



March 12, 2021

Mr. Jerry Schoeppner, Division Director  
NEW MEXICO MINING  
AND MINERALS DIVISION (MMD)  
1220 South Saint Francis Drive  
Santa Fe, New Mexico 87505

*And via email:*  
[Gerard.schoeppner@state.nm.us](mailto:Gerard.schoeppner@state.nm.us)  
[Holland.Shepherd@state.nm.us](mailto:Holland.Shepherd@state.nm.us)

**RE: SUMMA SILVER CORPORATION PART 3 MINIMAL IMPACT EXPLORATION  
OPERATION PERMIT APPLICATION**

Dear Mr. Schoeppner:

On behalf of Summa Silver Corporation (Summa Silver), WestLand Resources, Inc. (WestLand), is pleased to submit the attached Part 3 Minimal Impact Exploration Operation Permit Application for your review. To facilitate review, this submittal is being provided in electronic form by email and FTP link; hard copies have been mailed to your office with the \$500 application fee. We would like to request a meeting, once an MMD project manager is assigned, to discuss the next steps in the permitting process and schedule a site visit, if requested.

WestLand has prepared the cultural resources report for the permit application (included in FTP link). It is our understanding that MMD will provide New Mexico State Historic Preservation Office (SHPO) with electronic access to the report. Hard copies of the cultural resources report will also be sent to the SHPO separately by WestLand.

Should you have any questions or comments regarding this permit application, please contact Galen McNamara at 604-288-8004 or Chris Leslie at 604-861-0371.

Respectfully,  
Westland Resources, inc.

Aaron R. Graham  
Senior Environmental Consultant

Attachment: Part 3 Minimal Impact Exploration Operation Permit Application  
(including Check No. 138257, \$500 and Attachments)  
FTP Link: [Summa Silver Part 3 Min Impact Expl Permit Application](#)

cc: Holland Shepherd, MMD, Program Manager  
David Otori, MMD, Senior Reclamation Specialist  
Darcy Anderson, WestLand Resources, Inc.

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**ENGINEERING AND ENVIRONMENTAL CONSULTANTS**

4001 East Paradise Falls Drive | Tucson, Arizona 85712 | 520.206.9585  
2020 North Central Avenue, Suite 695 | Phoenix, AZ 85004 | 602.888.7000  
1750 South Woodlands Village Blvd, Suite 150 | Flagstaff, Arizona 86001 | 928.225.2218

**PART 3**  
**MINIMAL IMPACT EXPLORATION OPERATION**  
**PERMIT APPLICATION**

Accompanying instructions for this permit application are available from MMD, and on MMD webpage:

<http://www.emnrd.state.nm.us/MMD/MARP/MARPAApplicationandReportingForms.htm>

Send 6 copies of the completed application to:

**STATE OF NEW MEXICO**  
**ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT**

Director

Mining and Minerals Division  
1220 South Saint Francis Drive  
Santa Fe, New Mexico 87505  
Telephone: (505) 476-3400

Webpage: [www.emnrd.state.nm.us/MMD/index.htm](http://www.emnrd.state.nm.us/MMD/index.htm)

**CHECK OFF LIST TO DETERMINE YOUR PROJECT'S STATUS AS A MINIMAL IMPACT EXPLORATION OPERATION:**

- Yes     No    My project **will exceed 1000 cubic yards of excavation**, per permit (drill pads, mud pits, and roads will not be counted in excavated materials).
- Yes     No    Surface disturbances for constructed roads, drill pads and mud pits **will exceed 5 acres** total for my project.
- Yes     No    My project is located in or is expected to have a direct surface impact on wetlands, springs, perennial or intermittent streams, lakes, rivers reservoirs or riparian areas.
- Yes     No    My project is located in designated critical habitat areas as determined in accordance with the federal Endangered Species Act of 1973 or in areas determined by the Department of Game and Fish likely to result in an adverse impact on an endangered species designated in accordance with the Wildlife Conservation Act, Sections 17-2-37 through 17-2-46 NMSA 1978 or by the State Forestry Division for the Endangered Plants Act, section 75-6-1 NMSA 1978.
- Yes     No    My project is located in an area designated as Federal Wilderness Area, Wilderness Study Area, Area of Critical Environmental Concern, or an area within the National Wild and Scenic River System.

- Yes  No My project is located in a known cemetery or other burial ground.
- Yes  No My project is located in an area with cultural resources listed on either the National Register of Historic Places or the State Register of Cultural Properties.
- Yes  No My project will or is expected to have a direct impact on ground water that has a total dissolved solids concentration of less than 10,000 mg/L, except exploratory drilling intersecting ground water may be performed as a minimal impact operation.
- Yes  No My project is expected to use or using cyanide, mercury amalgam, heap leaching or dump leaching in its operations.
- Yes  No My project is expected to result in point or non-point source surface or subsurface releases of acid or other toxic substances from the permit area.
- Yes  No My project requires a variance from any part of the Mining Act Rules as part of the permit application.

If you answer yes to any of the above questions, your project does not qualify as a minimal impact exploration operation.

### Confidential Information

- Yes  No Is any of the information submitted in this application considered by the applicant to be confidential in nature? If yes, please provide this information separately and marked as “confidential.”

### Timeline

- Exploration applications must be provided no less than 45 days prior to the anticipated date of operations desired by the applicant.
- Renewal applications shall be filed at least 30 days preceding expiration of the current permit. Permits are valid for one year.
- Approved permit is valid for one year from the date of approval.

**SECTION 1 – OPERATOR INFORMATION (§304.D.1)**

Project Name: Mogollon Project

Nearest Town To Project: Mogollon, New Mexico

Applicant Name and Contact Information (entity obligated under the Mining Act):

Name: Galen McNamara

Address: 918-1030 West Georgia Street Vancouver, BC, V6E 2Y3

Office Phone: 604-288-8004

Cell Phone: 604-788-3677

Fax Number: N/A

Email: [galen@summasilver.com](mailto:galen@summasilver.com)

Name of On-Site Contact, Representative, or Consultant:

Name: Chris York

Address: 2552 Hamilton Creek Trail, Elko, Nevada, 89801

Office Phone: 618-263-8664

Cell Phone: 618-263-8664

Fax Number: N/A

Email: [cyork@summasilver.com](mailto:cyork@summasilver.com)

**SECTION 2 – RIGHT TO ENTER INFORMATION (§302.D.1)**

A. Describe or attach copies of documents that give the applicant the right to enter the property to conduct the exploration and reclamation, include: lease agreements, access agreements, right of way agreements, surface owner agreements, and claim numbers, if applicable.

Exploration activities will be conducted on patented claims owned or leased by: Summa Silver Corp.

Attachment A: Patented Mine Claims and Patented Mine Claim Lease Agreements.

B. List the names and addresses of surface and mineral ownership within the proposed permit area. If the mineral is federal mineral, indicate as federal mineral, but provide the name of the claim holder or lease holder.

**Surface Estate Owner(s):**

Name	Address	Phone #
<input type="checkbox"/> U.S. BLM	_____	_____
	_____	
<input type="checkbox"/> U.S. Forest Service	_____	_____
	_____	
<input type="checkbox"/> State of NM	_____	_____
	_____	

Private/Corporate

Name: Mack, John Jr. and Hott, Ann and Parker, Mary K.

Address: 9A Cherokee Sq, Wilkes Barre, PA, 18702

Other \_\_\_\_\_

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

**Lease Holder(s) of Surface Estate (if applicable):**

Name	Address	Phone #
<u>Summa Silver Corp. 918-1030 West Georgia Street, Vancouver BC, V6E 2Y3 (604) 778-3677</u>		
_____	_____	_____

**Mineral Estate Owner(s):**

Name	Address	Phone #
<input type="checkbox"/> Bureau of Land Management	_____	_____
	_____	
<input type="checkbox"/> US Forest Service	_____	_____
	_____	
<input type="checkbox"/> State of NM	_____	_____
	_____	
<input checked="" type="checkbox"/> Claim/Lease Holder	_____	_____

Name: Mack, John Jr. and Hott, Ann and Parker, Mary K.  
Address: 9A Cherokee Sq, Wilkes Barre, PA, 18702

Claim Numbers: See Attachment: A SSVR Patent Information Catron County 20210302

Claim/Lease Holder

\_\_\_\_\_

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

Claim Numbers: \_\_\_\_\_

Other \_\_\_\_\_

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

C. Has a Cultural Resource Survey been performed on the site?

Yes     No    If yes, please provide the author, title, date and report number, and include a copy of the survey with this application, if possible:

John M.D. Hooper/WestLand Resources, Inc. "A Class III Cultural Resources Survey of 21 Acres of Private Land Near Mogollon, Catron County, New Mexico, For a Proposed Mineral Exploration Drilling Project, Summa Silver Corporation" February 4, 2021, Cultural Resources Report 2021-16: NMCRIS Activity No. 147264

Attachment B-Cultural Resources Report – This report has been provided directly to the New Mexico State Historic Preservation Officer and is not included with this submittal for confidentiality reasons.

D. Has a wildlife survey or vegetation survey been performed for the permit area?

Yes     No    If yes, please provide the author, title, date and report number, and include a copy of the survey with this application, if possible:

Ahvi Potticary/WestLand Resources, Inc., "Desktop Screening And Habitat Assessment For Area Of Proposed Exploration Near Mogollon, New Mexico" December 8, 2020. Project 2172.01

Attachment C – Biological Evaluation Report

**SECTION 3 – MAPS AND PROJECT LOCATION (§302.D.2)**

A. Project Location:

Township 10S Range 19 W Section 27  
 Township 10S Range 19 W Section 28

List the drill hole/exploration name and the GPS coordinates for each site.

I.D. Number	Northing / Latitude	Easting / Longitude	I.D. Number	Northing / Latitude	Easting / Longitude
10	3698381.98	704904.34	28	3698772.02	704921.60
11	3698417.44	704961.31	29	3698679.83	704972.92
12	3698467.07	704951.85			
13	3698527.96	704975.41			
14	3698322.71	704956.97			
15	3698351.33	704920.98			
17	3698476.06	705028.91			
18	3698573.93	705042.15			
19	3698640.11	705022.77			
20	3698633.97	705057.75			
21	3698683.13	705069.80			
22	3698734.66	705071.22			
23	3698798.75	705018.05			
24	3698827.65	704979.03			
25	3698858.52	704935.30			
26	3698714.34	705009.76			
27	3698754.05	704968.64			

Coordinate system used to collect GPS data points:

- NAD83 Geographic                       NAD27 Geographic  
 NAD83 UTM Zone 12                       NAD27 UTM Zone 13 (or 12)  
 WGS 1984                                       Other: \_\_\_\_\_

Attachment N/A (for listing additional boreholes)

B. Maps (see application form instructions for examples of maps to be included):

Are topographic maps included with the application that show the following items:

- Yes – The boundary of the proposed exploration project Permit Area
- Yes – The proposed exploration locations (i.e., borehole locations)
- Yes – Existing roads, new roads and overland travel routes
- Yes  N/A – Areas of proposed road improvement

Attachments   D  

Are maps or figures included with the application showing the approximate dimensions and locations of drill pads and other disturbances:

- Yes – Drill pad dimensions and constructed drill pad locations

Attachments   E  

C. Provide detailed driving directions to access the site:

The proposed exploration areas are located just west and north of the town of Mogollon, NM and approximately seven (7) miles east of the town of Alma, NM. To reach the site, travel east on NM State Road 159 for approximately seven (7) miles from the junction with US HWY 180. Drill sites will be accessed from spur roads originating from SR 159 just west of Mogollon, including Fanny Road (See Map D).

**SECTION 4 – EXPLORATION DESCRIPTION (§302.D.3 & 4)**

A. Anticipated exploration: Start Date: June 21, 2021 End Date: June 20, 2022

B. List the mineral(s)/element(s) to be explored for: Gold, Silver

C. Proposed method(s) of exploration:

**Air drilling (air rotary, coring, etc.):**

\_\_\_\_\_ # of holes \_\_\_\_\_ Depth (ft.) \_\_\_\_\_ Diameter (in.)

\_\_\_\_\_ # of drill pads \_\_\_\_\_ Length (ft.) \_\_\_\_\_ Width (ft.)

Will drill pads be graded/bladed or overland:  Graded/bladed  Overland

Will drill pads need some mechanical leveling (grading/blading):  Yes  No

Approx. Weight of Drill Rig (lbs.) \_\_\_\_\_ Number of Axles: \_\_\_\_\_

Total length of drill stem that can be carried on the rig: \_\_\_\_\_

Is a support pipe truck anticipated?  Yes  No \_\_\_\_\_ Weight (lbs.)

Weight of support compressor (lbs.): \_\_\_\_\_ Trailer mounted? \_\_\_\_\_

Anticipated Drilling Contractor: \_\_\_\_\_ License No. \_\_\_\_\_

**Mud/fluid drilling:**

50 # of holes ~600-2000 / hole Depth (ft.) 4-5" Diameter (in.)

19 # of drill pads 50 Length (ft.) 50 Width (ft.)

Will drill pads be graded/bladed or overland:  Graded/bladed  Overland

Will drill pads need some mechanical leveling (grading/blading):  Yes  No

Will a closed loop system be used, or will mud/fluid pits be used? The project does not involve constructing ponds or impoundments. Drilling mud/fluid will be contained within above-ground mobile storage tanks at each drill site.

If mud/fluid pits are proposed: N/A

\_\_\_\_\_ # of pits \_\_\_\_\_ Length (ft.) \_\_\_\_\_ Width (ft.) \_\_\_\_\_ Depth (ft.)

Anticipated excavating equipment:

- ATV
- Tire/Track Mounted Drilling Rig
- Water Tender
- Light Weight Four (4) Wheel Drive Pick Ups
- Fuel and Lube Truck
- Wheel Loader
- Bulldozer
- Hydraulic Excavator
- Backhoe

How will excavating equipment be transported to the site (i.e., driven, low-boy, etc.):

Driven via roads.

Will mud pits be lined?  Yes  No

If yes, proposed material to line the mud pits: N/A

Approx. Weight of Drill Rig (lbs) ~ 18,000 lbs Number of Axles: 3 or track mounted.

Anticipated Drilling Contractor: contract not awarded yet License No. \_\_\_\_\_

**Test pits / exploratory trenches:**

\_\_\_\_\_ # of pits \_\_\_\_\_ Length (ft.) \_\_\_\_\_ Width (ft.) \_\_\_\_\_ Depth (ft.)

Anticipated excavating equipment: \_\_\_\_\_

How will excavating equipment be transported to the site (i.e., driven, low-boy, etc.): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

**Other methods of exploration** (i.e., cuts, shafts, tunnels, adits, declines, blasting, etc.).

Indicate method and details: mineral exploration, diamond core drilling. A small footprint wheel or track mounted diamond drill rig will be used to drill a series of exploration holes averaging 1100 feet from 19 pads on patented claims. One to four HQ diameter, angled exploration holes will be completed from each pad.

**TOTAL ACREAGE TO BE DISTURBED DUE TO DRILL PADS = 1.1 acres**  
(to convert to acres, multiply total square footage of drill pads by 0.0000229)



Use of this existing road for access should not impact this ephemeral drainage feature. There are no other natural surface water features in the project area and the project will have no direct surface impact on wetlands, springs, perennial or intermittent streams, lakes, rivers, reservoirs, or riparian areas.

List of new roads to be constructed for this exploration project:

Description of <i>NEW</i> Roads	Length (ft)	Width (ft)	Total Acres (length x width x 0.0000229)
Access from DS 19 to DS 20	98.4	12	0.027427724
Access to relocated DS 15	175.5	12	0.048912775
Access from relocated DS 15 to relocated DS 14	181.1	12	0.050467013
Access to DS 12	190.2	12	0.053026934
Access from DS 13 to DS 18	229.7	12	0.063998023
<b>TOTAL ACRES DISTURBED BY NEW ROAD CONSTRUCTION:</b>			<b>0.24</b>

Describe how new roads will be constructed: See below

Road construction and widening will be completed using heavy equipment such as a bulldozer, wheel loader, backhoe, and track excavator. Equipment and operations will be maintained with light service vehicles (pick-ups), water tender, and lube/fuel truck. Construction will be located to minimize disturbance to land and wildlife and enhance stability. Road stability will be maintained by following the land contour to the extent possible and using good road building practices such as constructing water turn-outs and water bars at suitable intervals. Road construction and widening locations have been selected to make use of natural features such as shelves and to avoid drainages, excessively steep slopes, and loose soil material. To ensure good engineering methods are employed, the BLM/USFS Gold Book for road construction will be consulted. If it is necessary for road construction or widening to be conducted in loose soil or tailings, adequate steps will be taken to ensure road stability. Steps may include the import of rip-rap and filter fabric to stabilize soil and avoid head-cuts, and the frequent installation of water bars.

List for extension or widening of existing roads:

Description of Modification to <i>EXISTING</i> Roads	Length (ft)	Width (ft)	Total Acres (length x width x 0.0000229)
Access to DS 28	98.4	5	0.011119348
Access to DS 22	167.3	5	0.018902891
Access to DS 19 from north	159.1	5	0.017976279
Access to DS 13	226.4	5	0.0255745
Access from DS 19 to DS 18	216.5	5	0.024462565
<b>TOTAL ACRES DISTURBED BY ROAD IMPROVEMENTS:</b>			<b>0.10</b>

Describe how existing roads will be extended or widened: See below

Road construction and widening will be completed using heavy equipment such as a bulldozer, wheel loader, backhoe, and track excavator. Equipment and operations will be maintained with light service vehicles (pick-ups), water tender, and lube/fuel truck. Construction will be located to minimize disturbance to land and wildlife and enhance stability. Road stability will be maintained by following the land contour to the extent possible and using good road building practices such as constructing water turn-outs and water bars at suitable intervals. Road construction and widening locations have been selected to make use of natural features such as shelves and to avoid drainages, excessively steep slopes, and loose soil material. To ensure good engineering methods are employed, the BLM/USFS Gold Book for road construction will be consulted. If it is necessary for road construction or widening to be conducted in loose soil or tailings, adequate steps will be taken to ensure road stability. Steps may include the import of rip-rap and filter fabric to stabilize soil and avoid head-cuts, and the frequent installation of water bars.

List for routes of overland travel: N/A

Description of <i>OVERLAND TRAVEL</i> Routes	Length (ft.)	Width (ft.)	Total Acres (length x width x 0.0000229)
<b>TOTAL ACRES DISTURBED BY OVERLAND TRAVEL:</b>			<b>N/A</b>

G. Support Facilities

Describe (location and size) any support facility disturbances (equipment staging, equipment and material storage and/or lay down areas, vehicle parking, temporary housing and/or trailers) to be created or situated on the site during exploration operations.

The drill program will be staged from an off-site location. Vehicles and equipment will be parked on existing roads or on permitted drill pads while on-site.

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H. **TOTAL ACREAGE TO BE DISTURBED BY PROJECT = 1.44 acres**  
(include all disturbed acreage from drill pads, cuttings disposal pit, new roads, improved roads and overland travel routes)

**SECTION 5 – CHEMICAL USE (§302.D.4)**

A. Check any and all chemicals that will be used for this project.

<input checked="" type="checkbox"/>	Drilling Mud (i.e., EZ Mud)	Type/Quantity:	Hydrous silica of alumina/Wyoming sodium bentonite/sodium montmorillonite. 3 5-gallon buckets.
<input checked="" type="checkbox"/>	Diesel Fuel	Quantity:	For drill and heavy equipment 100 to 150 gallons/day
<input checked="" type="checkbox"/>	Down-hole Lubricants	Type/Quantity:	Rod grease – 17kg pails
<input checked="" type="checkbox"/>	Lost Circulation Materials	Type/Quantity:	Kwik-Plug
<input checked="" type="checkbox"/>	Oils/Grease	Quantity:	5 gallons
<input checked="" type="checkbox"/>	Gasoline	Quantity:	5 to 10 gallons/day
<input checked="" type="checkbox"/>	Hydraulic Fluid	Quantity:	10 gallons
<input type="checkbox"/>	Ethylene Glycol	Quantity:	
<input checked="" type="checkbox"/>	Cement	Type/Quantity:	Portland II – 65 50-lb bags
<input checked="" type="checkbox"/>	Water	Source:	Water tender
<input checked="" type="checkbox"/>	Bentonite	Quantity:	Quick Gel – 65 50-lb bags
<input type="checkbox"/>	Fertilizer	Type/Quantity:	
<input type="checkbox"/>	Other	Type/Quantity:	

B. Describe, in detail, a plan for the containment, use and disposal of all chemicals listed above:

The proposed drilling program will not use cyanide, solvents, laboratory agents or mill processing. Drill samples will be taken off-site for analysis. The drilling fluid/mud is not considered hazardous and will be contained in an appropriately labeled aboveground mobile storage tank. Any lubricants or hydraulic fluids needed for operations will be stored in small quantities within vehicles in clearly labeled containers. It is not anticipated that significant quantities of hazardous or toxic substances will be used during the proposed exploration project. The most plausible scenario for a release of a hazardous substance would result from a leaking or overfilled fuel tank.

C. Describe where equipment fueling/refueling will occur:

Fuel for heavy equipment and the drill rig will be brought on-site in clearly labeled fuel tanks, mounted in the bed of a 4x4 pickup. Smaller more mobile equipment will be fueled off-site. Any lubricants or hydraulic fluids needed for operations will be stored in small quantities within vehicles in clearly labeled containers.

D. Describe how hazardous material spills/leaks will be handled:

Spill kits will be maintained on site within designated vehicles and on the drilling rig in case of a petroleum product release. A Stormwater Pollution Prevention Plan (SWPPP) will be prepared and initiated prior to the commencement of drilling operations. Personnel on site will receive training on best management practices (BMPs) outlined in the SWPPP prior to commencing operations. A copy of the SWPPP will be provided to the New Mexico Mining and Minerals Division upon request.

