

# J. E. STOVER & ASSOCIATES, INC.

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MINE ENGINEERING  
MINE RECLAMATION

CIVIL ENGINEERING  
CONST. MANAGEMENT

March 17, 2023

Rob Zuber  
Division of Reclamation, Mining & Safety  
1313 Sherman St., Room 215  
Denver, CO 80203

Re: Bowie Resources, LLC, Bowie No. 2 Mine  
Permit Renewal PR-08  
Permit C-1981-038

Dear Mr. Zuber:

DRMS' letter dated February 7, 2023 transmitted its adequacy review for the referenced permit revision. On behalf of Bowie Resources, LLC, following are its responses to the DRMS' comments and concerns.

1. **DRMS:** Please confirm the acreages in the application form, and explain any discrepancies with recent Annual Reclamation Reports (ARRs) or other documents related to this permit. This check should include, but not be limited to, the number of acres that have been bond released. The application contains acreages that are different than the acreages in the 2021 ARR. For example, the RN-08 application value for 100 percent release is 10.38 acres, but in the 2021 ARR this value is 13.38 acres; the value should not have decreased. If revisions to the form are necessary, please mail a hard copy with an original signature to the Division office on Sherman Street (in addition to an electronic submittal of your entire response to this PAR).

**BRL:** Please see revised **application form**.

## **PAP Text, Appendices and Maps**

2. **DRMS:** Section 2.03.4 – If there have been any changes to the ownership and control information for BRL since MT-08, this section should be updated.

**BRL:** No updates are necessary to the ownership and control.

3. **DRMS:** Section 2.03.5 – The page should be updated, as necessary, to reflect current

conditions. In the footer, the date and revision number should be updated.

**BRL:** Please see revised **page 2.03-14**

4. **DRMS:** Section 2.03.6 - In the adequacy response, please indicate if all right of entry and lease agreements are current. If they are not current, please update the PAP accordingly.

**BRL:** All right of entry agreements are current

5. **DRMS:** Section 2.04.11 - In the adequacy response, please indicate if the Threatened and Endangered Species discussion in this section is based on current lists issued by the U.S. Fish and Wildlife Service and the Colorado Division of Parks and Wildlife (per Rule 2.04.11(4)). If it is not based on current lists, please check the current lists and update the PAP accordingly.

**BRL:** A threatened and endangered inventory was prepared for the mine and loadout. The report was transmitted by letter dated December 1, 2015. A USFWS IpaC resource list was generated for the East Mine, West Mine and the Loadout. There has been no new critical habitat identified. Please see attached **IpaC resource lists**.

6. **DRMS:** Section 2.05.4

a. In the recent text in this section (pages 58 to 60d), there is no discussion regarding the remaining reclamation for borehole pads and associated roads. Please add this discussion to these pages or, in this text, reference other pages in Section 2.05.4 where this information can be found.

**BRL:** The remaining pads and associated roads are within the Steven Gulch Well field. When BRL sold the land, the agreement was to leave the configuration as-is. The private owner uses the wells for their water.

b. Pages 60 through 60c describe past reclamation activities for the East Mine. However, it appears that road improvement activities are not included in this description. Please add this text. The Division also requests that the adequacy response (the letter, not the revised PAP) correlate these actions to tasks in the reclamation cost estimate (e.g., Tasks 41, 49, 52, 54, 59, 64, and 65).

**BRL:** Please see revised pages **60c and 60d**. The remaining portion of the haul road will remain in place.

c. There appears to be an additional page 60i in the Division's copy of Section 2.05.4 (after the letter from the BLM). The footer states that this was created with TR-28 in 1998. Please advise if this page should be deleted or if the page number should be changed.

**BRL:** The extra page should be removed.

d. On page 62 in Section 2.05.4, text states that, "There is no topsoil." Will topsoil be hauled in from offsite? If so, please revise the text accordingly.

**BRL:** There is a small topsoil stockpile near the old shaft that will be used to reclaim the ponds. Please see revised **page 62**.

e. Confirm that the status of boreholes is current. This includes the table on pages 2.05-79i and 2.05-79ii. Regarding locations of the SG series of holes, please provide information in this table such as a reference to a map. For example, are they shown on Map No. 8A-8? Is the "Stevens Gulch Well Field" the same thing as the "Cyprus Orchard Valley Well Field"? In this table, DH23 is listed as "open" and sealed. What does that mean?

