royal Palm Road, Suite 103  
Phoenix, AZ 85021  
Phone 602-242-0210  
Fax 602-242-2513

Tucson Sub-Office  
201 North Bonita, Suite 141  
Tucson, AZ 85745  
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Fax 520-670-6154

Flagstaff Sub-Office  
323 N. Leroux Street, Suite 101  
Flagstaff, AZ 86001  
Phone 928-226-0614  
Fax 928-226-1099

### Disclaimer:

1. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area.
2. The Department's Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there.
3. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HDMS data contains information about species occurrences that have actually been reported to the Department.

### **Arizona Game and Fish Department Mission**

***To conserve, enhance, and restore Arizona's diverse wildlife resources and habitats through aggressive protection and***

***management programs, and to provide wildlife resources and safe watercraft and off-highway vehicle recreation for the enjoyment, appreciation, and use by present and future generations.***

## **Project Category: Mining, Other minerals (copper, limestone, cinders, shale, salt)**

### **Project Type Recommendations:**

Based on the project type entered; coordination with the Environmental Protection Agency may be required <http://www.epa.gov/>

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency

of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (including spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

### **Project Location and/or Species recommendations:**

HDMS records indicate that one or more listed, proposed, or candidate species or Critical Habitat (Designated or Proposed) have been documented in the vicinity of your project (refer to page 1 of the receipt). Please contact:  
Ecological Services Office  
US Fish and Wildlife Service

2321 W. Royal Palm Rd.  
Phoenix, AZ 85021-4951  
Phone: 602-242-0210  
Fax: 602-242-2513

HDMS records indicate that Sonoran desert tortoise have been documented within the vicinity of your project area (refer to the species list on page 1 of the receipt). Please review the Tortoise Handling Guidelines found on the Environmental Review Home Page.

<http://www.azgfd.gov/hgis/guidelines.azpx>

Arizona's On-line Environmental Review Tool

Search ID: 20070722003421

Project Name: Devils

Date: 7/22/2007 12:09:28 AM

**Phone Number: (602) 789-3600**

**Fax Number: (602) 789-3928**

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The Environmental Review and project planning web application operates on a complex State computer system. This system is monitored to ensure proper operation, to verify the functioning of applicable security features, and for other like purposes. Anyone using

**Recommendations Disclaimer:**

1. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project.
2. These recommendations are proposed actions or guidelines to be considered during **preliminary project development**.
3. Additional site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. The Department is interested in the conservation of all fish and wildlife resources, including those Special Status Species listed on this receipt, and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
6. **Further coordination requires the submittal of this Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).**
7. Upon receiving information by AZGFD, please allow 30 days for completion of project reviews. Mail requests to:

**Project Evaluation Program, Habitat Branch  
Arizona Game and Fish Department  
2221 West Greenway Road  
Phoenix, Arizona 85023-4312**

Arizona's On-line Environmental Review Tool

Search ID: 20070722003421

Project Name: Devils

Date: 7/22/2007 12:09:28 AM

this system expressly consents to such monitoring and is advised that if such monitoring reveals possible evidence of criminal activity, system personnel may provide the evidence of such monitoring to law enforcement officials. Unauthorized attempts to upload or change information; to defeat or circumvent security measures; or to utilize this system for other than its intended purposes are prohibited.

This website maintains a record of each environmental review search result as well as all contact information. This information is maintained for internal tracking purposes. Information collected in this application will not be shared outside of the purposes of the Department.

If the Environmental Review Receipt and supporting material are not mailed to the Department or other appropriate agencies within six (6) months of the Project Review Receipt date, the receipt is considered to be null and void, and a new review must be initiated.

Print this Environmental Review Receipt using your Internet browser's print function and keep it for your records. Further coordination requires the submittal of this Environmental Review Receipt with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map).

Please provide point of contact information regarding this Environmental Review.

*Application or organization responsible for project implementation*

Agency/organization: \_\_\_\_\_

Contact Name: \_\_\_\_\_

Address: \_\_\_\_\_

City, State, Zip: \_\_\_\_\_

Phone: \_\_\_\_\_

E-mail: \_\_\_\_\_