De minimis spills will be cleaned up with absorbent materials and the materials will be disposed of properly. Petroleum contaminated soils will be removed and taken to a certified disposal location. Reportable spills will be reported to the Environmental Protection Agency Spill Reporting Center and the New Mexico Environment Department.

E. Identify spill cleanup materials that will be kept on-site (check all that apply):

- Bentonite clay or cat litter
- Adsorbent pads, rolls, mats, socks, pillows, dikes, etc.
- Drum or barrel for containing contaminated soil/adsorbent materials
- Other/list: \_\_\_\_\_
- Other/list: \_\_\_\_\_
- Other/list: \_\_\_\_\_

F. Applicant/owner/representative agrees to immediately notify the State of New Mexico immediately of any spills of hazardous materials (see page 1 of this application for phone numbers to notify):     Yes     No

**SECTION 6 – GROUNDWATER/SURFACE WATER INFORMATION (§302.D.5)**

A. Provide an estimate of depth to ground water and the total dissolved solids (TDS) concentration.

Depth to groundwater (ft.): 55 ft. TDS concentration (mg/L): within Catron County TDS concentrations range from 120 mg/L to 1440 mg/L.

Describe the source of this information:

New Mexico State Engineer's W.A.T.E.R.S web site

<http://nmwrrs.ose.state.nm.us/meterReport.html>

Historic Mining References

-1920. Scott, D. B., Ore deposits of the Mogollon district: Am. Inst. Min. Eng. Trans., vol. 63, pp. 289-310, 1920.

-1927. Ferguson, Geology and Ore Deposits: U.S.G.S. Bulletin 787

<https://geoinfo.nmt.edu/resources/water/projects/home.cfm?id=105>

Land, Lewis, 2016, Overview of Fresh and Brackish Water Quality in New Mexico - San Agustin Basin, Project Summary Sheet.

Land, Lewis, 2016, Overview of Fresh and Brackish Water Quality in New Mexico, New Mexico Bureau of Geology Mineral Resources, Open-file Report, v. 0583, pp. 55.

B. Will dewatering activities be conducted:  Yes  No

If yes, please describe: N/A

C. Is groundwater anticipated to be encountered during exploration:  Yes  No

**If YES:**

Have you completed Form WR-07 (Application for permit to drill a well with no consumptive use of water) and mailed it to the District Office of the State Engineer?  Yes

Have you completed Form WD-08 (Well plugging plan of operations) and mailed it to the District Office of the State Engineer?  Yes

Attachment F These attachments will be provided when the driller is selected. (copies of the completed WR-07 and WD-08 forms)

D. Exploration Borehole Abandonment

**Dry Boreholes**

- Dry hole abandonment (option 1): 100% bentonite pellets/chips (i.e. HOLEPLUG® manufactured by Baroid Industrial Products), dropped from surface then hydrated in place according to the manufacturer's recommendations, emplaced from total depth to within 12 feet of the original ground surface, followed by 10 feet of neat cement, followed by 2 feet of topsoil/topdressing.
- Dry hole abandonment (option 2): Neat cement slurry, mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 2 feet of the original ground surface, followed by 2 feet of topsoil/topdressing.
- Dry hole abandonment (option 3): Cement + 6% bentonite slurry, mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 2 feet of the original ground surface, followed by 2 feet of topsoil/topdressing.
- Dry hole abandonment (option 4): High-density bentonite clay ( $\geq 20\%$  active solids; i.e. QUIK-GROUT® manufactured by Baroid Industrial Products), mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 12 feet of the original ground surface, followed by 10 feet of neat cement, followed by 2 feet of topsoil/topdressing.
- Dry hole abandonment (option 5): Other materials / describe and justify use:  

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**Wet Boreholes**

- Wet hole abandonment (option 1): Neat cement slurry, mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 2 feet of the original ground surface, followed by 2 feet of topsoil/topdressing.
- Wet hole abandonment (option 2): High-density bentonite clay ( $\geq 20\%$  active solids; i.e. QUIK-GROUT® manufactured by Baroid Industrial Products), mixed according to the manufacturer's recommendations, emplaced with a tremie pipe from total depth to within 12 feet of the original ground surface, followed by 10 feet of neat cement, followed by 2 feet of topsoil/topdressing.

Wet hole abandonment (option 3): Other sealing material approved by the Office of the State Engineer. Describe and include well plugging plan approval by the State Engineer:

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D. Applicant agrees to contain any water produced from the exploration borehole at the drill site and acknowledges that discharge of this water to a watercourse may be a violation of the Federal Clean Water Act:       Yes       No

E. Is any drilling proposed to occur within the channel of any perennial, intermittent, or ephemeral streams?       Yes       No

F. Is any drilling anticipated to occur within 100 feet of any perennial, intermittent, or ephemeral streams?       Yes       No

**SECTION 7 – RECLAMATION & OPERATION PLAN  
(§302.D.6 AND 302.I.K)**

**A. Salvage/Preservation of Topsoil**

Before any grading/blading or similar activities occur in relation to this project, operator agrees to salvage and preserve all topsoil and topdressing for use in future reclamation of this project  Yes  No

Describe how topsoil will be salvaged prior to initiation of exploration activities (check all that apply):

- N/A – no construction work will occur, therefore no soil salvage is needed.
  - Excavated from drill pads and stored at each drill pad
  - Excavated from road improvements/construction and stored adjacent to road
  - Excavated from mud/fluid pits and storage at each pit
  - Other, describe: \_\_\_\_\_
- 

**B. Erosion Control**

Describe the best management practices that will be implemented to control erosion:

- Silt fencing                      Location: \_\_\_\_\_
- Straw wattles                      Location: \_\_\_\_\_
- Straw bales                      Location: \_\_\_\_\_
- Ditches/swales                      Location: \_\_\_\_\_
- Berms/dikes/dams                      Location:                     Around perimeter of drill pads
- Sediment basins                      Location: \_\_\_\_\_
- Other or N/A                      Type/Location:                     Drill pads will be constructed with no more than a 2% grade to minimize run off. Reconstructed slopes will have a minimal length and gradient.

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Reclamation of drill pads will include re-vegetation with native species. Re-vegetation seed rows will be established perpendicular to the slope to minimize erosion.

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C. Wildlife Protection / Noxious Weed Prevention

Will the perimeter of drill pits be fenced to prevent wildlife entrapment?  Yes  No

Proposed pit perimeter fence material: No mud pits but temporary fences will be installed around shallow cutting sumps. Chain link or high-visibility orange safety fencing will be used.

---

Describe how the pit perimeter fencing will be installed and secured (i.e., T-posts, wooden stakes, etc.):

Temporary sump fences will be secured with either T-posts or wooden stakes depending on fencing material.

---

Will at least one side of the interior of the drill pits be sloped at 3:1 as a ramp for wildlife escape?  Yes  No

If No, will another type of constructed escape ramp be installed? Describe:

Yes, a ramp will be constructed for the shallow cutting sumps.

---

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Applicant/Owner/Operator commits to pressure-washing or steam-clean all equipment prior to entering the permit area:  Yes  No

D. Reclamation Details

Describe in general how re-contouring or re-establishment of the surface topography will be restored:

Disturbed areas will be returned to their original contour during reclamation as much as practicable. Stockpiled topsoil will be re-applied to the area from which it was removed upon completion of re-contouring disturbed areas. Soil application will be performed with a front-end loader or excavator. The topsoil will be smoothed and scarified to provide a good seed bed. Small seed rows will be created perpendicular to the slope of the land to slow storm water run-off, promote infiltration, and create micro-habitats conducive to seed germination.

Describe how the reclamation of portals, adits, drilling fluid/mud and/or waste pits, shafts, ponds, roads and other disturbances will be performed:

Reclamation of drill pads will be conducted upon completion of drilling activities.

Reclamation activities will proceed as described in Section 7.0 Part B. All disturbed areas will be re-contoured, covered with topsoil, prepped, and seeded with a mixture approved by the New Mexico Mining and Minerals Division. Seed mixtures will be certified "Free of Noxious Weeds." Seeding and scarifying will be conducted with the contour, to minimize erosion. Re-vegetation efforts will be monitored. Areas which fail to establish perennial vegetation will be re-seeded.

Summa Silver Corp. does not anticipate the installation of culverts or construction of bridges as part of the scope of work for the proposed exploration drilling project. If culverts are required, Summa Silver Corp. will provide drawings of the culvert crossing to the New Mexico Mining and Minerals Division. Culverts will not be installed without approval by the Division. If any culverts are installed, they will be removed upon completion of the project or road segment, and the area will be re-contoured and revegetated.

Mine tailing, sludges and waste rock will not be generated by the exploration drilling project. Care will be taken to avoid disturbing pre-existing structures, adits, shafts, and tailings piles.

Is seeding of the reclaimed areas proposed:  Yes       No

If no, provide a justification as to why no revegetation is needed:

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Plant mix to be used in the re-establishment of vegetation:

- US Forest Service specified mix applied through broadcast at their recommended rate
- BLM specified mix applied through broadcast at their recommended rate
- Other: New Mexico Mining and Minerals Division. Seed mixtures will be certified "Free of Noxious Weeds".

Plant Name	Seeding Rate (lbs./acre)
Blue grama	4.0
Sideoats grama	3.0
Bottlebrush squirrel tail	3.0
Mountain brome grass	2.0
Slender wheatgrass	2.0
Mountain mahogany	2.0

Broadcast applied or drill-seeded:  Broadcast       Drill-seeded

Scarification Methods (check all that apply):

- Primary tillage to greater than 6-inches depth of all constructed drill pads and roads
  - Secondary tillage of all constructed drill pads and roads, and/or overland travel routes
  - Chain drag or tire drag over seeds in areas used for overland travel
  - Light raking of soil over seeds in areas used for overland travel
  - None
  - Other/describe: \_\_\_\_\_
- 

Mulch Use:

- Certified weed-free straw mulch will be placed over areas that have been tilled/disc'd or ripped at a rate of 2 tons per acre, and will be crimped in place
- No mulch is proposed

E. Reclamation Timeline

Applicant/Owner/Operator commits to reclamation of the disturbed area as soon as possible following the completion or abandonment of the exploration operation, unless the disturbed area is included within a complete permit application for a new mining permit:

- Yes     No

Anticipated Start of Reclamation:

- 0-30 days after completion of drilling
- 31-60 days after completion of drilling
- Other/specify: Within 90 days of final assay results.

**SECTION 8 – PERMIT FEES AND FINANCIAL ASSURANCE**  
**(§302.I.2 AND 5)**

A. Financial assurance must be posted with Mining and Minerals Division prior to approval of this application. The acceptable forms of financial assurance are surety bonds, letters of credit, and certificates of deposit. Provide an estimate of, and an instrument for, the proposed financial assurance required by Subpart 3.

- Surety Bond
- Letter of Credit
- Cash Account / Certificate of Deposit

Estimated amount of financial assurance: \_\_\_\_\_

Or

Applicant will provide the amount of financial assurance calculated by MMD.

B. Attach the permit fees as determined pursuant to Subpart 2. The application fee for a minimal impact exploration permit is \$500.00.

- Money Order/Cashier's Check
- Check

Check Number: 138257

Financial Institution: BBVA Compass

**SECTION 9 – CERTIFICATION REQUIREMENT (§302.1.3 & 4)**

I certify that I have personally examined and am familiar with the information submitted herein, and based on my inquiry of those individuals responsible for obtaining the information; I believe the submitted information is true, accurate, and complete. I agree to comply with the reclamation requirements set forth in this permit application and related correspondence, the New Mexico Mining Act and the Rules. Further, I certify that I am not in violation of any other obligation under the New Mexico Mining Act or the Rules adopted pursuant to that Act and I allow the Director to enter the permit area, without delay, for the purposes of conducting inspections during exploration and reclamation.



Signature of Permittee or Authorized Agent: \_\_\_\_\_

Name (type or print): Galen McNamara

Title/Position: CEO

Date: March 9, 2021

# **Attachment A**



March 3<sup>rd</sup>, 2021

Mr. John Mack  
9A Cherokee Sq.  
Wilkes-Barre, PA, 18702

RE. Lehigh Mining Claims

Dear Mr. Mack,

This letter confirms your approval for Summa Silver Corp. by way of an option agreement with Allegiant Gold Corp dated August 24<sup>th</sup>, 2020 ([www.SEDAR.com](http://www.SEDAR.com)) to use those patented mining claims (the Lehigh Patents; Socorro No. 1 etc.) subject to the Lease Consent Acknowledgement and Extension Agreement dated July 6, 2018 between yourself and partners and Allegiant Gold Corp to provide access for its exploration and development programs on your claims in the Mogollon district. Such approval covers, among other things, construction of permitted roads and drill pads. All such activities will follow Federal, state or county laws or regulations, including reclamation.

Your signature below will constitute approval as outlined above.

Sincerely,

Galen McNamara  
CEO Summa Silver Corp.

Approved this 4<sup>th</sup> day of March 2021.

John Mack



## Summa Silver Options Property Within Historic Mogollon Silver-Gold Mining District from Allegiant Gold

**August 24, 2020** – Summa Silver Corp. (“Summa” or the “Company”) (CSE: SSVR) (Frankfurt: 48X) is pleased to announce that it has signed a definitive agreement to earn up to a 100% interest in a dominant land position in the historic Mogollon silver-gold mining district (the “Property”) of southwestern New Mexico from Allegiant Gold Ltd (“Allegiant”) (TSXV: AUAU).

### Key Mogollon Property Highlights

- **Significant historic production reported:** Between 1904 and 1925 the district is reported to have produced 13.1M ounces of Ag and 271k ounces of Au from 1.39M tons of rock<sup>1</sup>. Production stopped in 1942 due to the wartime cessation of all gold and silver mining in the United States.
- **Near-mine discovery potential:** The Property features poorly explored to completely unexplored veins with strong potential for further mineralization immediately surrounding historically producing high-grade mines ([see attached figures](#)).
- **Blue-sky upside prospects:** The Property hosts a number of undrilled veins with documented small-scale underground exploration workings that were driven above the main mineralized target elevation window. The depth projections of these veins represent strong conceptual drill targets.
- **Historic exploration and underground data preserved:** An extensive technical dataset is available and compilation for drill targeting is in progress.
- **Mining critical to local economy:** The economy of southwestern New Mexico is heavily reliant on mining and two large open-pit copper mines owned by Freeport-McMoRan are in operation within 90 km of the Property.

**Galen McNamara, CEO of Summa Silver, stated:** “Both the Tonopah and Mogollon districts represent two of the best discovery opportunities I’ve seen in my career. As shareholders, this deal effectively doubles our exposure to substantially under-explored districts with legacies of prolific historic production. I would like to thank Allegiant Gold and we look forward to aggressively pursuing both Hughes and Mogollon.”

**Peter Gianulis, CEO of Allegiant Gold, commented:** “We are very excited to have reached an agreement with Summa. Their dedication and professionalism throughout this process was unparalleled and are confident we selected the right partner to develop one of the best undeveloped silver projects in the U.S. We look forward to their progress and our ability to focus on the development of Eastside, our flagship gold-oxide project in Nevada. “

**Significant Intersections from Historic Drill Programs at Mogollon Include<sup>2</sup>:**

Hole	Hole Type	Area	From (m)	To (m)	Interval (m)	Au (g/t)	Ag (g/t)	AgEq* (g/t)
MGR-2	Core	South Queen	77.7	85.3	7.6	7.9	40	711
			incl. 80.8	82.3	1.5	19.4	88	1,735
MGR-8	RC	Consolidated	257.6	279.7	22.1	2.2	147	334
			incl. 275.1	279.7	4.6	4.8	372	777
MGR-12	RC	Consolidated	211.1	240.8	29.7	1.3	43	153
MGR-13	Core	Consolidated	320.7	329.3	8.5	3.7	250	562
			incl. 323.2	323.9	0.6	23.6	1,619	3,627
			incl. 325.2	325.9	0.7	11.9	626	1,638
MGR-14	Core	Consolidated	290.6	312.7	22.1	2.9	135	380
			incl. 306.6	310.6	4.0	5.7	322	805
MGR-15	Core	Consolidated	349.6	352.3	2.7	1.1	99	192
			incl. 350.8	351.1	0.3	4.8	422	833
MGR-18	Core	Clifton	268.2	276.6	8.4	4.6	200	591
			incl. 273.6	275.8	2.3	15.4	671	1,983
MGR-30	RC	Anna E	79.2	80.8	1.5	14.2	531	1,741
MGR-35	Core	Consolidated	343.7	346.4	2.7	7.1	523	1,127
MGR-38	Core	Consolidated	299.0	313.0	14.0	4.5	219	598
MGR-40	Core	Consolidated	430.7	434.9	4.3	4.3	267	632

Hole	Easting	Northing	Orientation (Azimuth/Dip)
MGR-2	704473	3696881	270/-46
MGR-8	705011	3698228	280/-60
MGR-12	705100	3698526	280/-62
MGR-13	705059	3698204	280/-64
MGR-14	705150	3698507	280/-60
MGR-15	705104	3698376	280/-63.5
MGR-18	704927	3697630	280/-54
MGR-30	704346	3696982	180/-55
MGR-35	705082	3698090	280/-60
MGR-38	705120	3698436	287/-65
MGR-40	705199	3698423	282/-67

\* Silver equivalent (“AgEq”) based on 85:1 Au/Ag. Historic drill holes were drilled via reverse circulation and core methods between 1984 and 1989 by Cordex Exploration Company, and John Livermore. Intersections are reported in downhole lengths. True thicknesses are currently unknown but estimated to be approximately 70-80% of downhole lengths. Hole locations are UTM coordinates (NAD 27, Zone 12N)

## Data Verification

The data disclosed in this news release relating to production and drilling is historic in nature. Historic production records for the Property are incomplete and are of unknown accuracy. Neither the Company nor the qualified persons are able to verify the historic production data and therefore investors should not place undue reliance on such data. The Company is unable to verify the data as drill hole rock samples are unavailable, precise drill hole collar locations are unknown, and down-hole survey data is incomplete. As such, the Company is treating the drill results as historical in nature and investors should not place undue reliance on such data. The Company's future exploration work will include verification of the data.

## Exploration Plans

The Company is now beginning the data compilation, drill targeting, and permitting process with a view to be ready to drill in early 2021.

## Acquisition Terms

The Company may earn up to a 100% interest in the Property from Allegiant in two phases.

Phase I is an option to earn a 75% interest in the Property over three years for staged payments totalling US\$350,000 in cash, 200,000 shares, US\$1,450,000 of value in shares\*, and a final payment of US\$1,000,000 which may be paid in cash and/or shares at the election of Summa. Additionally, the Phase I earn-in includes a US\$3,000,000 work commitment on the Property.

Phase I – Payment Schedule on Option to Earn 75%:

Date	Cash (USD)	Shares (USD)
Effective Date	\$50,000	200,000 shares
1st Anniversary	\$100,000	\$300,000
2nd Anniversary	\$100,000	\$500,000
3rd Anniversary	\$100,000	\$650,000
3rd Anniversary	\$1,000,000	
<b>Total Consideration (USD)</b>	<b>\$2,800,000 + 200,000 shares</b>	

\*Shares calculated from 20-day volume-weighted-average-price

Phase I – Work Commitment:

Date	Work Commitment (USD)
1st Anniversary	\$250,000
2nd Anniversary	\$1,250,000
3rd Anniversary	\$1,500,000
<b>Total</b>	<b>\$3,000,000</b>

After the 75% earn in, Summa can then elect to either form a 75/25 Joint Venture with Allegiant, or purchase the remaining 25% interest for US\$3,000,000 in cash and shares, a minimum of US\$1,000,000 of which must be in cash.

### **Property Summary**

The Property consists of 81 patented mining claims and 86 unpatented lode mining claims located in Catron County, New Mexico. The patented claims are surrounded by lands administered by the United States Forest Service. Seventy-one of the patented claims are leased under two separate agreements. Sixty-four of the unpatented claims are leased under one agreement. The remaining patented and unpatented claims are 100% owned by Allegiant.

The leases are summarized as follows:

<b>Leasor</b>	<b>Property Description</b>	<b>Annual Advanced Royalty Payments (Beginning in 2009) (USD)</b>
Mogollon Enterprises	22 Patented Claims	\$10,000
Sage Associates	64 Unpatented Lode Mining Claims	\$10,000
Mack-Parker-Hott	49 Patented Claims	\$20,000

The leases have ten-year terms and are renewable indefinitely. The annual advanced royalty payments began in 2009 and are indexed to inflation via the Production Price Index for Industrial Commodities from the U.S. Bureau of Labour and Statistics. The properties comprising each lease are subject to a 3% Net Smelter Return royalty, which increases to 4% for gold and silver when the price of gold exceeds USD \$1000. Additionally, if a feasibility study is completed which recommends the development of a mine on the Property, a one-time USD \$500,000 payment is due to former owners of the Property.

### **Qualified Persons**

The technical content of this news release has been reviewed and approved by both, Andy Wallace, CPG, Director of Allegiant Gold, and Galen McNamara, P. Geo., CEO of the Company. Both individuals are a qualified persons as defined by National Instrument 43-101. The Qualified Persons have not verified the data disclosed, including sampling, analytical and test data underlying the information or opinions contained in the written disclosure.

### **About Summa Silver Corp**

Summa Silver Corp is a Canadian junior mineral exploration company. The Company has the option to earn a 100% interest in the Hughes property located in central Nevada. The Hughes property is host to the high-grade past-producing Belmont Mine, one of the most prolific silver producers in the United States between 1903 and 1929. The mine has remained inactive since commercial production ceased in 1929 due to heavily depressed metal prices and little to no modern exploration work has ever been completed.