**BRL:** Please see page 2.05-79 which has a color reference to holes that are shown on the maps, and drill holes that are not located on a map. The Stevens Gulch Well field is not located on a permit map. The Stevens Gulch Well Field is the same as the Cyprus Valley Well Field. Please see revised **page 79i**.

f. Regarding the tunnel under Black Bridge Road, what will be used to fill that? Describe in the text what the type and source of material will be.

**BRL:** BRL proposed to take the tail track material from the north side of the railroad bridge next to Bowie's orchard to fill in the tunnel.

g. Provide an approximate schedule for future reclamation activities at the loadout, including the year of the reclamation.

**BRL:** There are no plans for reclamation in the immediate future.

h. Add a discussion on the plan for the asphalt roads at the loadout.

**BRL:** Asphalt at the loadout will be hauled to the asphalt plant for recycling. If unable to do so, it will be disposed of at the landfill.

7. **DRMS:** Map 8A-19 – The areas depicted with colors on the map should be revised to reflect SL-08.

**BRL:** Please see revised **Map 8a-19**.

Please feel free to contact me if you have any questions.  
Sincerely,

*Tamme Bishop*

Tamme Bishop, P.E.  
Project Engineer

Cc: Bureau of Land Management - Electronic  
USDA-FS - Electronic  
Paonia Library  
Basil Bear



General Description (Miles and direction from nearest town and approximate elevation):

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<i>(Not for DP Entry)</i>			
	Permitted	Actual	Proposed
<b>8. Mineral ownership:</b> <b>Indicate currently permitted acreage for each</b>			
Federal: _____ acres			
State: _____ acres			
Private: _____ acres			
Indian: _____ acres			
<b>9. Surface ownership:</b> <b>Indicate currently permitted acreage for each</b>			
Federal: _____ acres			
State: _____ acres			
Private: _____ acres			
Indian: _____ acres			
<b>10. Affected area (in acres)</b>			
<b>11. Disturbed area (in acres)</b>			
<b>12. Acreage of area reclaimed in previous permit term</b>			
A. Backfilled and graded	N/A		N/A
B. Retopsoiled	N/A		N/A
C. Reseeded	N/A		N/A
<b>13. Acreage for which bond has been released</b>			
A. 60 percent	N/A		N/A
B. 85 percent	N/A		N/A
C. 100 percent	N/A		N/A
<b>14. Renewal Term Requested (Years)</b>	N/A	N/A	
<i>Note: If the application contains proposed (new) acreage, then a permit revision application form must also be completed for those acreages.</i>			

15. Type of Mine (Check one): ☐ Underground ☐ Surface  
☐ Combined Surface and Underground  
☐ Loadout ☐ Other

#### 2.03.5 Compliance Information

- (1)(a) Neither the applicant, Bowie Resources, LLC, nor its subsidiaries or affiliates, if any, or persons controlled by or under common control with it, have had a Federal or state mining permit for surface coal mining operations suspended or revoked in the last five years prior to the date of submission of this application.
- (1)(b) Neither the applicant, Bowie Resources, LLC, nor its subsidiaries or affiliates, if any, or persons controlled by or under common control with it, have forfeited a mining bond or similar security deposited in lieu of bond.
- (2) No response necessary.
- (3) Bowie Resources, LLC, has not had any violation notice pertaining to any provision of the Act, or of any law, rule or regulation of the United States, or of any State law, rule or regulation enacted pursuant to Federal law, rule or regulation pertaining to air or water environmental protection during the three year period preceding the date of this page revision.

The applicant is not aware of any unabated cessation orders or any unabated air or water quality violation notices received by any surface coal mining and reclamation operation owned or controlled by the applicant or by any person who owns or controls the applicant received prior to the revision date at the bottom of this page.