## ON BEHALF OF THE BOARD OF DIRECTORS

***"Galen McNamara"***

Galen McNamara, Chief Executive Officer

[info@summasilver.com](mailto:info@summasilver.com)

[www.summasilver.com](http://www.summasilver.com)

### **Investor Relations Contact:**

Kin Communications

Arlen Hansen

604-684-6730

[SSVR@kincommunications.com](mailto:SSVR@kincommunications.com)

### **References**

<sup>1</sup>Geology and Ore Deposits of the Mogollon Mining District, New Mexico, U.S. Geological Survey Bulletin 787, Henry G. Ferguson, 1927

<sup>2</sup>Drill Logs, Cordex Exploration Company Records, 1984-1989

*There are no assurances that the Company will achieve the same results for the Property as past producers. Past production figures are historical and there are no assurances that the Company will be able to reconcile these to current NI 43-101 categories. A qualified person has not done sufficient work to classify this information as a current mineral resource estimate and the Company is not treating the historical production as a current NI 43-101 mineral resource.*

*This news release contains certain statements that may be deemed "forward-looking statements" with respect to the Company within the meaning of applicable securities laws. Forward-looking statements are statements that are not historical facts and are generally, but not always, identified by the words "expects", "plans", "anticipates", "believes", "intends", "estimates", "projects", "potential" and similar expressions, or that events or conditions "will", "would", "may", "could" or "should" occur. Although Summa believes the expectations expressed in such forward-looking statements are based on reasonable assumptions, such statements are not guarantees of future performance, are subject to risks and uncertainties, and actual results or realities may differ materially from those in the forward-looking statements. Such material risks and uncertainties include, but are not limited to, the Company's ability to raise sufficient capital to fund its obligations under its property agreements going forward, to maintain its mineral tenures and concessions in good standing, to explore and develop the Hughes and Mogollon projects, and for general working capital purposes; changes in economic conditions or financial markets; the inherent hazards associated with mineral exploration and mining operations, future prices of silver and other metals, changes in general economic conditions, accuracy of mineral resource and reserve estimates, the ability of the Company to obtain the necessary permits and consents required to explore, drill and develop the project and if obtained, to obtain such permits and consents in a timely fashion relative to the Company's plans and business objectives for the projects; the general ability of the Company to monetize its mineral resources; changes in environmental and other laws or regulations that could have an impact on the Company's operations, compliance with environmental laws and regulations, aboriginal title claims*

*and rights to consultation and accommodation; dependence on key management personnel; general competition in the mining industry; and uncertainties surrounding the COVID 19 pandemic. Forward-looking statements are based on the reasonable beliefs, estimates and opinions of the Company's management on the date the statements are made. Except as required by law, the Company undertakes no obligation to update these forward-looking statements in the event that management's beliefs, estimates or opinions, or other factors, should change.*

[Click to Print](#)**Owner Information**

**Owner # 2283 District 1**  
MACK, JOHN JR. & HOTT, ANN &  
PARKER, MARY K.

9A CHEROKEE SQ  
WILKES BARRE PA 18702

**Estimated Taxes for Owner**

Estimated Tax Estimated Year used  
\$3304.38 2020

[Calculate Estimated Tax](#)**Recap Value Information**

<b>Central Full Value</b>	0	<b>Full Value</b>	520551
<b>Land Full Value</b>	516501	<b>Taxable Value</b>	173517
<b>Improvements Full value</b>	4050	<b>Exempt Value</b>	0
<b>Personal Property Full Value</b>	0	<b>Net Value</b>	173517
<b>Manufactured Home Full Value</b>	0		
<b>Livestock Full Value</b>	0		

**Property Information**

**Property Code** 3112058184475  
**Book 17 Page 330 Reception# 0**

**Physical Address****Bldg Apt****Section 21 Township 10 S Range 19 W**

LEAP YEAR #1070

**Property Value Information**

112 Non-Residential Land	796.800	0.00	511545
101 Residential Land	1.000	0.00	4956
223 Non-Residential Improvements 1		0.00	234
221 Residential Improvements 1		0.00	3816

**Property Information****Property Code** 3112060220000**Book 17 Page 330 Reception# 0****Physical Address****Bldg Apt****Section 28 Township 10 S Range 19 W**

LITTLE FANNY #840

CHAMPION #1392

LITTLE CHARLIE #1689

MAUDE S. #912-A

SILVER FOUNTAIN #304

ANDREW JACKSON &amp; CONSOLIDATED #1392

LEXINGTON GUNBOAT #1392

VIRGINIA #1656

SANDY #1689

HOMESTAKE #1689

JOHNSON #20 #1653

JOHNSON #21 #1653

JOHNSON #25 #1625

JOHNSON #26 #1625

LAST ATTEMPT #967

**Property Information**

**Property Code** 3112060220000 28  
**Book 17 Page 330 Reception# 0**  
**Physical Address**  
**Bldg Apt**  
**Section 28 Township 10 S Range 19 W**

OLD STRIK #524 27 & 28  
SILVER BAR #305 21 & 28  
SOCORRO #1 #1392 27 & 28  
SOCORRO #2 #1392 28 & 33  
LENA #1689 28 & 29  
LITTLE GIANT #1689 28 & 29  
SELMA #1689 28 & 33  
JOHNSON #11 #1625 28 & 29  
JOHNSON #13 #1625 28 & 29  
FIRST ATTEMPT #1653 28 & 29  
FREE MILLING #561-A20 & 29  
LEXINGTON CONSTENTION #1392 28 & 33  
1216 SQ. FT. HOUSE HERE

### Property Information

**Property Code** 3113059264198  
**Book 17 Page 330 Reception# 0**  
**Physical Address**  
**Bldg Apt**  
**Section 29 Township 10 S Range 19 W**

JOHNSON #1365  
JOHNSON #2 #1625  
JOHNSON #3 #1625  
JOHNSON #4 #1625  
JOHNSON #5 #1625  
JOHNSON #6 #1625  
JOHNSON #10 #1625  
JOHNSON #12 #1625  
JOHNSON #14 #1625  
JOHNSON #15 #1625  
JOHNSON #16 #1625  
JOHNSON #18 #1625  
SLAY BACK #56-A

Next

# **Attachment B**

**(Cultural Resources Report Under Separate Cover)**

# **Attachment C**

# DESKTOP SCREENING AND HABITAT ASSESSMENT FOR AREA OF PROPOSED EXPLORATION NEAR MOGOLLON, NEW MEXICO

**Prepared for:** Summa Silver, LLC  
**Prepared by:** WestLand Resources, Inc.  
**Date:** December 8, 2020  
**Project No.:** 2172.01

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## FIGURES

(follow text)

Figure 1.	Vicinity Map
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## APPENDICES

Appendix A.	U.S. Fish and Wildlife Service Information for Planning and Consultation (IPaC) Query Results
Appendix B.	Biota Information System of New Mexico (BISON-M) Query Results
Appendix C.	Representative Photographs of the Project Area

## I. INTRODUCTION AND BACKGROUND

WestLand Resources, Inc. (WestLand), was retained by Summa Silver, LLC (Summa Silver), to perform a desktop screening of potential special-status species and conduct a preliminary habitat assessment for special-status species in areas of proposed exploration and drilling (the Project). Summa Silver is proposing to conduct mining activities on an existing, historical mine site in Catron County, near Mogollon, New Mexico (**Figure 1**). On November 16 and 17, 2020, a WestLand biologist conducted a habitat assessment on an approximately 40-acre area (Project Area; **Figure 2**). WestLand prioritized habitat features to evaluate for special-status species based on a desktop screening evaluation of special-status species. For the purposes of this report, special-status species include:

1. Species listed under the Endangered Species Act (ESA) by the U.S. Fish and Wildlife Service (USFWS) and their designated or proposed critical habitat that have the potential to occur within the Project Area as identified by the USFWS Information, Planning and Consultation (IPaC) tool (**Appendix A**);
2. Species protected under the Bald and Golden Eagle Protection Act (BGEPA); and
3. Species designated as threatened or endangered by the New Mexico Department of Game and Fish (NMGF), as identified by the Biota Information System of New Mexico (BISON-M) query results for Catron County (**Appendix B**); and
4. New Mexico rare plant species for Catron County (New Mexico Rare Plant Technical Council [NMRPTC ] 1999).

The following sections provide the methods for screening special-status species and field habitat assessment (**Section 2**), results of the habitat assessment (**Section 3**), conclusions (**Section 4**), and the references cited (**Section 5**). Representative photographs of the Project Area are provided in **Appendix C**.

## 2. METHODS

This section describes what categories of special-status species were identified for analysis and how the biological site visit was performed to assess habitat for the identified special-status species.

### 2.1. SPECIAL-STATUS SPECIES IDENTIFICATION

A desktop screening analysis was completed to identify which special-status species, or their critical habitats, may occur in the Project Area. As stated in **Section 1**, special-status species were defined as those designated by USFWS as Endangered or Threatened under the ESA as identified by the USFWS IPaC tool (**Appendix A**), species protected under the BGEPA, New Mexico threatened or endangered species as identified by BISON-M tool (**Appendix B**), and New Mexico rare plants for Catron County that may occur in the vicinity of Project Area. Proposed or designated critical habitat in the Project Area for ESA-listed species was also identified using USFWS IPaC tool (**Appendix A**). Critical habitats are areas that are determined by the USFWS to be essential to the conservation of ESA-listed

species (USFWS 2020, accessed December 7, 2020). There was no critical habitat identified for any species that coincides with the Project Area. Even though there was no critical habitat present, habitat features associated with each species were determined to inform the habitat characteristics to be evaluated during the biological field visit. Special-status species identified by this screening and the habitat features commonly associated with each species are summarized in **Table 1**.

**Table 1. Special-Status Species Identified in Desktop Screening for the Project Area**

<b>Special-Status Species Common Name, Agency, Scientific Name and Preferred Habitat</b>				
<b>Common Name</b>	<b>Scientific Name</b>	<b>USFWS<sup>1</sup></b>	<b>NMGF<sup>2</sup></b>	<b>Habitat Features</b>
Gila chub	<i>Gila intermedia</i>	E	E	Perennial water features (USFWS 2015)
Gila trout	<i>Oncorhynchus gilae</i>	T	T	Perennial water features (USFWS 2003)
Loach minnow	<i>Rhinichthys cobitis</i>	E	E	Perennial water features (USFWS 2012a)
Spikedace	<i>Meda fulgida</i>	E	E	Perennial water features (USFWS 2012a)
Mexican gray wolf	<i>Canis lupus baileyi</i>	E	E	Forested mountainous terrain or adjacent grasslands (USFWS 1998)
Spotted bat	<i>Euderma maculatum</i>		T	Rocky cliffs and canyons (Gervais 2016)
Arizona montane vole	<i>Microtus montanus arizonensis</i>		E	Wet soils and dense graminoids (Frey 2005)
Baird's sparrow	<i>Centronyx bairdii</i>		T	Grassland and tall-grass prairies (Green et al. 2020)
Bald eagle <sup>3</sup>	<i>Haliaeetus leucocephalus</i>		T	Large trees or cliffs near perennial water (Buehler 2020)
Bell's vireo	<i>Vireo bellii</i>		T	Dense vegetation in streams or dry arroyos (Kus et al. 2020)
Gray vireo	<i>Vireo vicinior</i>		T	Pinyon pine-juniper, mesquite and oak scrub (Barlow, Leckie, and Baril 2020)
Brown pelican	<i>Pelecanus occidentalis</i>		E	Perennial water features (Shields 2020)
Common black hawk	<i>Buteogallus anthracinus</i>		T	Riparian habitat on perennial or intermittent water features (Schnell 2020)
Elegant trogon	<i>Trogon elegans</i>		E	Canyons, often with tall sycamore and streams (Williams 2011)
Gila woodpecker			T	Lowland desert near riparian areas
Golden eagle <sup>3</sup>	<i>Aquila chrysaetos</i>			Large cliffs with nearby open areas (Katzner et al. 2020)
Least Tern	<i>Melanerpes uropygialis</i>	E		Perennial water features (USFWS 1985)
Neotropic cormorant	<i>Phalacrocorax brasilianus</i>		T	Perennial water features (Telfair II and Morrison 2020)
Peregrine falcon	<i>Falco peregrinus</i>		T	Cliffs and open habitat (Burger 2005)
Southwestern willow flycatcher	<i>Empidonax traillii eximius</i>	E	E	Dense riparian vegetation along water features (AGFD 2002, USFWS 2013a)
Mexican spotted owl	<i>Strix occidentalis lucida</i>	T		Old growth mixed conifer or pine-oak forests along canyons (Gutiérrez, Franklin, and Lahaye 2020, USFWS 2012b)
Thick-billed kingbird	<i>Tyrannus crassirostris</i>		E	Riparian habitat with large trees (Lowther, Pyle, and Patten 2020)
Varied bunting	<i>Passerina versicolor</i>		T	Undisturbed arid thorn brush at riparian edges (Groschupf and Thompson 2020)
White-eared hummingbird	<i>Basilinna leucotis</i>		T	Pine-oak and pine-evergreen forests (Arizmendi et al. 2015)

**Table 1. Special-Status Species Identified in Desktop Screening for the Project Area**

<b>Special-Status Species Common Name, Agency, Scientific Name and Preferred Habitat</b>				
<b>Common Name</b>	<b>Scientific Name</b>	<b>USFWS<sup>1</sup></b>	<b>NMGMF<sup>2</sup></b>	<b>Habitat Features</b>
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	T		Drainages with primarily dense vegetation, usually riparian woodland (USFWS 2013c)
Narrow-headed gartersnake	<i>Thamnophis rufipunctatus</i>	T	T	Clear, rocky streams and dense bank-line vegetation (USFWS 2014)
Northern Mexican gartersnake	<i>Thamnophis eques megalops</i>	T		Perennial to semi-permanent water sources (AGFD 2012, USFWS 2013b)
Chiricahua leopard frog	<i>Lithobates chiricahuensis</i>	T		Perennial or intermittent water features (USFWS 2011)
Lowland leopard frog	<i>Lithobates yavapaiensis</i>		E	Perennial or intermittent water features (Platz and Frost 1984)
New Mexico jumping mouse	<i>Zapus hudsonius luteus</i>	E		Dense riparian vegetation along waterways (USFWS 2016)
Gila springsnail	<i>Pyrgulopsis gilae</i>		T	Aquatic habitat (BISON-M 2017)
New Mexico hot springsnail	<i>Pyrgulopsis thermalis</i>		T	Thermal aquatic habitat (BISON-M 2019)
Goodding's onion	<i>Allium gooddingii</i>		E	Moist drainage bottoms (USFS and USFWS 1997)
Hess' fleabane	<i>Erigeron bessii</i>		E	Subalpine forest between 9,500 – 10,200 feet (ft) elevation (NMRPTC 2016a)
Parish's alkali grass	<i>Puccinellia parishii</i>		E	Alkaline springs and seeps 2,600-7,200 ft (Roth 2008)
Zuni fleabane	<i>Erigeron rhizomatus</i>		E	Barren detrital clay hillsides, 7,300-8,000 ft (NMRPTC 2016b)

<sup>1</sup> Species designated as threatened or endangered by the USFWS IPaC tool.

<sup>2</sup> Species designated as threatened or endangered by New Mexico Game and Fish.

<sup>3</sup> Species protected under the BGEPA.

## 2.2. BIOLOGICAL SITE VISIT AND HABITAT ASSESSMENT

On November 16 and 17, 2020, a WestLand biologist completed a site visit of the Project Area to assess the habitat suitability for the habitat characteristics identified for each special-status species (Table 1). The majority of the special-status species identified above are associated with riparian vegetation and/or aquatic habitat, as well as cliffs or rocky outcrops. At each potential drill pad, WestLand assessed and characterized habitat in the Project Area by documenting the predominant plant species, canopy cover, and by taking photographs in each cardinal direction (Appendix C). Potential surface water features that were identified prior to the field survey using aerial imagery and U.S. Geological Survey topographic maps, including two potential drainages and an earthen cattle tank, were visited during the habitat assessment. While topographic maps and aerial imagery did not detect any cliffs or rocky outcrops that may be suitable for the special-status species listed above, potential cliff habitat was located outside of but near the Project Area. WestLand visited the cliff to assess its suitability as habitat and to determine the presence of sign relevant to identified special-status species, including feces (e.g., whitewash from raptors) and nests. During the site visit, the WestLand biologist also documented any wildlife sightings or sign, including tracks and feces.

### 3. RESULTS OF HABITAT ASSESSMENT

Vegetation in the Project Area is broadly mapped as Great Basin Conifer Woodland (The Nature Conservancy 2012), and the species observed in the Project Area largely corresponded with this description (**Appendix A, Photographs 1 - 3**). Overstory species in the Project Area were almost entirely dominated by pines (*Pinus* spp.), junipers (*Juniperus* spp.), and oaks (*Quercus* spp.), interspersed with some shrubby oaks and mountain mahogany (*Cercocarpus montanus*). Understory species included cholla cactus (*Cylindropuntia* spp.), agave (*Agave palmeri*), broom snakeweed (*Gutierrezia sarothrae*), beargrass (*Nolina macrocarpa*), bearberry (*Garrya wrightii*), silver leaf oak (*Quercus hypoleucooides*), banana yucca (*Yucca baccata*), and unidentified grasses and forbs. The canopy was primarily open across the Project Area, with a canopy below approximately seven meters in height (**Appendix C, Photographs 2 - 3**).

Elevation in the Project Area ranged from 6,900 ft to 7,100 ft above-mean-sea-level (amsl). The geomorphology of the site was characterized by gently sloping hills interspersed by several small, shallow drainages. The ground cover in the Project Area was primarily bare, consisting of loose, gravelly rock, with some exposed bedrock (**Appendix C, Photograph 3**).

There were no surface water features nor riparian habitat in the Project Area. The cattle tank and potential drainage features identified prior to survey were dry and did not show any recent evidence of saturation. The drainages were rocky, showed no evidence of recent surface flow, and were entirely composed of upland vegetation in similar densities to the surrounding uplands (**Appendix C, Photographs 4-5**). The cattle tank was dry, with minimal to low cracking, and grasses were present in the bottom of the tank (**Appendix C, Photograph 6**).

There was no suitable riparian, canyon, or cliff habitat for special-status species in the Project Area. While no wildlife was visually detected in the area, bear, rabbit, and deer scat was detected in the Project Area. No nests were detected in the Project Area. While there was no suitable cliff habitat in the Project Area, there were cliffs identified approximately 0.4 km outside of the Project Area (**Appendix C, Photograph 7**) that showed sign of use by raptors, including a small patch of whitewash (**Appendix C, Photograph 8**), although no nests were visible. It is possible that a raptor species has used the cliffs for foraging in the past.

### 4. CONCLUSIONS

WestLand conducted a desktop screening and habitat assessment for special-status species in areas proposed for exploration and drilling by Summa Silver. There were no suitable water features, riparian habitat, cliff, or rocky outcrops generally used by most of the special-status species identified within the Project Area. Further, there was no sign (i.e., nests, tracks, or scat) of special-status species identified in the Project Area. There may be potentially suitable cliff habitat outside of the Project Area, approximately 0.4 km west of the proposed activities, although this area showed limited evidence of use by wildlife. WestLand's preliminary conclusion is that the habitat present in the Project Area is unlikely to be suitable for the identified special-status species.

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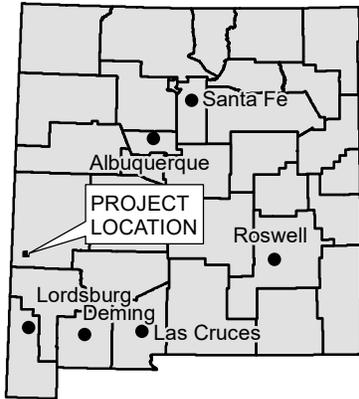
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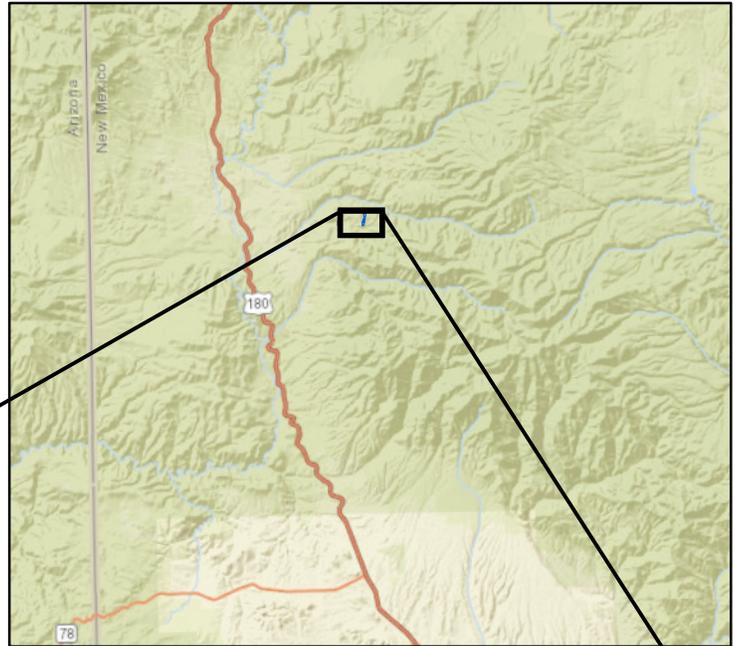
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## FIGURES

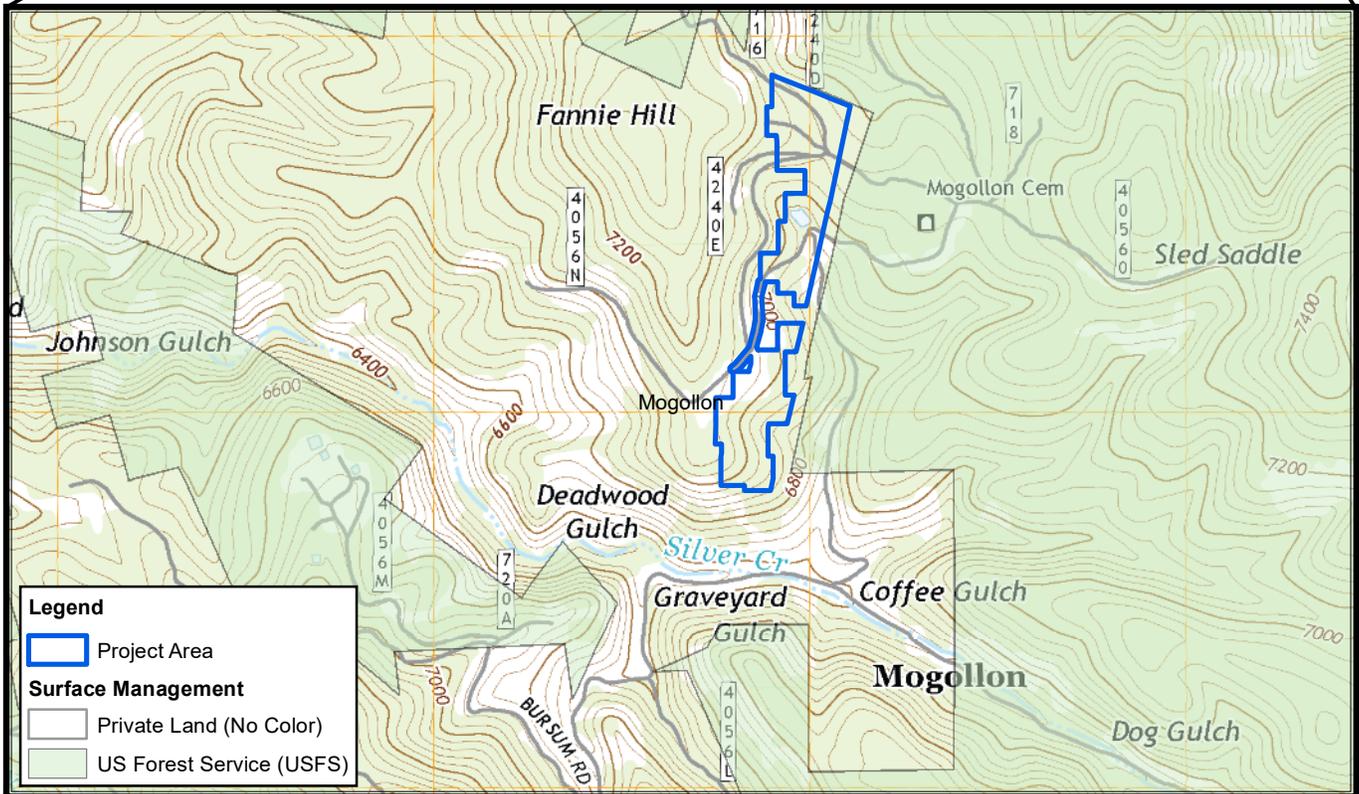
NEW MEXICO



PROJECT VICINITY



Approximate Scale 1 Inch = 10 Miles

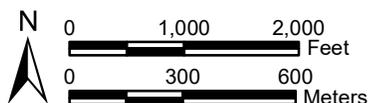


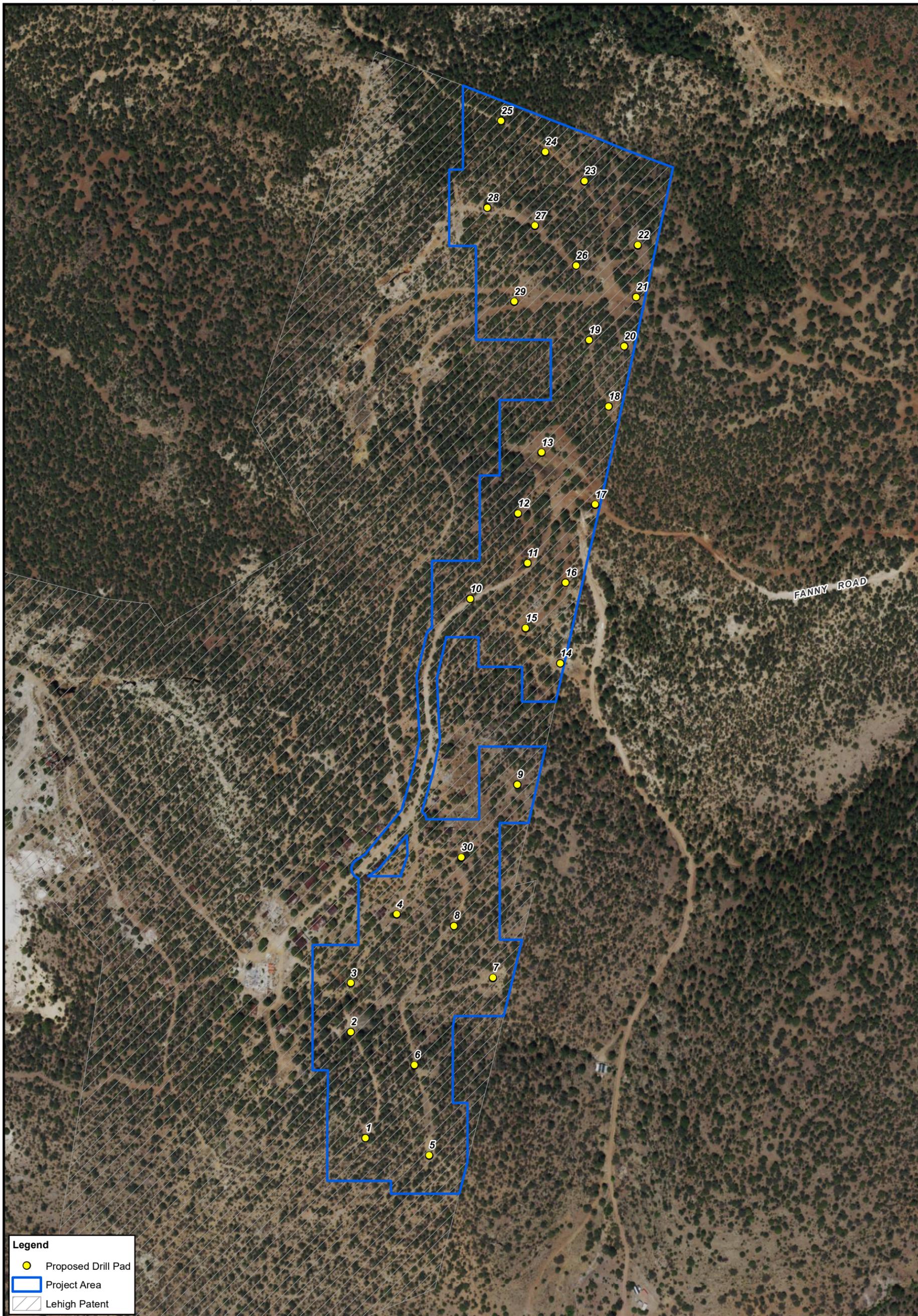
Project Area in:  
T10S, R19W, Portions of Sections 27, 28 and 33,  
Catron County, New Mexico,  
Mogollon USGS 7.5' Quadrangle (2020)  
Data Source: Rangefront Technical Services  
New Mexico BLM Surface Management (2014)  
Image Source: ArcGIS Online, World Street Map

**SUMMA SILVER**  
Mogollon Exploration Permitting  
Biological Screening

VICINITY MAP

Figure 1





**Legend**

- Proposed Drill Pad
- Project Area
- Lehigh Patent

Project Area in:  
 T10S, R19W, Portions of Sections 27, 28 and 33,  
 Catron County, New Mexico,  
 Data Source: Rangefront Technical Services  
 Image Source: USDA NAIP, Natural Color 04/27/2019

**SUMMA SILVER**  
 Mogollon Exploration Permitting  
 Biological Screening

PROJECT AREA  
 Figure 2



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## **APPENDIX A**

### **USFWS IPaC Query Results**

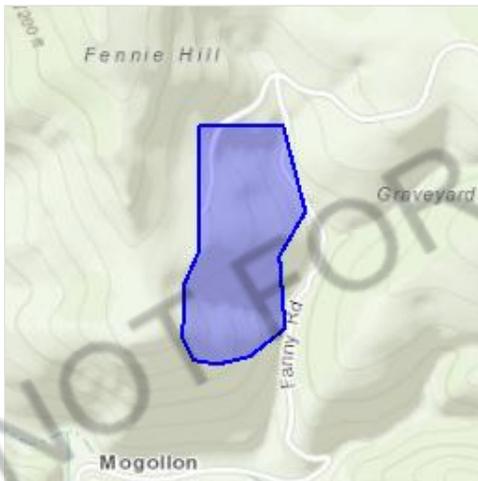
# IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

## Location

Catron County, New Mexico



## Local office

New Mexico Ecological Services Field Office

☎ (505) 346-2525

📅 (505) 346-2542

2105 Osuna Road Ne  
Albuquerque, NM 87113-1001

<http://www.fws.gov/southwest/es/NewMexico/>

[http://www.fws.gov/southwest/es/ES\\_Lists\\_Main2.html](http://www.fws.gov/southwest/es/ES_Lists_Main2.html)

# Endangered species

**This resource list is for informational purposes only and does not constitute an analysis of project level impacts.**

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species<sup>1</sup> and their critical habitats are managed by the [Ecological Services Program](#) of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries<sup>2</sup>).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact [NOAA Fisheries](#) for [species under their jurisdiction](#).

1. Species listed under the [Endangered Species Act](#) are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the [listing status page](#) for more information.
2. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

## Mammals

NAME

STATUS

Gray Wolf <i>Canis lupus</i> No critical habitat has been designated for this species.	Proposed Endangered
Mexican Wolf <i>Canis lupus baileyi</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/3916">https://ecos.fws.gov/ecp/species/3916</a>	EXPN
New Mexico Meadow Jumping Mouse <i>Zapus hudsonius luteus</i> This species only needs to be considered if the following condition applies: <ul style="list-style-type: none"> <li>If project affects dense herbaceous riparian vegetation along waterways (stream, seep, canal/ditch).</li> </ul> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/7965">https://ecos.fws.gov/ecp/species/7965</a>	Endangered

## Birds

NAME	STATUS
Least Tern <i>Sterna antillarum</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/8505">https://ecos.fws.gov/ecp/species/8505</a>	Endangered
Mexican Spotted Owl <i>Strix occidentalis lucida</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/8196">https://ecos.fws.gov/ecp/species/8196</a>	Threatened
Southwestern Willow Flycatcher <i>Empidonax traillii extimus</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/6749">https://ecos.fws.gov/ecp/species/6749</a>	Endangered
Yellow-billed Cuckoo <i>Coccyzus americanus</i> There is <b>proposed</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/3911">https://ecos.fws.gov/ecp/species/3911</a>	Threatened

## Reptiles

NAME	STATUS
Narrow-headed Gartersnake <i>Thamnophis rufipunctatus</i> There is <b>proposed</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/2204">https://ecos.fws.gov/ecp/species/2204</a>	Threatened

Northern Mexican Gartersnake *Thamnophis eques megalops* Threatened  
 There is **proposed** critical habitat for this species. Your location is outside the critical habitat.  
<https://ecos.fws.gov/ecp/species/7655>

## Amphibians

NAME	STATUS
Chiricahua Leopard Frog <i>Rana chiricahuensis</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/1516">https://ecos.fws.gov/ecp/species/1516</a>	Threatened

## Fishes

NAME	STATUS
Gila Trout <i>Oncorhynchus gilae</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/781">https://ecos.fws.gov/ecp/species/781</a>	Threatened
Loach Minnow <i>Tiaroga cobitis</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/6922">https://ecos.fws.gov/ecp/species/6922</a>	Endangered
Spikedace <i>Meda fulgida</i> There is <b>final</b> critical habitat for this species. Your location is outside the critical habitat. <a href="https://ecos.fws.gov/ecp/species/6493">https://ecos.fws.gov/ecp/species/6493</a>	Endangered

## Flowering Plants

NAME	STATUS
Zuni Fleabane <i>Erigeron rhizomatus</i> No critical habitat has been designated for this species. <a href="https://ecos.fws.gov/ecp/species/5700">https://ecos.fws.gov/ecp/species/5700</a>	Threatened

## Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

# Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act<sup>1</sup> and the Bald and Golden Eagle Protection Act<sup>2</sup>.

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described [below](#).

1. The [Migratory Birds Treaty Act](#) of 1918.
2. The [Bald and Golden Eagle Protection Act](#) of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern <http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php>
- Measures for avoiding and minimizing impacts to birds <http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php>
- Nationwide conservation measures for birds <http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf>

The birds listed below are birds of particular concern either because they occur on the [USFWS Birds of Conservation Concern](#) (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ [below](#). This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the [E-bird data mapping tool](#) (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found [below](#).

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME

BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE.

"BREEDS ELSEWHERE" INDICATES  
 THAT THE BIRD DOES NOT LIKELY  
 BREED IN YOUR PROJECT AREA.)

<p><b>Black-chinned Sparrow</b> <i>Spizella atrogularis</i>        This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/9447">https://ecos.fws.gov/ecp/species/9447</a></p>	Breeds Apr 15 to Jul 31
<p><b>Black-throated Gray Warbler</b> <i>Dendroica nigrescens</i>        This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds May 1 to Jul 20
<p><b>Golden Eagle</b> <i>Aquila chrysaetos</i>        This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.  <a href="https://ecos.fws.gov/ecp/species/1680">https://ecos.fws.gov/ecp/species/1680</a></p>	Breeds Jan 1 to Aug 31
<p><b>Grace's Warbler</b> <i>Dendroica graciae</i>        This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds May 20 to Jul 20
<p><b>Gray Vireo</b> <i>Vireo vicinior</i>        This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/8680">https://ecos.fws.gov/ecp/species/8680</a></p>	Breeds May 10 to Aug 20
<p><b>Mexican Whip-poor-will</b> <i>Antrostomus arizonae</i>        This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.</p>	Breeds May 1 to Aug 20
<p><b>Phainopepla</b> <i>phainopepla nitens</i>        This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA  <a href="https://ecos.fws.gov/ecp/species/1372">https://ecos.fws.gov/ecp/species/1372</a></p>	Breeds Mar 1 to Aug 20
<p><b>Pinyon Jay</b> <i>Gymnorhinus cyanocephalus</i>        This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.  <a href="https://ecos.fws.gov/ecp/species/9420">https://ecos.fws.gov/ecp/species/9420</a></p>	Breeds Feb 15 to Jul 15
<p><b>Red-faced Warbler</b> <i>Cardellina rubrifrons</i>        This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA</p>	Breeds May 10 to Jul 15

**Rufous Hummingbird** *selasphorus rufus*

Breeds elsewhere

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/8002>

**Rufous-winged Sparrow** *Aimophila carpalis*

Breeds Jun 15 to Sep 30

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

**Virginia's Warbler** *Vermivora virginiae*

Breeds May 1 to Jul 31

This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

<https://ecos.fws.gov/ecp/species/9441>

## Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

### Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is  $0.25/0.25 = 1$ ; at week 20 it is  $0.05/0.25 = 0.2$ .
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

### Breeding Season (■)

Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

### Survey Effort (I)

Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

### No Data (-)

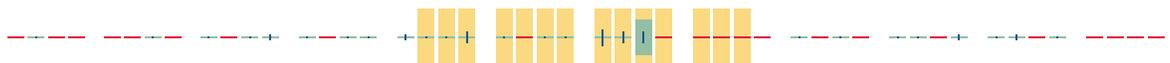
A week is marked as having no data if there were no survey events for that week.

### Survey Timeframe

Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



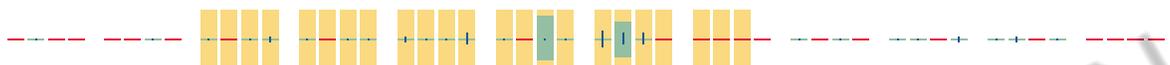
Gray Vireo  
 BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Mexican Whip-poor-will  
 BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



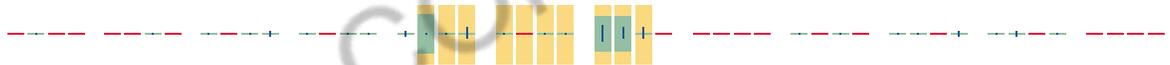
Phainopepla  
 BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



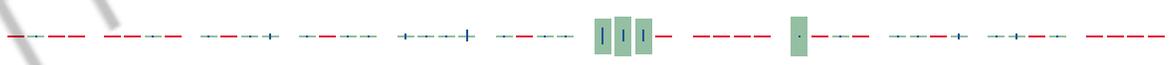
Pinyon Jay  
 BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



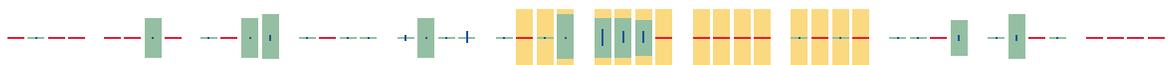
Red-faced Warbler  
 BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Rufous Hummingbird  
 BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)

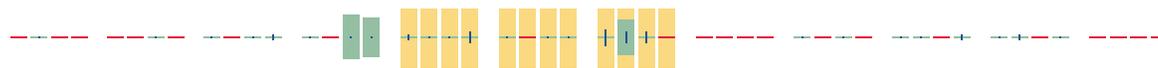


Rufous-winged Sparrow  
 BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



NOT FOR CONSULTATION

Virginia's Warbler  
BCC Rangelwide  
(CON) (This is a Bird  
of Conservation  
Concern (BCC)  
throughout its range  
in the continental  
USA and Alaska.)



**Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.**

[Nationwide Conservation Measures](#) describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. [Additional measures](#) and/or [permits](#) may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

**What does IPaC use to generate the migratory birds potentially occurring in my specified location?**

The Migratory Bird Resource List is comprised of USFWS [Birds of Conservation Concern \(BCC\)](#) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the [Avian Knowledge Network \(AKN\)](#). The AKN data is based on a growing collection of [survey, banding, and citizen science datasets](#) and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle ([Eagle Act](#) requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the [AKN Phenology Tool](#).

**What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?**

The probability of presence graphs associated with your migratory bird list are based on data provided by the [Avian Knowledge Network \(AKN\)](#). This data is derived from a growing collection of [survey, banding, and citizen science datasets](#).

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

**How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?**

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: [The Cornell Lab of Ornithology All About Birds Bird Guide](#), or (if you are unsuccessful in locating the bird of interest there), the [Cornell Lab of Ornithology Neotropical Birds guide](#). If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

**What are the levels of concern for migratory birds?**

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are [Birds of Conservation Concern](#) (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the [Eagle Act](#) requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

### Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the [Northeast Ocean Data Portal](#). The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the [NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf](#) project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the [Diving Bird Study](#) and the [nanotag studies](#) or contact [Caleb Spiegel](#) or [Pam Loring](#).

### What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to [obtain a permit](#) to avoid violating the Eagle Act should such impacts occur.

### Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

## Facilities

## National Wildlife Refuge lands

Any activity proposed on lands managed by the [National Wildlife Refuge](#) system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

## Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

## Wetlands in the National Wetlands Inventory

Impacts to [NWI wetlands](#) and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local [U.S. Army Corps of Engineers District](#).