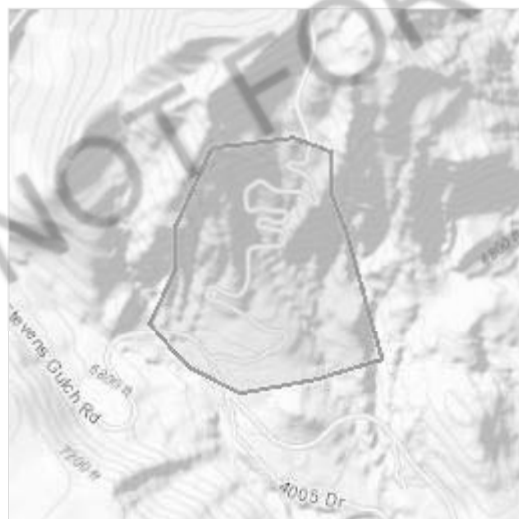
# IPaC resource list

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

Delta County, Colorado



## Local office

Western Colorado Ecological Services Field Office

☎ (970) 628-7180

📠 (970) 245-6933

445 West Gunnison Avenue, Suite 240  
Grand Junction, CO 81501-5711

NOT FOR CONSULTATION

# 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. IPaC only shows species that are regulated by USFWS (see FAQ).
  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
<b>Canada Lynx</b> <i>Lynx canadensis</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/3652">https://ecos.fws.gov/ecp/species/3652</a>	Threatened
<b>Gray Wolf</b> <i>Canis lupus</i> This species only needs to be considered if the following condition applies: <ul style="list-style-type: none"><li>• Lone, dispersing gray wolves may be present throughout the state of Colorado. If your activity includes a predator management program, please consider this species in your environmental review.</li></ul> There is <b>final</b> critical habitat for this species. <a href="https://ecos.fws.gov/ecp/species/4488">https://ecos.fws.gov/ecp/species/4488</a>	Endangered

## Birds

NAME	STATUS
<b>Mexican Spotted Owl</b> <i>Strix occidentalis lucida</i> Wherever found There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/8196">https://ecos.fws.gov/ecp/species/8196</a>	Threatened

## Fishes

NAME	STATUS
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**Bonytail** *Gila elegans*

Endangered

Wherever found

This species only needs to be considered if the following condition applies:

- Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range.

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/1377>

**Colorado Pikeminnow** *Ptychocheilus lucius*

Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/3531>

**Humpback Chub** *Gila cypha*

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/3930>

**Razorback Sucker** *Xyrauchen texanus*

Endangered

Wherever found

This species only needs to be considered if the following condition applies:

- Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range.

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/530>

## Insects

NAME

STATUS

**Monarch Butterfly** *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Silverspot *Speyeria nokomis nokomis*

Proposed Threatened

Wherever found

There is **proposed** critical habitat for this species.

<https://ecos.fws.gov/ecp/species/2813>

## 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 <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.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
<b>Bald Eagle</b> <i>Haliaeetus leucocephalus</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.	Breeds Dec 1 to Aug 31
<b>Cassin's Finch</b> <i>Carpodacus cassinii</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/9462">https://ecos.fws.gov/ecp/species/9462</a>	Breeds May 15 to Jul 15
<b>Evening Grosbeak</b> <i>Coccothraustes vespertinus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10
<b>Lewis's Woodpecker</b> <i>Melanerpes lewis</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/9408">https://ecos.fws.gov/ecp/species/9408</a>	Breeds Apr 20 to Sep 30
<b>Olive-sided Flycatcher</b> <i>Contopus cooperi</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/3914">https://ecos.fws.gov/ecp/species/3914</a>	Breeds May 20 to Aug 31
<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>	Breeds Feb 15 to Jul 15

**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>

**Western Grebe** *aechmophorus occidentalis*

Breeds Jun 1 to Aug 31

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

<https://ecos.fws.gov/ecp/species/6743>

## 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 (|)

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.

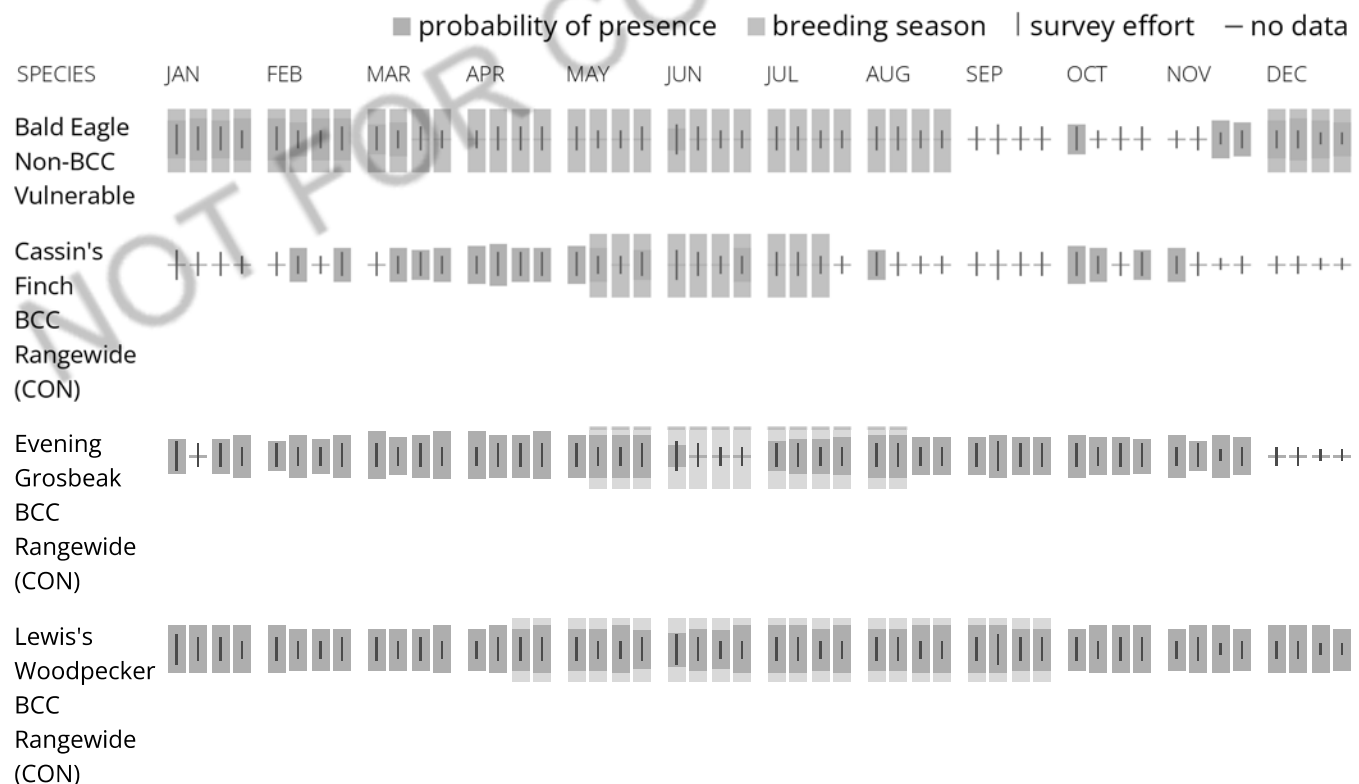
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