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

### Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

### Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tubercid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

### Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

NOT FOR CONSULTATION

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## **APPENDIX B**

**Biota  
Information  
System of  
New Mexico  
(BISON-M)  
Query Results**

## All Species Catron

<u>Taxonomic Group</u>	<u># Species</u>	<u>Taxonomic Group</u>	<u># Species</u>
Amphibians	13	Birds	252
Coleoptera; beetles	14	Crustaceans	2
Ephemeroptera; mayflies	36	Fish	28
Hymenoptera; ants, bees, wasps	1	Lepidoptera; moths and butterflies	162
Mammals	90	Misc. Arachnids	5
Molluscs	36	Odonata; dragonflies	56
Orthoptera; grasshoppers & crickets	49	Plecoptera; stoneflies	1
Reptiles	40	Spiders	8
Tricoptera; caddisflies	3		

**TOTAL SPECIES: 796**

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Black-tailed Jackrabbit</a>	Lepus californicus					<a href="#">View</a>
<a href="#">Desert Cottontail Rabbit</a>	Sylvilagus audubonii					<a href="#">View</a>
<a href="#">Eastern Cottontail Rabbit</a>	Sylvilagus floridanus holzneri					No Photo
<a href="#">Crawford's Desert Shrew</a>	Notiosorex crawfordi					<a href="#">View</a>
<a href="#">Dusky Shrew</a>	Sorex monticola					No Photo
<a href="#">Big Free-tailed Bat</a>	Nyctinomops macrotis					No Photo
<a href="#">Brazilian Free-tailed Bat</a>	Tadarida brasiliensis					<a href="#">View</a>
<a href="#">Hoary Bat</a>	Aeorestes cinereus					No Photo
<a href="#">Pallid Bat</a>	Antrozous pallidus					<a href="#">View</a>
<a href="#">Pale Townsend's Big-eared Bat</a>	Corynorhinus townsendii				Y	<a href="#">View</a>
<a href="#">Big Brown Bat</a>	Eptesicus fuscus					No Photo
<a href="#">Spotted Bat</a>	Euderma maculatum		T		Y	<a href="#">View</a>
<a href="#">Allen's Big-eared Bat</a>	Idionycteris phyllotis					<a href="#">View</a>
<a href="#">Silver-haired Bat</a>	Lasionycteris noctivagans					No Photo
<a href="#">Western Red Bat</a>	Lasiurus blossevillii					<a href="#">View</a>
<a href="#">Southwestern Myotis</a>	Myotis auriculus					No Photo
<a href="#">California Myotis</a>	Myotis californicus					No Photo
<a href="#">Western Small-footed Myotis</a>	Myotis dilobum					<a href="#">View</a>
<a href="#">Long-eared Myotis</a>	Myotis evotis					No Photo
<a href="#">Southwestern Little Brown Myotis</a>	Myotis occultus					No Photo

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Fringed Myotis</a>	Myotis thysanodes					No Photo
<a href="#">Cave Myotis</a>	Myotis velifer					No Photo
<a href="#">Long-legged Myotis</a>	Myotis volans					<a href="#">View</a>
<a href="#">Yuma Myotis</a>	Myotis yumanensis					<a href="#">View</a>
<a href="#">Canyon Bat</a>	Parastrellus hesperus					<a href="#">View</a>
<a href="#">Coyote</a>	Canis latrans					<a href="#">View</a>
<a href="#">Mexican Gray Wolf</a>	Canis lupus baileyi	E	E		Y	<a href="#">View</a>
<a href="#">Common Gray Fox</a>	Urocyon cinereoargenteus					<a href="#">View</a>
<a href="#">Kit Fox</a>	Vulpes macrotis					<a href="#">View</a>
<a href="#">Red Fox</a>	Vulpes vulpes					<a href="#">View</a>
<a href="#">Bobcat</a>	Lynx rufus					<a href="#">View</a>
<a href="#">Mountain Lion</a>	Puma concolor					<a href="#">View</a>
<a href="#">Common Hog-nosed Skunk</a>	Conepatus leuconotus					<a href="#">View</a>
<a href="#">Hooded Skunk</a>	Mephitis macroura					<a href="#">View</a>
<a href="#">Striped Skunk</a>	Mephitis mephitis					<a href="#">View</a>
<a href="#">Western Spotted Skunk</a>	Spilogale gracilis					<a href="#">View</a>
<a href="#">Long-tailed Weasel</a>	Mustela frenata					<a href="#">View</a>
<a href="#">American Badger</a>	Taxidea taxus					<a href="#">View</a>
<a href="#">Ringtail</a>	Bassariscus astutus					<a href="#">View</a>
<a href="#">White-nosed Coati</a>	Nasua narica					<a href="#">View</a>
<a href="#">Common Raccoon</a>	Procyon lotor					<a href="#">View</a>
<a href="#">Black Bear</a>	Ursus americanus					<a href="#">View</a>
<a href="#">Pronghorn</a>	Antilocapra americana americana					<a href="#">View</a>
<a href="#">Rocky Mtn. Bighorn Sheep</a>	Ovis canadensis canadensis					<a href="#">View</a>
<a href="#">Elk</a>	Cervus canadensis nelsoni					<a href="#">View</a>
<a href="#">Mule Deer</a>	Odocoileus hemionus					<a href="#">View</a>
<a href="#">Coues' White-tailed Deer</a>	Odocoileus virginianus couesi					<a href="#">View</a>
<a href="#">Collared Peccary</a>	Peccari tajacu sonoriensis; angulatus					<a href="#">View</a>
<a href="#">American Beaver</a>	Castor canadensis					<a href="#">View</a>
<a href="#">Long-tailed Vole</a>	Microtus longicaudus longicaudus; alticola; baileyi; mordax					No Photo

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Mogollon Vole</a>	Microtus mogollonensis guadalupensis; mogollonensis					No Photo
<a href="#">Arizona Montane Vole</a>	Microtus montanus arizonensis	E			Y	No Photo
<a href="#">Montane Vole</a>	Microtus montanus fusus					No Photo
<a href="#">Prairie Vole</a>	Microtus ochrogaster					No Photo
<a href="#">Meadow Vole</a>	Microtus pennsylvanicus					No Photo
<a href="#">Southern Red-backed Vole</a>	Myodes gapperi					No Photo
<a href="#">White-throated Woodrat</a>	Neotoma albigula					<a href="#">View</a>
<a href="#">Mexican Woodrat</a>	Neotoma mexicana mexicana; inopinata; pinetorum; scopulorum					No Photo
<a href="#">Southern Plains Woodrat</a>	Neotoma micropus canescens					No Photo
<a href="#">Stephen's Woodrat</a>	Neotoma stephensi					No Photo
<a href="#">Common Muskrat</a>	Ondatra zibethicus pallidus; osoyooensis; cinnamominus					<a href="#">View</a>
<a href="#">Northern Grasshopper Mouse</a>	Onychomys leucogaster					No Photo
<a href="#">Brush Mouse</a>	Peromyscus boylii					No Photo
<a href="#">Cactus Mouse</a>	Peromyscus eremicus anthonyi; eremicus					<a href="#">View</a>
<a href="#">Osgood's Mouse</a>	Peromyscus gratus					No Photo
<a href="#">White-footed Mouse</a>	Peromyscus leucopus					<a href="#">View</a>
<a href="#">Deer Mouse</a>	Peromyscus maniculatus					No Photo
<a href="#">Northern Rock Mouse</a>	Peromyscus nasutus					No Photo
<a href="#">Pinyon Mouse</a>	Peromyscus truei					No Photo
<a href="#">Western Harvest Mouse</a>	Reithrodontomys megalotis megalotis; aztecus					No Photo
<a href="#">Common Porcupine</a>	Erethizon dorsatum					<a href="#">View</a>
<a href="#">Botta's Pocket Gopher</a>	Thomomys bottae actuosus; alienus; aureus; collis; connectens; cultellus; fulvus; guadalupensis; lachuguilla; mearnsi; morulus; opulentus; paguatae; pectoralis; peramplus; pervagus; planorum; rufidulus; ruidosae; tol					No Photo
<a href="#">Hispid Pocket Mouse</a>	Chaetodipus hispidus					No Photo
<a href="#">Rock Pocket Mouse</a>	Chaetodipus intermedius intermedius; crititus; phasma; umbrosus					No Photo

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Ord's Kangaroo Rat</a>	Dipodomys ordii					No Photo
<a href="#">Banner-tailed Kangaroo Rat</a>	Dipodomys spectabilis baileyi; clarenci; spectabilis					No Photo
<a href="#">Silky Pocket Mouse</a>	Perognathus flavus flavus; hopiensis					No Photo
<a href="#">Springerville Pocket Mouse</a>	Perognathus flavus goodpasteri					No Photo
<a href="#">House Mouse</a>	Mus musculus					<a href="#">View</a>
<a href="#">Golden-mantled Ground Squirrel</a>	Callospermophilus lateralis					<a href="#">View</a>
<a href="#">Gunnison's prairie dog</a>	Cynomys gunnisoni				Y	<a href="#">View</a>
<a href="#">White Mountains Ground Squirrel</a>	Ictidomys tridecemlineatus monticola					No Photo
<a href="#">Rock Squirrel</a>	Otospermophilus variegatus grammurus					<a href="#">View</a>
<a href="#">Abert's Squirrel</a>	Sciurus aberti aberti; chuscensis; ferreus					<a href="#">View</a>
<a href="#">Arizona Gray Squirrel</a>	Sciurus arizonensis arizonensis					<a href="#">View</a>
<a href="#">Gray-collared Chipmunk</a>	Neotamias cinereicollis cinereicollis					No Photo
<a href="#">Cliff Chipmunk</a>	Neotamias dorsalis					<a href="#">View</a>
<a href="#">Red Squirrel</a>	Tamiasciurus fremonti					No Photo
<a href="#">Red Squirrel</a>	Tamiasciurus hudsonicus lychnuchus; mogollonensis					<a href="#">View</a>
<a href="#">Spotted Ground Squirrel</a>	Xerospermophilus spilosoma					No Photo
<a href="#">Snow Goose</a>	Anser caerulescens					<a href="#">View</a>
<a href="#">Wood Duck</a>	Aix sponsa					<a href="#">View</a>
<a href="#">Northern Pintail</a>	Anas acuta					<a href="#">View</a>
<a href="#">Green-winged Teal Duck</a>	Anas crecca					<a href="#">View</a>
<a href="#">Redhead Duck</a>	Aythya americana					<a href="#">View</a>
<a href="#">Hooded Merganser Duck</a>	Lophodytes cucullatus					<a href="#">View</a>
<a href="#">Common Merganser Duck</a>	Mergus merganser					<a href="#">View</a>
<a href="#">Ruddy Duck</a>	Oxyura jamaicensis					<a href="#">View</a>
<a href="#">Scaled Quail</a>	Callipepla squamata					<a href="#">View</a>
<a href="#">Gambel's Quail</a>	Callipepla gambelii					<a href="#">View</a>
<a href="#">Montezuma Quail</a>	Cyrtonyx montezumae					<a href="#">View</a>
<a href="#">Ring-necked Pheasant</a>	Phasianus colchicus					<a href="#">View</a>

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGF</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Dusky Grouse</a>	Dendragapus obscurus					<a href="#">View</a>
<a href="#">Wild Turkey</a>	Meleagris gallopavo merriami; intermedia; silvestris					<a href="#">View</a>
<a href="#">Eared Grebe</a>	Podiceps nigricollis				Y	<a href="#">View</a>
<a href="#">Rock Pigeon</a>	Columba livia					<a href="#">View</a>
<a href="#">Band-tailed Pigeon</a>	Patagioenas fasciata					<a href="#">View</a>
<a href="#">Eurasian Collared-Dove</a>	Streptopelia decaocto					<a href="#">View</a>
<a href="#">Inca Dove</a>	Columbina inca					<a href="#">View</a>
<a href="#">Mourning Dove</a>	Zenaida macroura					<a href="#">View</a>
<a href="#">Greater Roadrunner</a>	Geococcyx californianus					<a href="#">View</a>
<a href="#">Yellow-billed Cuckoo (western pop)</a>	Coccyzus americanus occidentalis		T		Y	<a href="#">View</a>
<a href="#">Common Nighthawk</a>	Chordeiles minor				Y	<a href="#">View</a>
<a href="#">Common Poorwill</a>	Phalaenoptilus nuttalli					No Photo
<a href="#">Eastern Whip-poor-will</a>	Antrostomus vociferus					No Photo
<a href="#">Mexican Whip-poor-will</a>	Antrostomus arizonae				Y	<a href="#">View</a>
<a href="#">Black Swift</a>	Cypseloides niger				Y	<a href="#">View</a>
<a href="#">White-throated Swift</a>	Aeronautes saxatalis					<a href="#">View</a>
<a href="#">Rivoli's Hummingbird</a>	Eugenes fulgens					<a href="#">View</a>
<a href="#">Blue-throated Mountain-gem</a>	Lampornis clemenciae					<a href="#">View</a>
<a href="#">Black-chinned Hummingbird</a>	Archilochus alexandri					<a href="#">View</a>
<a href="#">Anna's Hummingbird</a>	Calypte anna					<a href="#">View</a>
<a href="#">Broad-tailed Hummingbird</a>	Selasphorus platycercus					<a href="#">View</a>
<a href="#">Rufous Hummingbird</a>	Selasphorus rufus					<a href="#">View</a>
<a href="#">Calliope Hummingbird</a>	Selasphorus calliope					<a href="#">View</a>
<a href="#">White-eared Hummingbird</a>	Hylocharis leucotis		T			<a href="#">View</a>
<a href="#">Virginia Rail</a>	Rallus limicola					<a href="#">View</a>
<a href="#">Sora</a>	Porzana carolina					<a href="#">View</a>
<a href="#">Common Gallinule</a>	Gallinula galeata					<a href="#">View</a>
<a href="#">Sandhill Crane</a>	Antigone canadensis					<a href="#">View</a>
<a href="#">Killdeer</a>	Charadrius vociferus					<a href="#">View</a>
<a href="#">Mountain Plover</a>	Charadrius montanus				Y	<a href="#">View</a>

## All Species Catron

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<a href="#">Long-billed Curlew</a>	Numenius americanus				Y	<a href="#">View</a>
<a href="#">Spotted Sandpiper</a>	Actitis macularius					<a href="#">View</a>
<a href="#">Willet</a>	Tringa semipalmata					<a href="#">View</a>
<a href="#">Wilson's Phalarope</a>	Phalaropus tricolor					<a href="#">View</a>
<a href="#">Ring-billed Gull</a>	Larus delawarensis					<a href="#">View</a>
<a href="#">Least Tern</a>	Sternula antillarum	E	E		Y	<a href="#">View</a>
<a href="#">Common Loon</a>	Gavia immer					No Photo
<a href="#">Neotropic Cormorant</a>	Phalacrocorax brasilianus	T			Y	<a href="#">View</a>
<a href="#">Double-crested Cormorant</a>	Phalacrocorax auritus					<a href="#">View</a>
<a href="#">Brown Pelican</a>	Pelecanus occidentalis	E				<a href="#">View</a>
<a href="#">American Bittern</a>	Botaurus lentiginosus				Y	<a href="#">View</a>
<a href="#">Great Blue Heron</a>	Ardea herodias					<a href="#">View</a>
<a href="#">Green Heron</a>	Butorides virescens					<a href="#">View</a>
<a href="#">Black-crowned Night-Heron</a>	Nycticorax nycticorax					<a href="#">View</a>
<a href="#">White-faced Ibis</a>	Plegadis chihi					<a href="#">View</a>
<a href="#">Turkey Vulture</a>	Cathartes aura					<a href="#">View</a>
<a href="#">Osprey</a>	Pandion haliaetus					<a href="#">View</a>
<a href="#">Golden Eagle</a>	Aquila chrysaetos					<a href="#">View</a>
<a href="#">Northern Harrier</a>	Circus hudsonius					<a href="#">View</a>
<a href="#">Sharp-shinned Hawk</a>	Accipiter striatus					<a href="#">View</a>
<a href="#">Northern Goshawk</a>	Accipiter gentilis					<a href="#">View</a>
<a href="#">Bald Eagle</a>	Haliaeetus leucocephalus	T			Y	<a href="#">View</a>
<a href="#">Mississippi Kite</a>	Ictinia mississippiensis					<a href="#">View</a>
<a href="#">Common Black Hawk</a>	Buteogallus anthracinus	T			Y	<a href="#">View</a>
<a href="#">Swainson's Hawk</a>	Buteo swainsoni					<a href="#">View</a>
<a href="#">Red-tailed Hawk</a>	Buteo jamaicensis					<a href="#">View</a>
<a href="#">Ferruginous Hawk</a>	Buteo regalis					<a href="#">View</a>
<a href="#">Barn Owl</a>	Tyto alba					<a href="#">View</a>
<a href="#">Flammulated Owl</a>	Psilosops flammeolus				Y	<a href="#">View</a>
<a href="#">Western Screech-Owl</a>	Megascops kennicottii					<a href="#">View</a>
<a href="#">Great Horned Owl</a>	Bubo virginianus					<a href="#">View</a>

## All Species Catron

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<a href="#">Northern Pygmy Owl</a>	Glaucidium gnoma					<a href="#">View</a>
<a href="#">Elf Owl</a>	Micrathene whitleyi				Y	<a href="#">View</a>
<a href="#">Burrowing Owl</a>	Athene cucularia				Y	<a href="#">View</a>
<a href="#">Mexican Spotted Owl</a>	Strix occidentalis lucida		T	Y	Y	<a href="#">View</a>
<a href="#">Long-eared Owl</a>	Asio otus					<a href="#">View</a>
<a href="#">Short-eared Owl</a>	Asio flammeus					<a href="#">View</a>
<a href="#">Northern Saw-whet Owl</a>	Aegolius acadicus					<a href="#">View</a>
<a href="#">Elegant Trogon</a>	Trogon elegans	E			Y	<a href="#">View</a>
<a href="#">Belted Kingfisher</a>	Megasceryle alcyon					<a href="#">View</a>
<a href="#">Lewis's Woodpecker</a>	Melanerpes lewis				Y	<a href="#">View</a>
<a href="#">Acorn Woodpecker</a>	Melanerpes formicivorus					<a href="#">View</a>
<a href="#">Gila Woodpecker</a>	Melanerpes uropygialis		T		Y	<a href="#">View</a>
<a href="#">Williamson's Sapsucker</a>	Sphyrapicus thyroideus				Y	<a href="#">View</a>
<a href="#">Yellow-bellied Sapsucker</a>	Sphyrapicus varius					<a href="#">View</a>
<a href="#">Red-naped Sapsucker</a>	Sphyrapicus nuchalis					<a href="#">View</a>
<a href="#">American Three-toed Woodpecker</a>	Picoides dorsalis					No Photo
<a href="#">Downy Woodpecker</a>	Dryobates pubescens					<a href="#">View</a>
<a href="#">Ladder-backed Woodpecker</a>	Dryobates scalaris					<a href="#">View</a>
<a href="#">Hairy Woodpecker</a>	Dryobates villosus					<a href="#">View</a>
<a href="#">Northern Flicker</a>	Colaptes auratus					<a href="#">View</a>
<a href="#">American Kestrel</a>	Falco sparverius					<a href="#">View</a>
<a href="#">Peregrine Falcon</a>	Falco peregrinus		T		Y	<a href="#">View</a>
<a href="#">Arctic Peregrine Falcon</a>	Falco peregrinus tundrius					No Photo
<a href="#">Prairie Falcon</a>	Falco mexicanus					<a href="#">View</a>
<a href="#">Ash-throated Flycatcher</a>	Myiarchus cinerascens					<a href="#">View</a>
<a href="#">Brown-crested Flycatcher</a>	Myiarchus tyrannulus					<a href="#">View</a>
<a href="#">Cassin's Kingbird</a>	Tyrannus vociferans					<a href="#">View</a>
<a href="#">Thick-billed Kingbird</a>	Tyrannus crassirostris		E		Y	<a href="#">View</a>
<a href="#">Western Kingbird</a>	Tyrannus verticalis					<a href="#">View</a>
<a href="#">Olive-sided Flycatcher</a>	Contopus cooperi				Y	<a href="#">View</a>
<a href="#">Greater Pewee</a>	Contopus pertinax					<a href="#">View</a>

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<a href="#">Western Wood Pewee</a>	Contopus sordidulus					<a href="#">View</a>
<a href="#">Willow Flycatcher</a>	Empidonax traillii brewsteri; adastus					<a href="#">View</a>
<a href="#">Southwestern Willow Flycatcher</a>	Empidonax traillii extimus	E	E	Y	Y	<a href="#">View</a>
<a href="#">Hammond's Flycatcher</a>	Empidonax hammondii					<a href="#">View</a>
<a href="#">Gray Flycatcher</a>	Empidonax wrightii					<a href="#">View</a>
<a href="#">Dusky Flycatcher</a>	Empidonax oberholseri					<a href="#">View</a>
<a href="#">Cordilleran Flycatcher</a>	Empidonax occidentalis					<a href="#">View</a>
<a href="#">Black Phoebe</a>	Sayornis nigricans					<a href="#">View</a>
<a href="#">Eastern Phoebe</a>	Sayornis phoebe					<a href="#">View</a>
<a href="#">Say's Phoebe</a>	Sayornis saya					<a href="#">View</a>
<a href="#">Vermillion Flycatcher</a>	Pyrocephalus rubinus					<a href="#">View</a>
<a href="#">Loggerhead Shrike</a>	Lanius ludovicianus				Y	<a href="#">View</a>
<a href="#">Northern Shrike</a>	Lanius borealis					No Photo
<a href="#">Bell's Vireo</a>	Vireo bellii	T			Y	<a href="#">View</a>
<a href="#">Gray Vireo</a>	Vireo vicinior	T			Y	<a href="#">View</a>
<a href="#">Hutton's Vireo</a>	Vireo huttoni					<a href="#">View</a>
<a href="#">Cassin's Vireo</a>	Vireo cassinii					<a href="#">View</a>
<a href="#">Blue-headed Vireo</a>	Vireo solitarius					<a href="#">View</a>
<a href="#">Plumbeous Vireo</a>	Vireo plumbeus					<a href="#">View</a>
<a href="#">Warbling Vireo</a>	Vireo gilvus					<a href="#">View</a>
<a href="#">Pinyon Jay</a>	Gymnorhinus cyanocephalus				Y	<a href="#">View</a>
<a href="#">Steller's Jay</a>	Cyanocitta stelleri					<a href="#">View</a>
<a href="#">Woodhouse's Scrub Jay</a>	Aphelocoma woodhouseii					<a href="#">View</a>
<a href="#">Mexican Jay</a>	Aphelocoma woolweberi					<a href="#">View</a>
<a href="#">Clark's Nutcracker</a>	Nudifraga columbiana				Y	<a href="#">View</a>
<a href="#">American Crow</a>	Corvus brachyrhynchos					<a href="#">View</a>
<a href="#">Chihuahuan Raven</a>	Corvus cryptoleucus					<a href="#">View</a>
<a href="#">Common Raven</a>	Corvus corax					<a href="#">View</a>
<a href="#">Horned Lark</a>	Eremophila alpestris					<a href="#">View</a>
<a href="#">Tree Swallow</a>	Tachycineta bicolor					<a href="#">View</a>

## All Species Catron

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<a href="#">Violet-green Swallow</a>	Tachycineta thalassina					<a href="#">View</a>
<a href="#">Northern Rough-winged Swallow</a>	Stelgidopteryx serripennis					<a href="#">View</a>
<a href="#">Purple Martin</a>	Progne subis					<a href="#">View</a>
<a href="#">Barn Swallow</a>	Hirundo rustica					<a href="#">View</a>
<a href="#">Cliff Swallow</a>	Petrochelidon pyrrhonota					<a href="#">View</a>
<a href="#">Mountain Chickadee</a>	Poecile gambeli					<a href="#">View</a>
<a href="#">Bridled Titmouse</a>	Baeolophus wollweberi					<a href="#">View</a>
<a href="#">Juniper Titmouse</a>	Baeolophus ridgwayi				Y	<a href="#">View</a>
<a href="#">Bushtit</a>	Psaltriparus minimus					<a href="#">View</a>
<a href="#">Red-breasted Nuthatch</a>	Sitta canadensis					<a href="#">View</a>
<a href="#">White-breasted Nuthatch</a>	Sitta carolinensis					<a href="#">View</a>
<a href="#">Pygmy Nuthatch</a>	Sitta pygmaea				Y	<a href="#">View</a>
<a href="#">Brown Creeper</a>	Certhia americana					<a href="#">View</a>
<a href="#">Rock Wren</a>	Salpinctes obsoletus					<a href="#">View</a>
<a href="#">Canyon Wren</a>	Catherpes mexicanus					<a href="#">View</a>
<a href="#">House Wren</a>	Troglodytes aedon					<a href="#">View</a>
<a href="#">Winter Wren</a>	Troglodytes hemialis					No Photo
<a href="#">Marsh Wren</a>	Cistothorus palustris					<a href="#">View</a>
<a href="#">Bewick's Wren</a>	Thryomanes bewickii					<a href="#">View</a>
<a href="#">Cactus Wren</a>	Campylorhynchus brunneicapillus					<a href="#">View</a>
<a href="#">American Dipper</a>	Cinclus mexicanus					<a href="#">View</a>
<a href="#">Golden-crowned Kinglet</a>	Regulus satrapa					No Photo
<a href="#">Ruby-crowned Kinglet</a>	Regulus calendula					<a href="#">View</a>
<a href="#">Eastern Bluebird</a>	Sialia sialis					<a href="#">View</a>
<a href="#">Western Bluebird</a>	Sialia mexicana				Y	<a href="#">View</a>
<a href="#">Mountain Bluebird</a>	Sialia currucoides				Y	<a href="#">View</a>
<a href="#">Townsend's Solitaire</a>	Myadestes townsendi					<a href="#">View</a>
<a href="#">Swainson's Thrush</a>	Catharus ustulatus					<a href="#">View</a>
<a href="#">Hermit Thrush</a>	Catharus guttatus					<a href="#">View</a>
<a href="#">American Robin</a>	Turdus migratorius					<a href="#">View</a>
<a href="#">Gray Catbird</a>	Dumetella carolinensis					<a href="#">View</a>

## All Species Catron

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<a href="#">Curve-billed Thrasher</a>	Toxostoma curvirostre					<a href="#">View</a>
<a href="#">Brown Thrasher</a>	Toxostoma rufum					<a href="#">View</a>
<a href="#">Bendire's Thrasher</a>	Toxostoma bendirei				Y	<a href="#">View</a>
<a href="#">Crissal Thrasher</a>	Toxostoma crissale					<a href="#">View</a>
<a href="#">Sage Thrasher</a>	Oreoscoptes montanus					<a href="#">View</a>
<a href="#">Northern Mockingbird</a>	Mimus polyglottos					<a href="#">View</a>
<a href="#">European Starling</a>	Sturnus vulgaris					<a href="#">View</a>
<a href="#">Cedar Waxwing</a>	Bombycilla cedrorum					<a href="#">View</a>
<a href="#">Phainopepla</a>	Phainopepla nitens					<a href="#">View</a>
<a href="#">Olive Warbler</a>	Peucedramus taeniatus					<a href="#">View</a>
<a href="#">House Sparrow</a>	Passer domesticus					<a href="#">View</a>
<a href="#">American Pipit</a>	Anthus rubescens					<a href="#">View</a>
<a href="#">Evening Grosbeak</a>	Coccothraustes vespertinus				Y	<a href="#">View</a>
<a href="#">Pine Grosbeak</a>	Pinicola enucleator					No Photo
<a href="#">House Finch</a>	Haemorhous mexicanus					<a href="#">View</a>
<a href="#">Cassin's Finch</a>	Haemorhous cassinii				Y	<a href="#">View</a>
<a href="#">Red Crossbill</a>	Loxia curvirostra					<a href="#">View</a>
<a href="#">Pine Siskin</a>	Spinus pinus					<a href="#">View</a>
<a href="#">Lesser Goldfinch</a>	Spinus psaltria					<a href="#">View</a>
<a href="#">American Goldfinch</a>	Spinus tristis					<a href="#">View</a>
<a href="#">Chestnut-collared Longspur</a>	Calcarius ornatus				Y	<a href="#">View</a>
<a href="#">Cassin's Sparrow</a>	Peucaea cassinii				Y	<a href="#">View</a>
<a href="#">Grasshopper Sparrow</a>	Ammodramus savannarum perpallidus					<a href="#">View</a>
<a href="#">Black-throated Sparrow</a>	Amphispiza bilineata					<a href="#">View</a>
<a href="#">Lark Sparrow</a>	Chondestes grammacus					<a href="#">View</a>
<a href="#">Lark Bunting</a>	Calamospiza melanocorys					<a href="#">View</a>
<a href="#">Chipping Sparrow</a>	Spizella passerina					<a href="#">View</a>
<a href="#">Clay-colored Sparrow</a>	Spizella pallida					<a href="#">View</a>
<a href="#">Black-chinned Sparrow</a>	Spizella atrogularis				Y	<a href="#">View</a>
<a href="#">Brewer's Sparrow</a>	Spizella breweri					<a href="#">View</a>

## All Species Catron

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<a href="#">Fox Sparrow</a>	Passerella iliaca					<a href="#">View</a>
<a href="#">Dark-eyed Junco</a>	Junco hyemalis					<a href="#">View</a>
<a href="#">White-crowned Sparrow</a>	Zonotrichia leucophrys					<a href="#">View</a>
<a href="#">Sagebrush Sparrow</a>	Artemisospiza nevadensis				Y	<a href="#">View</a>
<a href="#">Vesper Sparrow</a>	Pooecetes gramineus				Y	<a href="#">View</a>
<a href="#">Baird's Sparrow</a>	Centronyx bairdii	T			Y	<a href="#">View</a>
<a href="#">Song Sparrow</a>	Melospiza melodia					<a href="#">View</a>
<a href="#">Lincoln's Sparrow</a>	Melospiza lincolnii					<a href="#">View</a>
<a href="#">Swamp Sparrow</a>	Melospiza georgiana					<a href="#">View</a>
<a href="#">Canyon Towhee</a>	Melospiza fusca					<a href="#">View</a>
<a href="#">Rufous-crowned Sparrow</a>	Aimophila ruficeps					<a href="#">View</a>
<a href="#">Green-tailed Towhee</a>	Pipilo chlorurus					<a href="#">View</a>
<a href="#">Spotted Towhee</a>	Pipilo maculatus					<a href="#">View</a>
<a href="#">Yellow-breasted Chat</a>	Icteria virens					<a href="#">View</a>
<a href="#">Yellow-headed Blackbird</a>	Xanthocephalus xanthocephalus					<a href="#">View</a>
<a href="#">Bobolink</a>	Dolichonyx oryzivorus					No Photo
<a href="#">Eastern Meadowlark</a>	Sturnella magna					<a href="#">View</a>
<a href="#">Western Meadowlark</a>	Sturnella neglecta					<a href="#">View</a>
<a href="#">Hooded Oriole</a>	Icterus cucullatus					<a href="#">View</a>
<a href="#">Bullock's Oriole</a>	Icterus bullockii					<a href="#">View</a>
<a href="#">Baltimore Oriole</a>	Icterus galbula					<a href="#">View</a>
<a href="#">Scott's Oriole</a>	Icterus parisorum					<a href="#">View</a>
<a href="#">Red-winged Blackbird</a>	Agelaius phoeniceus					<a href="#">View</a>
<a href="#">Brown-headed Cowbird</a>	Molothrus ater					<a href="#">View</a>
<a href="#">Brewer's Blackbird</a>	Euphagus cyanocephalus					<a href="#">View</a>
<a href="#">Great-tailed Grackle</a>	Quiscalus mexicanus					<a href="#">View</a>
<a href="#">Northern Waterthrush</a>	Parkesia noveboracensis					<a href="#">View</a>
<a href="#">Orange-crowned Warbler</a>	Leiothlypis celata					<a href="#">View</a>
<a href="#">Lucy's Warbler</a>	Leiothlypis luciae				Y	<a href="#">View</a>
<a href="#">Nashville Warbler</a>	Leiothlypis ruficapilla					<a href="#">View</a>
<a href="#">Virginia's Warbler</a>	Leiothlypis virginiae				Y	<a href="#">View</a>

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Macgillivray's Warbler</a>	Geothlypis tolmiei					<a href="#">View</a>
<a href="#">Kentucky Warbler</a>	Geothlypis formosa					<a href="#">View</a>
<a href="#">Common Yellowthroat</a>	Geothlypis trichas					<a href="#">View</a>
<a href="#">Hooded Warbler</a>	Setophaga citrina					<a href="#">View</a>
<a href="#">American Redstart</a>	Setophaga ruticilla					<a href="#">View</a>
<a href="#">Yellow Warbler</a>	Setophaga petechia					<a href="#">View</a>
<a href="#">Palm Warbler</a>	Setophaga palmarum					<a href="#">View</a>
<a href="#">Yellow-rumped Warbler</a>	Setophaga coronata					<a href="#">View</a>
<a href="#">Grace's Warbler</a>	Setophaga graciae				Y	<a href="#">View</a>
<a href="#">Black-throated Gray Warbler</a>	Setophaga nigrescens				Y	<a href="#">View</a>
<a href="#">Townsend's Warbler</a>	Setophaga townsendi					<a href="#">View</a>
<a href="#">Hermit Warbler</a>	Setophaga occidentalis					<a href="#">View</a>
<a href="#">Wilson's Warbler</a>	Cardellina pusilla					<a href="#">View</a>
<a href="#">Red-faced Warbler</a>	Cardellina rubrifrons				Y	<a href="#">View</a>
<a href="#">Painted Redstart</a>	Myioborus pictus				Y	<a href="#">View</a>
<a href="#">Hepatic Tanager</a>	Piranga flava					<a href="#">View</a>
<a href="#">Summer Tanager</a>	Piranga rubra					<a href="#">View</a>
<a href="#">Western Tanager</a>	Piranga ludoviciana					<a href="#">View</a>
<a href="#">Northern Cardinal</a>	Cardinalis cardinalis					<a href="#">View</a>
<a href="#">Rose-breasted Grosbeak</a>	Pheucticus ludovicianus					<a href="#">View</a>
<a href="#">Black-headed Grosbeak</a>	Pheucticus melanocephalus					<a href="#">View</a>
<a href="#">Blue Grosbeak</a>	Passerina caerulea					<a href="#">View</a>
<a href="#">Lazuli Bunting</a>	Passerina amoena					<a href="#">View</a>
<a href="#">Indigo Bunting</a>	Passerina cyanea					<a href="#">View</a>
<a href="#">Varied Bunting</a>	Passerina versicolor		T		Y	<a href="#">View</a>
<a href="#">Painted Bunting</a>	Passerina ciris					<a href="#">View</a>
<a href="#">Sonoran Mud Turtle</a>	Kinosternon sonoriense sonoriense				Y	<a href="#">View</a>
<a href="#">Spiny Softshell Turtle</a>	Apalone spinifera					<a href="#">View</a>
<a href="#">Eastern Collared Lizard</a>	Crotaphytus collaris					<a href="#">View</a>
<a href="#">Common Lesser Earless Lizard</a>	Holbrookia maculata maculata; bunkerii; ruthveni					<a href="#">View</a>

## All Species Catron

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<a href="#">Hernandez's Short-horned Lizard</a>	Phrynosoma hernandesi					<a href="#">View</a>
<a href="#">Twin-spotted Spiny Lizard</a>	Sceloporus bimaucosus					<a href="#">View</a>
<a href="#">Clark's Spiny Lizard</a>	Sceloporus darkii					<a href="#">View</a>
<a href="#">Greater Earless Lizard</a>	Cophosaurus texanus					<a href="#">View</a>
<a href="#">Southwestern Fence Lizard</a>	Sceloporus cowlesi					<a href="#">View</a>
<a href="#">Crevice Spiny Lizard</a>	Sceloporus poinsettii					<a href="#">View</a>
<a href="#">Northern Tree Lizard</a>	Urosaurus ornatus					<a href="#">View</a>
<a href="#">Chihuahuan Spotted Whiptail</a>	Aspidoscelis exsanguis					<a href="#">View</a>
<a href="#">Sonoran Spotted Whiptail</a>	Aspidoscelis sonorae					<a href="#">View</a>
<a href="#">Desert Grassland Whiptail</a>	Aspidoscelis uniparens					No Photo
<a href="#">Plateau Striped Whiptail</a>	Aspidoscelis velox					<a href="#">View</a>
<a href="#">Many-lined Skink</a>	Plestiodon multivirgatus					<a href="#">View</a>
<a href="#">Great Plains Skink</a>	Plestiodon obsoletus					<a href="#">View</a>
<a href="#">Madrean Alligator Lizard</a>	Elgaria kingii					<a href="#">View</a>
<a href="#">Glossy Snake</a>	Arizona elegans					<a href="#">View</a>
<a href="#">Sonoran Whipsnake</a>	Coluber bilineatus					<a href="#">View</a>
<a href="#">Coachwhip</a>	Coluber flagellum					<a href="#">View</a>
<a href="#">Desert Striped Whipsnake</a>	Coluber taeniatus					<a href="#">View</a>
<a href="#">Ringneck Snake</a>	Diadophis punctatus					<a href="#">View</a>
<a href="#">Chihuahuan Nightsnake</a>	Hypsiglena jani					<a href="#">View</a>
<a href="#">Milk Snake</a>	Lampropeltis gentilis					<a href="#">View</a>
<a href="#">Pyro Mountain Kingsnake</a>	Lampropeltis pyromelana					<a href="#">View</a>
<a href="#">Gophersnake</a>	Pituophis catenifer					<a href="#">View</a>
<a href="#">Texas Long-nosed Snake</a>	Rhinocheilus lecontei					<a href="#">View</a>
<a href="#">Mountain Patchnose Snake</a>	Salvadora grahamiae					<a href="#">View</a>
<a href="#">Black-necked Gartersnake</a>	Thamnophis cyrtopsis					<a href="#">View</a>
<a href="#">Wandering Gartersnake</a>	Thamnophis elegans					<a href="#">View</a>
<a href="#">Marcy's Checkered Gartersnake</a>	Thamnophis marcianus					<a href="#">View</a>
<a href="#">Narrow-headed Gartersnake</a>	Thamnophis rufipunctatus	T	T		Y	<a href="#">View</a>
<a href="#">Sonoran Lyresnake</a>	Trimorphodon lambda					<a href="#">View</a>
<a href="#">Western Coral Snake</a>	Micruroides euryxanthus					<a href="#">View</a>

## All Species Catron

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<a href="#">Arizona Black Rattlesnake</a>	Crotalus cerberus				Y	<a href="#">View</a>
<a href="#">Banded Rock Rattlesnake</a>	Crotalus lepidus klauberi				Y	<a href="#">View</a>
<a href="#">Western Black-tailed Rattlesnake</a>	Crotalus molossus					<a href="#">View</a>
<a href="#">Eastern Black-tailed Rattlesnake</a>	Crotalus ornatus					No Photo
<a href="#">Prairie Rattlesnake</a>	Crotalus viridis					<a href="#">View</a>
<a href="#">Tiger Salamander</a>	Ambystoma mavortium mavortium; nebulosum					<a href="#">View</a>
<a href="#">Plains Spadefoot</a>	Spea bombifrons					<a href="#">View</a>
<a href="#">New Mexico Spadefoot</a>	Spea multiplicata					<a href="#">View</a>
<a href="#">Arizona Toad</a>	Anaxyrus microscaphus				Y	<a href="#">View</a>
<a href="#">Red-spotted Toad</a>	Anaxyrus punctatus					<a href="#">View</a>
<a href="#">Woodhouse's Toad</a>	Anaxyrus woodhousii					<a href="#">View</a>
<a href="#">Canyon Treefrog</a>	Hyla arenicolor					<a href="#">View</a>
<a href="#">Arizona Treefrog</a>	Hyla wrightorum				Y	<a href="#">View</a>
<a href="#">Boreal Chorus Frog</a>	Pseudacris maculata				Y	<a href="#">View</a>
<a href="#">Bullfrog</a>	Lithobates catesbeianus					<a href="#">View</a>
<a href="#">Chiricahua Leopard Frog</a>	Lithobates chiricahuensis		T	Y	Y	<a href="#">View</a>
<a href="#">Northern Leopard Frog</a>	Lithobates pipiens				Y	<a href="#">View</a>
<a href="#">Lowland Leopard Frog</a>	Lithobates yavapaiensis	E			Y	<a href="#">View</a>
<a href="#">Longfin Dace</a>	Agosia chrysogaster					No Photo
<a href="#">Grass Carp</a>	Ctenopharyngodon idella					No Photo
<a href="#">Red Shiner</a>	Cyprinella lutrensis					<a href="#">View</a>
<a href="#">Common Carp</a>	Cyprinus carpio					<a href="#">View</a>
<a href="#">Gila Chub</a>	Gila intermedia	E	E	Y	Y	<a href="#">View</a>
<a href="#">Headwater Chub</a>	Gila nigra				Y	No Photo
<a href="#">Spikedace</a>	Meda fulgida	E	E	Y	Y	No Photo
<a href="#">Fathead Minnow</a>	Pimephales promelas					<a href="#">View</a>
<a href="#">Loach Minnow</a>	Rhinichthys cobitis	E	E	Y	Y	No Photo
<a href="#">Speckled Dace (Gila pop.)</a>	Rhinichthys osculus					No Photo
<a href="#">Speckled Dace (Non-Gila pop.)</a>	Rhinichthys osculus					No Photo
<a href="#">Desert Sucker</a>	Catostomus darkii				Y	No Photo

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<a href="#">White Sucker</a>	Catostomus commersoni					<a href="#">View</a>
<a href="#">Sonora Sucker</a>	Catostomus insignis				Y	<a href="#">View</a>
<a href="#">Rio Grande Sucker</a>	Catostomus plebeius				Y	<a href="#">View</a>
<a href="#">Black Bullhead</a>	Ameiurus melas					<a href="#">View</a>
<a href="#">Yellow Bullhead</a>	Ameiurus natalis					<a href="#">View</a>
<a href="#">Channel Catfish</a>	Ictalurus punctatus					<a href="#">View</a>
<a href="#">Chihuahua Catfish</a>	Ictalurus s					<a href="#">View</a>
<a href="#">Flathead Catfish</a>	Pylodictis olivaris					<a href="#">View</a>
<a href="#">Gila Trout</a>	Oncorhynchus gilae	T	T		Y	<a href="#">View</a>
<a href="#">Rainbow Trout</a>	Oncorhynchus mykiss					<a href="#">View</a>
<a href="#">Brown Trout</a>	Salmo trutta					<a href="#">View</a>
<a href="#">Western mosquitofish</a>	Gambusia affinis					No Photo
<a href="#">Green Sunfish</a>	Lepomis cyanellus					<a href="#">View</a>
<a href="#">Bluegill</a>	Lepomis macrochirus					<a href="#">View</a>
<a href="#">Smallmouth Bass</a>	Micropterus dolomieu					<a href="#">View</a>
<a href="#">Largemouth Bass</a>	Micropterus salmoides					<a href="#">View</a>
<a href="#">Small Spot Snail</a>	Punctum minutissimum					No Photo
<a href="#">Ribbed Pinwheel Snail</a>	Radiodiscus millecostatus					No Photo
<a href="#">Forest Disc Snail</a>	Discus whitleyi					No Photo
<a href="#">Mexican Coil Snail</a>	Helicodiscus eigenmani					No Photo
<a href="#">Bearded Mountainsnail</a>	Oreohelix barbata					No Photo
<a href="#">Diablo Mountainsnail</a>	Oreohelix houghi					No Photo
<a href="#">San Augustin Mountainsnail</a>	Oreohelix litoralis					No Photo
<a href="#">Subalpine Mountainsnail</a>	Oreohelix subrudis					No Photo
<a href="#">Sluice Snaggletooth Snail</a>	Gastrocopta ashmuni					No Photo
<a href="#">Montane Snaggletooth Snail</a>	Gastrocopta pilsbryana					No Photo
<a href="#">Sonoran Snaggletooth Snail</a>	Gastrocopta prototypus					No Photo
<a href="#">Cross Snaggletooth Snail</a>	Gastrocopta quadridens					No Photo
<a href="#">High-spire Column</a>	Columella simplex					No Photo
<a href="#">Rocky Mtn. Column Snail</a>	Pupilla blandi					No Photo
<a href="#">Vertigo Snail</a>	Vertigo arizonensis					No Photo