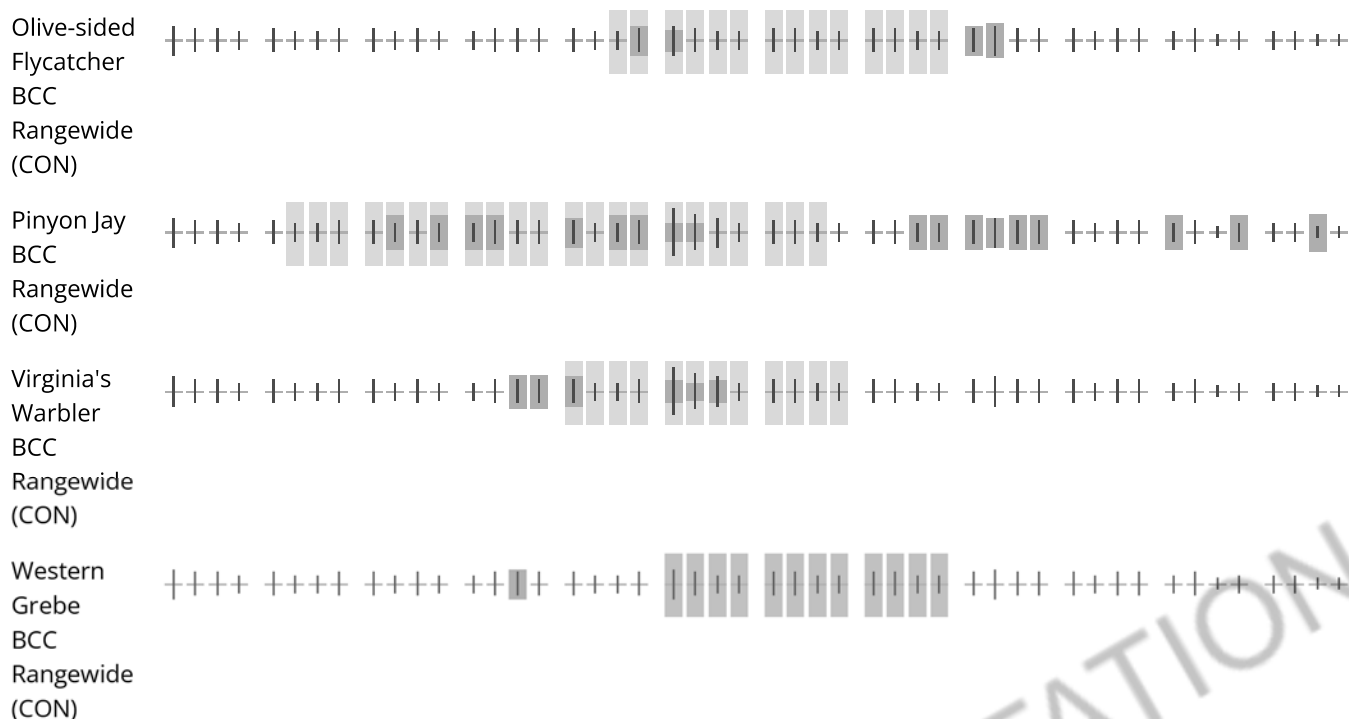
### No Data (—)

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.





### 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](#) 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 list of migratory birds that potentially occur 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 [Rapid Avian Information Locator \(RAIL\) 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 or migrating in my 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 query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. 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 (NWI)

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](#).

### Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view 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.

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### 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

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NOT FOR CONSULTATION



# 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

Delta County, Colorado



## Local office

Western Colorado Ecological Services Field Office

☎ (970) 628-7180

📠 (970) 245-6933

445 West Gunnison Avenue, Suite 240  
Grand Junction, CO 81501-5711

NOT FOR CONSULTATION

# 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.

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1. Draw the project location and click CONTINUE.
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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](#).

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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. IPaC only shows species that are regulated by USFWS (see FAQ).
  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
<b>Gray Wolf</b> <i>Canis lupus</i> This species only needs to be considered if the following condition applies: <ul style="list-style-type: none"><li>• Lone, dispersing gray wolves may be present throughout the state of Colorado. If your activity includes a predator management program, please consider this species in your environmental review.</li></ul> There is <b>final</b> critical habitat for this species. <a href="https://ecos.fws.gov/ecp/species/4488">https://ecos.fws.gov/ecp/species/4488</a>	<b>Endangered</b>

## Birds

NAME	STATUS
<b>Mexican Spotted Owl</b> <i>Strix occidentalis lucida</i> Wherever found There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/8196">https://ecos.fws.gov/ecp/species/8196</a>	<b>Threatened</b>
<b>Yellow-billed Cuckoo</b> <i>Coccyzus americanus</i> There is <b>final</b> critical habitat for this species. Your location overlaps the critical habitat. <a href="https://ecos.fws.gov/ecp/species/3911">https://ecos.fws.gov/ecp/species/3911</a>	<b>Threatened</b>

## Fishes

NAME	STATUS
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**Bonytail** *Gila elegans*

Endangered

Wherever found

This species only needs to be considered if the following condition applies:

- Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range.

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/1377>

**Colorado Pikeminnow** *Ptychocheilus lucius*

Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/3531>

**Humpback Chub** *Gila cypha*

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/3930>

**Razorback Sucker** *Xyrauchen texanus*

Endangered

Wherever found

This species only needs to be considered if the following condition applies:

- Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range.

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/530>

## Insects

NAME

STATUS

**Monarch Butterfly** *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Silverspot *Speyeria nokomis nokomis*

Proposed Threatened

Wherever found

There is **proposed** critical habitat for this species.