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<a href="#">Vertigo Snail</a>	Vertigo concinnula					No Photo
<a href="#">Glossy Pillar Snail</a>	Cionella lubrica					No Photo
<a href="#">Silky Vallonia Snail</a>	Vallonia cyclophorella					No Photo
<a href="#">Thin-lipped Vallonia Snail</a>	Vallonia perspectiva					No Photo
<a href="#">False Marsh Slug</a>	Deroceras heterura				Y	No Photo
<a href="#">Western Glass Snail</a>	Vitrina pellucida					No Photo
<a href="#">Carved Glyph Snail</a>	Glyphyalina indentata					No Photo
<a href="#">Minute Gem Snail</a>	Hawaiiia minuscula					No Photo
<a href="#">Amber Glass Snail</a>	Nesovitrea hammonis					No Photo
<a href="#">Median Striate Snail</a>	Striatura meridionalis					No Photo
<a href="#">Quick Gloss Snail</a>	Zonitoides arboreus					No Photo
<a href="#">Brown Hive Snail</a>	Euconulus fulvus					No Photo
<a href="#">Whitewater Creek Woodlandsnail</a>	Ashmunella danielsi danielsi					No Photo
<a href="#">Whitewater Creek Woodlandsnail</a>	Ashmunella danielsi dispar					No Photo
<a href="#">Mogollon Woodlandsnail</a>	Ashmunella mogollonensis					No Photo
<a href="#">Dry Creek Woodlandsnail</a>	Ashmunella tetrodon inermis					No Photo
<a href="#">Dry Creek Woodlandsnail</a>	Ashmunella tetrodon mutator					No Photo
<a href="#">Dry Creek Woodlandsnail</a>	Ashmunella tetrodon tetrodon					No Photo
<a href="#">Spruce Snail</a>	Microphysula ingersolli					No Photo
<a href="#">Gila Springsnail</a>	Pyrgulopsis gilae	T			Y	No Photo
<a href="#">New Mexico Hot Springsnail</a>	Pyrgulopsis thermalis	T			Y	No Photo
<a href="#">Brine Shrimp</a>	Artemia franciscana				Y	<a href="#">View</a>
<a href="#">Tiger Beetle</a>	Cicindela marutha					No Photo
<a href="#">Tiger Beetle</a>	Cicindela nigrocoerula					No Photo
<a href="#">Tiger Beetle</a>	Cicindela obsoleta obsoleta; santaclarae					No Photo
<a href="#">Tiger Beetle</a>	Cicindela oregona					No Photo
<a href="#">Tiger Beetle</a>	Cicindela pulchra					No Photo
<a href="#">Tiger Beetle</a>	Cicindela punctulata					No Photo
<a href="#">Tiger Beetle</a>	Cicindela purpurea					No Photo
<a href="#">Tiger Beetle</a>	Cicindela sedecimpunctata					No Photo

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<a href="#">Variable Tiger Beetle</a>	Cicindela terricola					No Photo
<a href="#">Tiger Beetle</a>	Cicindela tranquebarica					No Photo
<a href="#">Tiger Beetle</a>	Cicindela willistoni hirtifrons					No Photo
<a href="#">Tiger Beetle</a>	Habroscelimorpha fulgoris fulgoris					No Photo
<a href="#">Beetle</a>	Temnocheila chlorodia					No Photo
<a href="#">Beetle</a>	Tenebroides tenuistriatus					No Photo
<a href="#">Western Bumble Bee</a>	Bombus occidentalis					No Photo
<a href="#">Rustic Sphinx Moth</a>	Manduca rustica					No Photo
<a href="#">White-lined Sphinx Moth</a>	Hyles lineata					<a href="#">View</a>
<a href="#">Golden-Banded Skipper</a>	Autochton cellus					No Photo
<a href="#">Common Streaky Skipper</a>	Celotes nesus					No Photo
<a href="#">Caicus Skipper</a>	Cogia caicus					No Photo
<a href="#">Arizona Silver-Spotted Skipper</a>	Epargyreus darus huachuca					No Photo
<a href="#">Afranius Duskywing Skipper</a>	Erynnis afranius					No Photo
<a href="#">Sleepy Duskywing Skipper</a>	Erynnis brizo					<a href="#">View</a>
<a href="#">Funereal Duskywing Skipper</a>	Erynnis funeralis					<a href="#">View</a>
<a href="#">Dreamy Duskywing Skipper</a>	Erynnis icelus					<a href="#">View</a>
<a href="#">Meridian Duskywing Skipper</a>	Erynnis meridianus					No Photo
<a href="#">Pacuvius Duskywing Skipper</a>	Erynnis pacuvius					No Photo
<a href="#">Persius Duskywing Skipper</a>	Erynnis persius					No Photo
<a href="#">Rocky Mtn Duskywing Skipper</a>	Erynnis telemachus					<a href="#">View</a>
<a href="#">Mournful Duskywing Skipper</a>	Erynnis tristis					No Photo
<a href="#">Northern White Skipper</a>	Heliopetes ericetorum					No Photo
<a href="#">Common Sootywing Skipper</a>	Pholisora catullus					<a href="#">View</a>
<a href="#">White Checkered Skipper</a>	Pyrgus albescens					<a href="#">View</a>
<a href="#">Common Checkered Skipper</a>	Pyrgus communis					<a href="#">View</a>
<a href="#">Small Checkered Skipper</a>	Pyrgus scriptura					<a href="#">View</a>
<a href="#">Mountain Checkered Skipper</a>	Pyrgus xanthus					No Photo
<a href="#">Golden-headed Scallopwing Skipper</a>	Staphylus ceos					No Photo
<a href="#">Arizona Powdered Skipper</a>	Systasea zampa					No Photo
<a href="#">Mexican Cloudwing Skipper</a>	Thorybes mexicanus					No Photo

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<a href="#">Northern Cloudwing Skipper</a>	Thorybes pylades					<a href="#">View</a>
<a href="#">Short-Tailed Skipper</a>	Zestusa dorus					No Photo
<a href="#">Russet Skipperling Skipper</a>	Piruna pirus					<a href="#">View</a>
<a href="#">Four-potted Skipperling Skipper</a>	Piruna polingii					No Photo
<a href="#">Bronze Roadside Skipper</a>	Amblyscirtes aenus					No Photo
<a href="#">Cassus Roadside Skipper</a>	Amblyscirtes cassus					No Photo
<a href="#">Large Roadside Skipper</a>	Amblyscirtes exoteria					No Photo
<a href="#">Slaty Roadside Skipper</a>	Amblyscirtes nereus					No Photo
<a href="#">Oslar's Roadside Skipper</a>	Amblyscirtes oslari					No Photo
<a href="#">Orange-headed Roadside Skipper</a>	Amblyscirtes phylace					No Photo
<a href="#">Simius Roadside Skipper</a>	Amblyscirtes simius					No Photo
<a href="#">Texas Roadside Skipper</a>	Amblyscirtes texanae					No Photo
<a href="#">Tropical Least Skipper</a>	Ancyloxypha arene					No Photo
<a href="#">Sachem Skipper</a>	Atalopedes campestris					<a href="#">View</a>
<a href="#">Deva Skipper</a>	Atrytonopsis deva					No Photo
<a href="#">White-barred Skipper</a>	Atrytonopsis pittaacus					No Photo
<a href="#">Python Skipper</a>	Atrytonopsis python					No Photo
<a href="#">Viereck's Skipper</a>	Atrytonopsis vierecki					No Photo
<a href="#">Orange Skipperling Skipper</a>	Copaeodes aurantiacus					<a href="#">View</a>
<a href="#">Kiowa Dun Skipper</a>	Euphyes vestris					<a href="#">View</a>
<a href="#">Susan's Skipper</a>	Hesperia comma susanae					No Photo
<a href="#">Pahaska Skipper</a>	Hesperia pahaska pahaska					No Photo
<a href="#">Uncas Skipper</a>	Hesperia uncas uncas					No Photo
<a href="#">Green Skipper</a>	Hesperia viridis					<a href="#">View</a>
<a href="#">Apache Skipper</a>	Hesperia woodgatei					No Photo
<a href="#">Fiery Skipper</a>	Hylephila phlyeus					<a href="#">View</a>
<a href="#">Edwards' Skipperling Skipper</a>	Oarisma edwardsii					No Photo
<a href="#">Garita Skipperling Skipper</a>	Oarisma garita					<a href="#">View</a>
<a href="#">Snow's Skipper</a>	Paratrytone snowi					No Photo
<a href="#">Taxiles Skipper</a>	Poanes taxiles					<a href="#">View</a>
<a href="#">Tawny-Edged Skipper</a>	Polites themistodes					<a href="#">View</a>

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<a href="#">Morrison's Skipper</a>	Stinga morrisoni					No Photo
<a href="#">Orange Giant Skipper</a>	Agathymus neumoegeni neumoegeni					No Photo
<a href="#">Arizona Yucca Borer Skipper</a>	Megathymus coloradensis arizonae					No Photo
<a href="#">Navajo Yucca Borer Skipper</a>	Megathymus coloradensis navajo					No Photo
<a href="#">Roger's False Parnassian Butterfly</a>	Parnassius phoebus					<a href="#">View</a>
<a href="#">Rhesus Skipper</a>	Yvretta rhesus					No Photo
<a href="#">Pipevine Swallowtail Butterfly</a>	Battus philenor					<a href="#">View</a>
<a href="#">Baird's Swallowtail Butterfly</a>	Papilio bairdii					No Photo
<a href="#">Black Swallowtail Butterfly</a>	Papilio polyxenes asterius					<a href="#">View</a>
<a href="#">Ingham's Orangetip Butterfly</a>	Anthocharis sara					<a href="#">View</a>
<a href="#">Arizona Tiger Swallowtail Butterfly</a>	Pterourus rutulus arizonensis					No Photo
<a href="#">Two-Tailed Swallowtail Butterfly</a>	Pterourus multicaudatus					<a href="#">View</a>
<a href="#">Southern Marble Butterfly</a>	Euchloe hyantis					No Photo
<a href="#">Pine White Butterfly</a>	Neophasia menapia					<a href="#">View</a>
<a href="#">Mogollon Veined White Butterfly</a>	Pieris napi mogollon					No Photo
<a href="#">Cabbage White Butterfly</a>	Pieris rapae					<a href="#">View</a>
<a href="#">Checkered White Butterfly</a>	Pontia protodice					<a href="#">View</a>
<a href="#">Spring White Butterfly</a>	Pontia sisymbrii elivata					No Photo
<a href="#">Apache Sulphur Butterfly</a>	Colias alexandra apache					No Photo
<a href="#">Orange Sulphur Butterfly</a>	Colias eurytheme					<a href="#">View</a>
<a href="#">Western Common Sulphur Butterfly</a>	Colias philodice					<a href="#">View</a>
<a href="#">Mexican Yellow Butterfly</a>	Eurema mexicanum					No Photo
<a href="#">Sleepy Orange Butterfly</a>	Eurema nicippe					<a href="#">View</a>
<a href="#">Dainty Sulphur Butterfly</a>	Nathalis iole					<a href="#">View</a>
<a href="#">Cloudless Sulphur Butterfly</a>	Phoebis sennae					<a href="#">View</a>
<a href="#">Southern Dogface Butterfly</a>	Zerene cesonia					<a href="#">View</a>
<a href="#">Colorado Hairstreak Butterfly</a>	Hypaurotis crysalus					<a href="#">View</a>
<a href="#">Great Purple Hairstreak Butterfly</a>	Atlides halesus					<a href="#">View</a>
<a href="#">Apama Hairstreak Butterfly</a>	Callophrys affinis apama					No Photo
<a href="#">Arizona Hairstreak Butterfly</a>	Erora quaderna					No Photo

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Annette's Elfin Butterfly</a>	<i>Incisalia augustinus annetteae</i>					No Photo
<a href="#">Western Pine Elfin Butterfly</a>	<i>Incisalia eryphon</i>					No Photo
<a href="#">Juniper Hairstreak Butterfly</a>	<i>Mitoura siva</i>					<a href="#">View</a>
<a href="#">Thicket Hairstreak Butterfly</a>	<i>Mitoura spinetorum</i>					No Photo
<a href="#">Itys Hairstreak Butterfly</a>	<i>Satyrrium sylvinum</i>					No Photo
<a href="#">Frank's Common Hairstreak Butterfly</a>	<i>Strymon melinus</i>					<a href="#">View</a>
<a href="#">Rustic Blue Butterfly</a>	<i>Agriades rusticus</i>					<a href="#">View</a>
<a href="#">Arizona Blue Butterfly</a>	<i>Celastrina ladon cinerea</i>					No Photo
<a href="#">Square-spotted Blue Butterfly</a>	<i>Euphilotes battoides centralis</i>					<a href="#">View</a>
<a href="#">Rita Blue Butterfly</a>	<i>Euphilotes rita rita</i>					<a href="#">View</a>
<a href="#">Spalding's Blue Butterfly</a>	<i>Euphilotes spaldingi</i>					<a href="#">View</a>
<a href="#">Western Tailed Blue Butterfly</a>	<i>Everes amyntula</i>					<a href="#">View</a>
<a href="#">Eastern Tailed Blue Butterfly</a>	<i>Everes comyntas</i>					<a href="#">View</a>
<a href="#">Arizona Silvery Blue Butterfly</a>	<i>Glaucopsyche lygdamus arizonensis</i>					No Photo
<a href="#">Ceraunus Blue Butterfly</a>	<i>Hemiargus ceraunus</i>					No Photo
<a href="#">Reakirt's Blue Butterfly</a>	<i>Hemiargus isola</i>					<a href="#">View</a>
<a href="#">Marine Blue Butterfly</a>	<i>Leptotes marina</i>					<a href="#">View</a>
<a href="#">Melissa Blue Butterfly</a>	<i>Lycaeides melissa</i>					<a href="#">View</a>
<a href="#">Texas Blue Butterfly</a>	<i>Plebejus acmon</i>					<a href="#">View</a>
<a href="#">Buchholz's Blue Butterfly</a>	<i>Plebejus icarioides buchholzi</i>					No Photo
<a href="#">Gertsch's Blue Butterfly</a>	<i>Plebejus saepiolus gertschi</i>					No Photo
<a href="#">Mexican Metalmark Butterfly</a>	<i>Apodemia mormo mejicana</i>					No Photo
<a href="#">Mormon Metalmark Butterfly</a>	<i>Apodemia mormo mormo</i>					No Photo
<a href="#">Shellbach's Copper Butterfly</a>	<i>Tharsalea arota</i>					<a href="#">View</a>
<a href="#">Nais Metalmark Butterfly</a>	<i>Apodemia nais</i>					No Photo
<a href="#">Leda Hairstreak Butterfly</a>	<i>Ministrymon leda</i>					No Photo
<a href="#">Palmer's Metalmark Butterfly</a>	<i>Apodemia palmerii</i>					No Photo
<a href="#">Western Pygmy Blue Butterfly</a>	<i>Brephidum exile</i>					<a href="#">View</a>
<a href="#">Zela Metalmark Butterfly</a>	<i>Emesis zela</i>					No Photo
<a href="#">Southern Snout Butterfly</a>	<i>Libytheana bachmanii</i>					No Photo

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Milbert's Tortoise Shell Butterfly</a>	<i>Aglais milberti</i>					<a href="#">View</a>
<a href="#">Buckeye Butterfly</a>	<i>Junonia coenia</i>					<a href="#">View</a>
<a href="#">Dark Buckeye Butterfly</a>	<i>Junonia nigrosuffusa</i>					<a href="#">View</a>
<a href="#">Mourning Cloak Butterfly</a>	<i>Nymphalis antiopa</i>					<a href="#">View</a>
<a href="#">California Tortoise Shell Butterfly</a>	<i>Nymphalis californica</i>					<a href="#">View</a>
<a href="#">Hoary Comma Butterfly</a>	<i>Polygonia gracilis</i>					<a href="#">View</a>
<a href="#">Satyr Angewing Butterfly</a>	<i>Polygonia satyrus</i>					No Photo
<a href="#">West Coast Lady Butterfly</a>	<i>Vanessa annabella</i>					<a href="#">View</a>
<a href="#">Red Admiral Butterfly</a>	<i>Vanessa atalanta</i>					<a href="#">View</a>
<a href="#">Painted Lady Butterfly</a>	<i>Vanessa cardui</i>					<a href="#">View</a>
<a href="#">American Lady Butterfly</a>	<i>Vanessa virginiensis</i>					<a href="#">View</a>
<a href="#">Variegated Fritillary Butterfly</a>	<i>Euptoieta claudia</i>					<a href="#">View</a>
<a href="#">Nausicaa Fritillary Butterfly</a>	<i>Speyeria hesperis nausicaa</i>					No Photo
<a href="#">Mtn Silverspot Butterfly</a>	<i>Speyeria nokomis nitocris</i>					No Photo
<a href="#">Crocale Patch Butterfly</a>	<i>Chlosyne lacinia</i>					<a href="#">View</a>
<a href="#">Dymas Checkerspot Butterfly</a>	<i>Dymasia dymas</i>					No Photo
<a href="#">Mylitta Crescent Butterfly</a>	<i>Phyciodes mylitta</i>					<a href="#">View</a>
<a href="#">Painted Crescent Butterfly</a>	<i>Phyciodes pictus</i>					<a href="#">View</a>
<a href="#">Camillus Crescent Butterfly</a>	<i>Phyciodes pulchella</i>					<a href="#">View</a>
<a href="#">Pearl Crescent Butterfly</a>	<i>Phyciodes tharos</i> Type A					<a href="#">View</a>
<a href="#">Pearl Crescent Butterfly</a>	<i>Phyciodes tharos</i> Type B					No Photo
<a href="#">Pearl Crescent Butterfly</a>	<i>Phyciodes tharos</i> Type Unknown					<a href="#">View</a>
<a href="#">Montane Penstemon Checkerspot Butterfly</a>	<i>Poladryas minuta arachne</i>					No Photo
<a href="#">Perse Checkerspot Butterfly</a>	<i>Texola elada perse</i>					No Photo
<a href="#">Fulvia Checkerspot Butterfly</a>	<i>Thessalia fulvia</i>					<a href="#">View</a>
<a href="#">Thekla Checkerspot Butterfly</a>	<i>Thessalia theona thekla</i>					No Photo
<a href="#">Arizona Sister Butterfly</a>	<i>Adelpha bredowii</i>					<a href="#">View</a>
<a href="#">Goatweed Butterfly</a>	<i>Anaea andria</i>					No Photo
<a href="#">Hackberry Butterfly</a>	<i>Asterocampa celtis montis</i>					No Photo
<a href="#">Chermock's Satyr Butterfly</a>	<i>Cercyonis meadii mexicana</i>					No Photo

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Charon Satyr Butterfly</a>	Cercyonis oetus					<a href="#">View</a>
<a href="#">Little Satyr Butterfly</a>	Cercyonis sthenele					No Photo
<a href="#">White Mountain Ringlet Butterfly</a>	Coenonympha ochracea subfusca					No Photo
<a href="#">Canyonland Satyr Butterfly</a>	Cyllopsis pertepida dorothea					No Photo
<a href="#">Arizona Blackamoor Butterfly</a>	Gyrocheilus patrobas					No Photo
<a href="#">Arizona Red Satyr Butterfly</a>	Megisto rubricata cheneyorum					No Photo
<a href="#">Ridings' Satyr Butterfly</a>	Neominois ridingsii neomexicanus					No Photo
<a href="#">Ridings' Satyr Butterfly</a>	Neominois ridingsii ridingsii					No Photo
<a href="#">Daura Arctic Butterfly</a>	Oeneis alberta daura					No Photo
<a href="#">Striated Queen Butterfly</a>	Danaus gilippus					<a href="#">View</a>
<a href="#">Monarch Butterfly</a>	Danaus plexippus					<a href="#">View</a>
<a href="#">Drusius Checkerspot Butterfly</a>	Charidryas nycteis					<a href="#">View</a>
<a href="#">SW Pearly Checkerspot Butterfly</a>	Charidryas acastus sabina					No Photo
<a href="#">Texan Crescent Butterfly</a>	Anthanassa texana					<a href="#">View</a>
<a href="#">Hermosa Checkerspot Butterfly</a>	Occidryas anicia hermosa					No Photo
<a href="#">Arizona Admiral Butterfly</a>	Limenitis arthemis					<a href="#">View</a>
<a href="#">Narrow-banded Admiral Butterfly</a>	Limenitis weidemeyerii angustifascia					No Photo
<a href="#">Great Spreadwing</a>	Archilestes grandis					<a href="#">View</a>
<a href="#">Plateau Spreadwing</a>	Lestes alacer					<a href="#">View</a>
<a href="#">Southern Spreadwing</a>	Lestes australis					No Photo
<a href="#">Spotted Spreadwing</a>	Lestes congener					<a href="#">View</a>
<a href="#">Northern Spreadwing</a>	Lestes disjunctus					No Photo
<a href="#">American Rubyspot</a>	Hetaerina americana					<a href="#">View</a>
<a href="#">Canyon Rubyspot</a>	Hetaerina vulnerata					<a href="#">View</a>
<a href="#">Western Red Damselfly</a>	Amphiagrion abbreviatum					<a href="#">View</a>
<a href="#">Lavender Dancer</a>	Argia hinei					No Photo
<a href="#">Sooty Dancer</a>	Argia lugens					<a href="#">View</a>
<a href="#">Powdered Dancer</a>	Argia moesta					<a href="#">View</a>
<a href="#">Aztec Dancer</a>	Argia nahuana					<a href="#">View</a>
<a href="#">Springwater Dancer</a>	Argia plana					<a href="#">View</a>

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Blue-ringed Dancer</a>	Argia sedula					<a href="#">View</a>
<a href="#">Tonto Dancer</a>	Argia tonto					No Photo
<a href="#">Dusky Dancer</a>	Argia translata					No Photo
<a href="#">Vivid Dancer</a>	Argia vivida					<a href="#">View</a>
<a href="#">River Bluet</a>	Enallagma anna					<a href="#">View</a>
<a href="#">Northern Bluet</a>	Enallagma annexum					<a href="#">View</a>
<a href="#">Boreal Bluet</a>	Enallagma boreale					No Photo
<a href="#">Tule Bluet</a>	Enallagma carunculatum					<a href="#">View</a>
<a href="#">Familiar Bluet</a>	Enallagma civile					<a href="#">View</a>
<a href="#">Arroyo Bluet</a>	Enallagma praevarum					No Photo
<a href="#">Painted Damsel</a>	Hesperagrion heterodoxum					<a href="#">View</a>
<a href="#">Plains Forktail</a>	Ischnura damula					<a href="#">View</a>
<a href="#">Mexican Forktail</a>	Ischnura demorsa					<a href="#">View</a>
<a href="#">Black-fronted Forktail</a>	Ischnura denticollis					No Photo
<a href="#">Citrine Forktail</a>	Ischnura hastata					No Photo
<a href="#">Western Forktail</a>	Ischnura perparva					No Photo
<a href="#">Desert Firetail</a>	Telebasis salva					<a href="#">View</a>
<a href="#">Paddle-tailed Darner</a>	Aeshna palmata					<a href="#">View</a>
<a href="#">Persephone's Darner</a>	Aeshna persephone					No Photo
<a href="#">Common Green Darner</a>	Anax junius					<a href="#">View</a>
<a href="#">Riffle Darner</a>	Oplonaeschna armata					No Photo
<a href="#">Arroyo Darner</a>	Rhionaeschna dugesi					No Photo
<a href="#">Blue-eyed Darner</a>	Rhionaeschna multicolor					<a href="#">View</a>
<a href="#">White-belted Ringtail</a>	Erpetogomphus compositus					<a href="#">View</a>
<a href="#">Dashed Ringtail</a>	Erpetogomphus heterodon					<a href="#">View</a>
<a href="#">Serpent Ringtail</a>	Erpetogomphus lampropeltis					<a href="#">View</a>
<a href="#">Arizona Snaketail</a>	Ophiogomphus arizonicus					No Photo
<a href="#">Gray Sanddragon</a>	Progomphus borealis					<a href="#">View</a>
<a href="#">Pacific Spiketail</a>	Cordulegaster dorsalis					No Photo
<a href="#">Pale-faced Clubskimmer</a>	Brechmorhoga mendax					<a href="#">View</a>
<a href="#">Western Pondhawk</a>	Erythemis collocata					No Photo

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Hoary Skimmer</a>	Libellula nodisticta					No Photo
<a href="#">Four-spotted Skimmer</a>	Libellula quadrimaculata					<a href="#">View</a>
<a href="#">Flame Skimmer</a>	Libellula saturata					<a href="#">View</a>
<a href="#">Blue Dasher</a>	Pachydiplax longipennis					<a href="#">View</a>
<a href="#">Red Rock Skimmer</a>	Paltothemis lineatipes					No Photo
<a href="#">Eastern Amberwing</a>	Perithemis tenera					<a href="#">View</a>
<a href="#">Common Whitetail</a>	Plathemis lydia					<a href="#">View</a>
<a href="#">Variegated meadowhawk</a>	Sympetrum corruptum					<a href="#">View</a>
<a href="#">Cardinal Meadowhawk</a>	Sympetrum illotum					No Photo
<a href="#">Striped Meadowhawk</a>	Sympetrum pallipes					<a href="#">View</a>
<a href="#">Band-winged Meadowhawk</a>	Sympetrum semicinctum					<a href="#">View</a>
<a href="#">Black Saddlebags</a>	Tamea lacerata					<a href="#">View</a>
<a href="#">Lubber Grasshopper</a>	Brachystola magna					<a href="#">View</a>
<a href="#">Chihuahua Toad Hopper Grasshopper</a>	Phrynotettix tsivavensis					No Photo
<a href="#">Grasshopper</a>	Acrolophitus nevadensis					No Photo
<a href="#">White Whiskers Grasshopper</a>	Ageneotettix deorum					No Photo
<a href="#">Elliott Grasshopper</a>	Aulocara elliotti					No Photo
<a href="#">White Cross Grasshopper</a>	Aulocara femoratum					No Photo
<a href="#">Crenulated Grasshopper</a>	Cordillacris crenulata					No Photo
<a href="#">Spotted Wing Grasshopper</a>	Cordillacris occipitalis					No Photo
<a href="#">Rufous Grasshopper</a>	Heliaula rufa					No Photo
<a href="#">Obscure Grasshopper</a>	Opeia obscura					No Photo
<a href="#">Wyoming Toothpick Grasshopper</a>	Paropomala wyomingensis					No Photo
<a href="#">Four-Spotted Grasshopper</a>	Phlibostroma quadrimaculatum					No Photo
<a href="#">Brown Spotted Range Grasshopper</a>	Psoloessa delicatula					No Photo
<a href="#">Grasshopper</a>	Psoloessa texana					No Photo
<a href="#">Speckled Rangeland Grasshopper</a>	Arphia conspersa					No Photo
<a href="#">Red-Winged Grasshopper</a>	Arphia pseudonietana					No Photo
<a href="#">Clear-Winged Grasshopper</a>	Camnula pellucida					No Photo
<a href="#">Northern Green-Striped Locust Grasshopper</a>	Chortophaga viridifasciata					No Photo

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Wrangler Grasshopper</a>	Circotettix rabula					<a href="#">View</a>
<a href="#">Ridged Grasshopper</a>	Conozoa carinata					No Photo
<a href="#">Grasshopper</a>	Conozoa texana					No Photo
<a href="#">Hayden's Grasshopper</a>	Derotmema haydeni					No Photo
<a href="#">Grasshopper</a>	Derotmema laticinctum					No Photo
<a href="#">Carolina Grasshopper</a>	Dissosteira carolina					No Photo
<a href="#">Three-Banded Range Grasshopper</a>	Hadrotettix trifasciatus					No Photo
<a href="#">Arroyo Grasshopper</a>	Heliastus benjamini					No Photo
<a href="#">Blue-Winged Grasshopper</a>	Lepus intermedius					No Photo
<a href="#">Finned Grasshopper</a>	Trachyrhachys aspera					No Photo
<a href="#">Blue-Winged Grasshopper</a>	Trimerotropis cyaneipennis					No Photo
<a href="#">Black-Winged Grasshopper</a>	Trimerotropis melanoptera					No Photo
<a href="#">Pallid-Winged Grasshopper</a>	Trimerotropis pallidipennis					<a href="#">View</a>
<a href="#">Great Crested Grasshopper</a>	Tropidolophus formosus					No Photo
<a href="#">Red Shanks Grasshopper</a>	Xanthippus corallipes					No Photo
<a href="#">Painted Grasshopper</a>	Dactylotum bicolor					No Photo
<a href="#">Green Streak Grasshopper</a>	Hesperotettix viridis					No Photo
<a href="#">Narrow-Winged Spur-Throat Grasshopper</a>	Melanoplus angustipennis					No Photo
<a href="#">Arid Land's Spur-Throat Grasshopper</a>	Melanoplus aridis					No Photo
<a href="#">Two-Striped Grasshopper</a>	Melanoplus bivittatus					No Photo
<a href="#">Bowditch's Spur-Throat Grasshopper</a>	Melanoplus bowditchi					No Photo
<a href="#">Differential Grasshopper</a>	Melanoplus differentialis					No Photo
<a href="#">Red-Legged Grasshopper</a>	Melanoplus femurrubrum					No Photo
<a href="#">Grasshopper</a>	Melanoplus foedus					No Photo
<a href="#">Grasshopper</a>	Melanoplus franciscanus					No Photo
<a href="#">Gladston's Spur-Throat Grasshopper</a>	Melanoplus gladstoni					No Photo
<a href="#">Grasshopper</a>	Melanoplus mogollona					No Photo
<a href="#">Flabellate Grasshopper</a>	Melanoplus occidentalis					No Photo
<a href="#">Packard's Grasshopper</a>	Melanoplus packardi					No Photo
<a href="#">Lesser Migratory Grasshopper</a>	Melanoplus sanguinipes					No Photo

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Platte Range Grasshopper</a>	Mestobregna plattei					No Photo
<a href="#">Stonefly</a>	Capnia caryi					No Photo
<a href="#">A Caddisfly</a>	Atopsyche sperryi					No Photo
<a href="#">A Caddisfly</a>	Hydropsyche californica					No Photo
<a href="#">A Caddisfly</a>	Lepidostoma knulli					No Photo
<a href="#">Mayfly</a>	Acentrella insignificans					No Photo
<a href="#">Mayfly</a>	Baetis bicaudatus					No Photo
<a href="#">Mayfly</a>	Baetis celestis					No Photo
<a href="#">Mayfly</a>	Baetis magnus					No Photo
<a href="#">Mayfly</a>	Baetis notos					No Photo
<a href="#">Mayfly</a>	Baetis tricaudatus					No Photo
<a href="#">Mayfly</a>	Callibaetis ferrugineus					No Photo
<a href="#">Mayfly</a>	Callibaetis montanus					No Photo
<a href="#">Mayfly</a>	Callibaetis pictus					No Photo
<a href="#">Mayfly</a>	Camelobaetidius musseri					No Photo
<a href="#">Mayfly</a>	Camelobaetidius warreni					No Photo
<a href="#">Mayfly</a>	Fallceon quilleri					No Photo
<a href="#">Mayfly</a>	Epeorus longimanus					No Photo
<a href="#">Mayfly</a>	Epeorus margarita					No Photo
<a href="#">Mayfly</a>	Heptagenia solitaria					No Photo
<a href="#">Mayfly</a>	Leucrocuta petersi					No Photo
<a href="#">Mayfly</a>	Nixe criddlei					No Photo
<a href="#">Mayfly</a>	Nixe simplicoides					No Photo
<a href="#">Mayfly</a>	Isonychia intermedia					No Photo
<a href="#">Mayfly</a>	Choroerpes inornata					No Photo
<a href="#">Mayfly</a>	Neochoroerpes kossi					No Photo
<a href="#">Mayfly</a>	Paraleptophlebia memorialis					No Photo
<a href="#">Mayfly</a>	Thraulodes brunneus					No Photo
<a href="#">Mayfly</a>	Thraulodes speciosus					No Photo
<a href="#">Mayfly</a>	Traverella albertana					No Photo
<a href="#">Mayfly</a>	Siphonurus occidentalis					No Photo

## All Species Catron

<u>Common Name</u>	<u>Scientific Name</u>	<u>NMGE</u>	<u>USFWS</u>	<u>Critical Habitat</u>	<u>SGCN</u>	<u>Photo</u>
<a href="#">Mayfly</a>	Caenis bajaensis					No Photo
<a href="#">Mayfly</a>	Drunella doddsi					No Photo
<a href="#">Mayfly</a>	Ephemera altana					No Photo
<a href="#">Mayfly</a>	Ephemera inermis					No Photo
<a href="#">Mayfly</a>	Serratella micheneri					No Photo
<a href="#">Mayfly</a>	Leptohyphes apache					No Photo
<a href="#">Mayfly</a>	Tricorythodes condylus					No Photo
<a href="#">Mayfly</a>	Tricorythodes corpulentus					No Photo
<a href="#">Mayfly</a>	Tricorythodes dimorphus					No Photo
<a href="#">Mayfly</a>	Tricorythodes explicatus					No Photo
<a href="#">Comb-Footed Spider</a>	Euryopis scriptipes					No Photo
<a href="#">Comb-Footed Spider</a>	Steatoda albomaculata					No Photo
<a href="#">Comb-Footed Spider</a>	Steatoda americana					No Photo
<a href="#">Comb-Footed Spider</a>	Steatoda grandis					No Photo
<a href="#">Comb-Footed Spider</a>	Theridion murarium					No Photo
<a href="#">Comb-Footed Spider</a>	Theridion neomexicanum					No Photo
<a href="#">Spider</a>	Metepeira foxi					No Photo
<a href="#">Diving Spider</a>	Dolomedes gertschi					No Photo
<a href="#">Pseudoscorpion</a>	Parachelifer persimilis					No Photo
<a href="#">Pseudoscorpion</a>	Lamprochernes ellipticus					No Photo
<a href="#">Pseudoscorpion</a>	Lustrochernes grossus					No Photo
<a href="#">Pseudoscorpion</a>	Lechytia pacifica					No Photo
<a href="#">Pseudoscorpion</a>	Juxtachelifer fructuosus					No Photo
<a href="#">Northern Crayfish</a>	Orconectes virilis					<a href="#">View</a>

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## **APPENDIX C**

### **Representative Photographs of the Project Area**



**Photo 1.**

The general vicinity of the Project Area is characterized by rolling hills with some drainages present. The vicinity of the Project area is broadly mapped as Great Basin Conifer Woodland (The Nature Conservancy 2012).



**Photo 2.**

The Project Area is traversed by dirt roads, with a relatively open overstory characterized by oaks (*Quercus* spp.), juniper (*Juniperus* spp.) and pine (*Pinus* spp.).



**Photo 3.**

Ground cover in the Project Area was relatively minimal, with bare, rocky ground interspersed with unidentified grasses. The Project Area was gently sloping. Juniper and oak are present, with some shrubby oaks, mountain mahogany (*Cercocarpus montanus*), broom snakeweed (*Gutierrezia sarothrae*), and some unidentified forbs and grasses.



**Photo 4.**

Drainage A in the Project Area. Rooted vegetation present in the putative drainage, no obvious sign of recent surface flow, and upland species, including pine, oak, and juniper dominate the drainage.



**Photo 5.**

Drainage B in the Project Area. Rooted vegetation present in drainage. Upland vegetation including juniper and oak present along the drainage.



**Photo 6.**

Cattle tank in Project Area. Cattle tank is dry, with minimal cracking and grasses present in the bottom of the tank. Vegetation includes juniper and oak.



**Photo 7.**

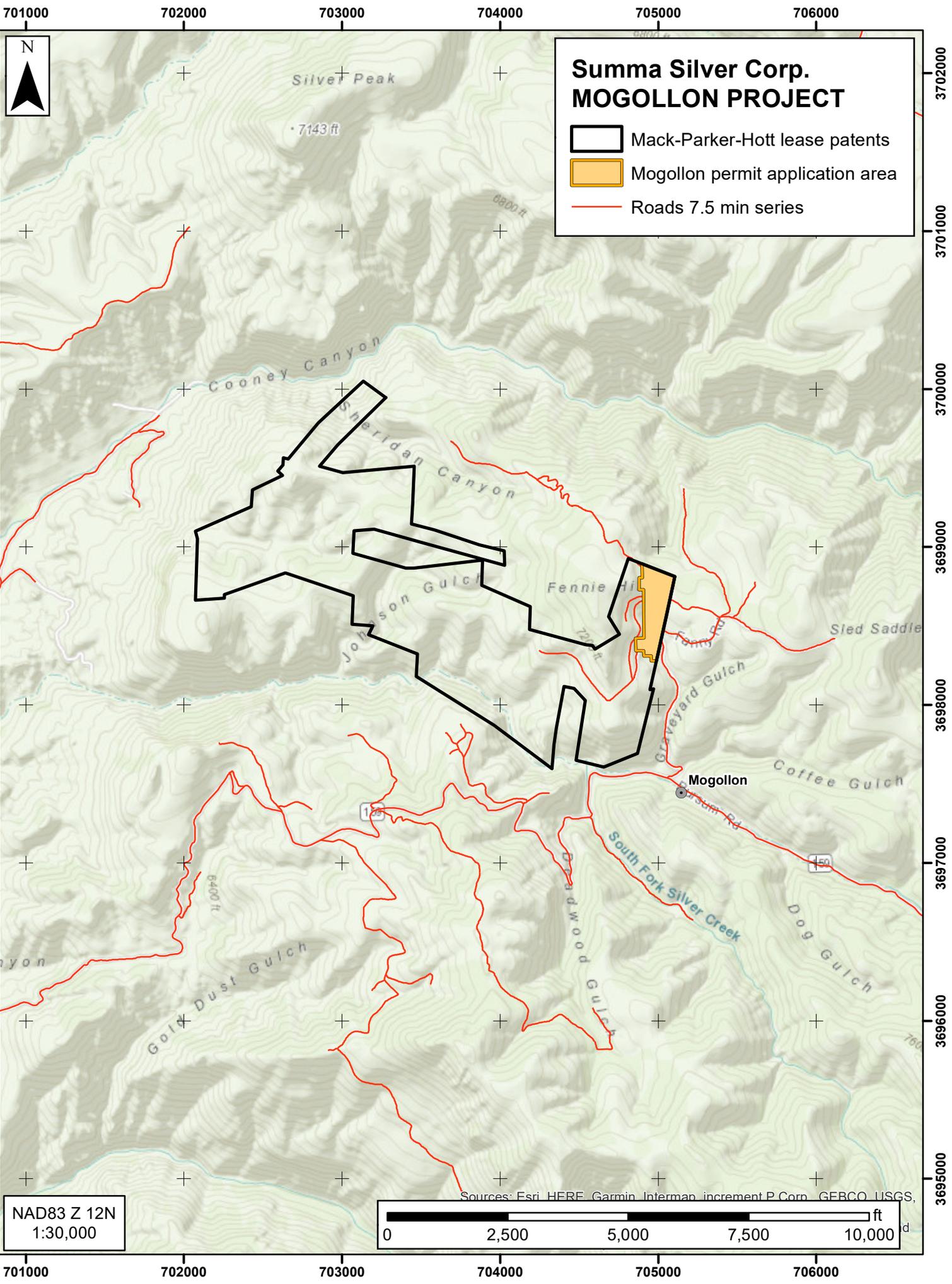
Cliffs outside of the Project Area. The cliffs are located approximately 0.4 kilometers west of the Project Area.



**Photo 8.**

Cliffs outside of Project Area. Small patch of whitewash, usually created by raptor species, was detected on one of the cliff faces. No nests or larger patches of whitewash were detected.

# **Attachment D**

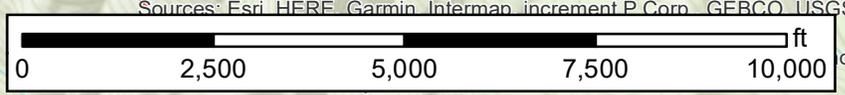


### Summa Silver Corp. MOGOLLON PROJECT

-  Mack-Parker-Hott lease patents
-  Mogollon permit application area
-  Roads 7.5 min series



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Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS,

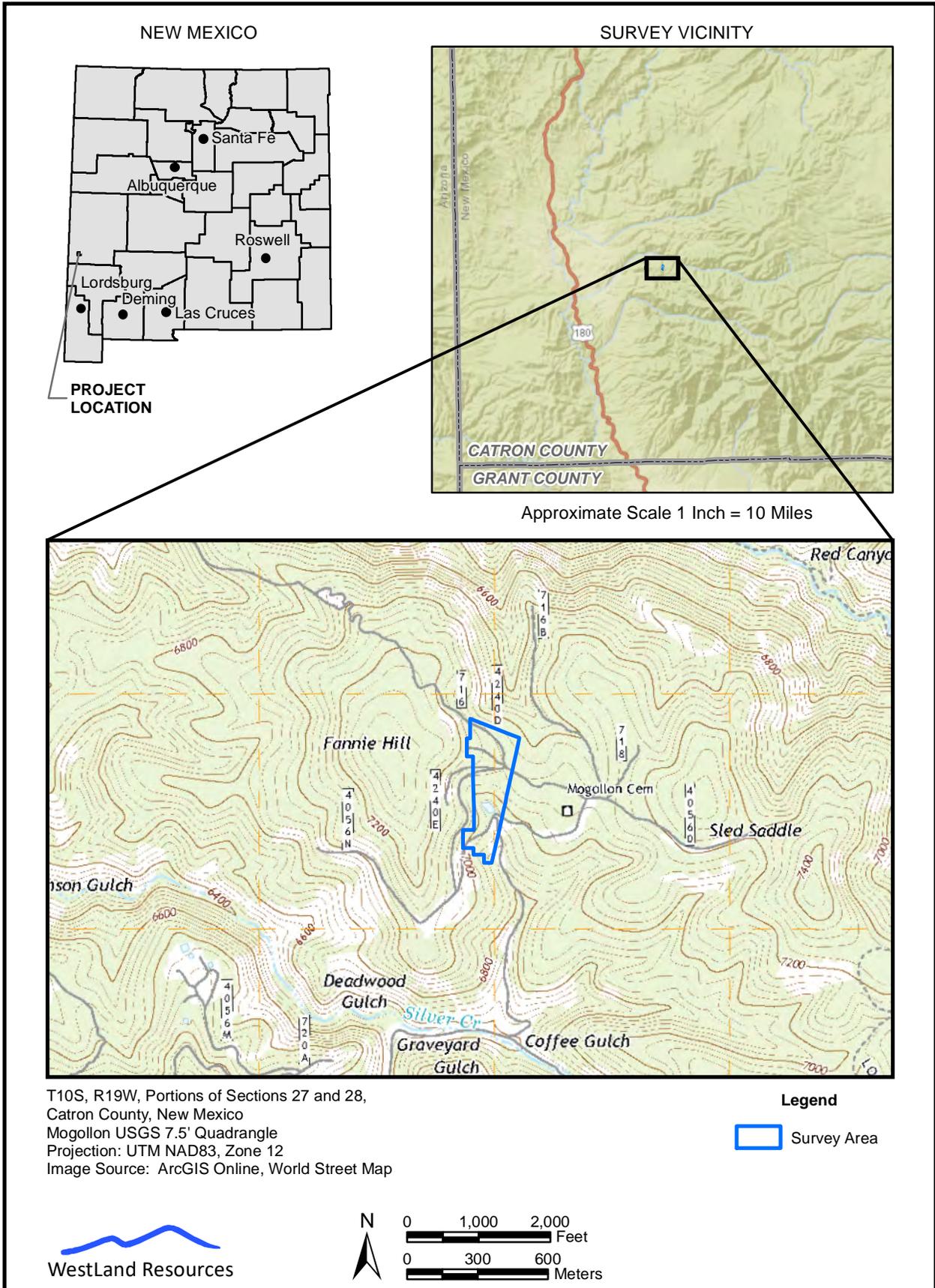


Figure 1. Vicinity map

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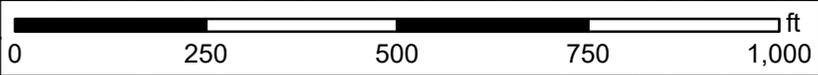


### Summa Silver Corp. MOGOLLON PROJECT

- Proposed pads
- Mack-Parker-Hott lease patents
- Mogollon permit application area
- 50 x 50 ft pad disturbance
- Roads\_New
- Roads\_Modify
- Roads 7.5 min series
- 40ft topo contours

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# **Attachment E**