<https://ecos.fws.gov/ecp/species/2813>

## Critical habitats

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

This location overlaps the critical habitat for the following species:

NAME	TYPE
Yellow-billed Cuckoo <i>Coccyzus americanus</i> <a href="https://ecos.fws.gov/ecp/species/3911#crithab">https://ecos.fws.gov/ecp/species/3911#crithab</a>	Final

## 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 <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.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
<b>Bald Eagle</b> <i>Haliaeetus leucocephalus</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.	Breeds Dec 1 to Aug 31
<b>Cassin's Finch</b> <i>Carpodacus cassinii</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/9462">https://ecos.fws.gov/ecp/species/9462</a>	Breeds May 15 to Jul 15
<b>Evening Grosbeak</b> <i>Coccothraustes vespertinus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10
<b>Lewis's Woodpecker</b> <i>Melanerpes lewis</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/9408">https://ecos.fws.gov/ecp/species/9408</a>	Breeds Apr 20 to Sep 30
<b>Olive-sided Flycatcher</b> <i>Contopus cooperi</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/3914">https://ecos.fws.gov/ecp/species/3914</a>	Breeds May 20 to Aug 31

**Pinyon Jay** *Gymnorhinus cyanocephalus*

Breeds Feb 15 to Jul 15

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

<https://ecos.fws.gov/ecp/species/9420>

**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>

**Western Grebe** *aechmophorus occidentalis*

Breeds Jun 1 to Aug 31

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

<https://ecos.fws.gov/ecp/species/6743>

## 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  $0.05/0.25 = 0.2$ .

- 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 (|)

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.

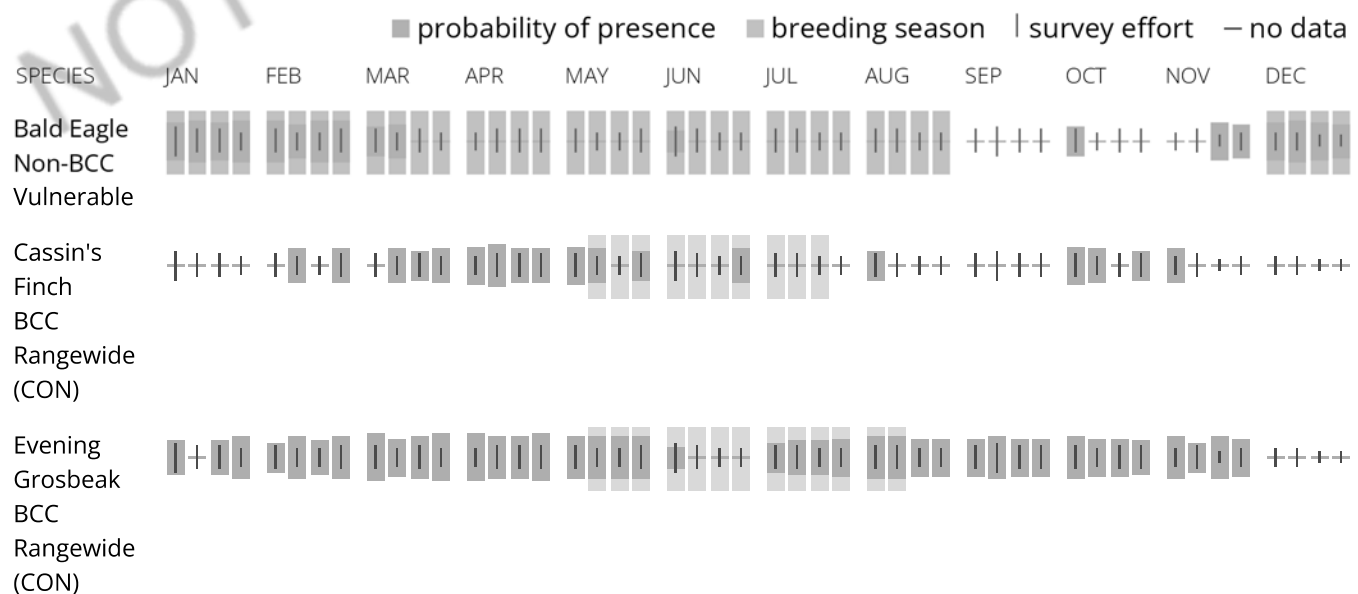
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

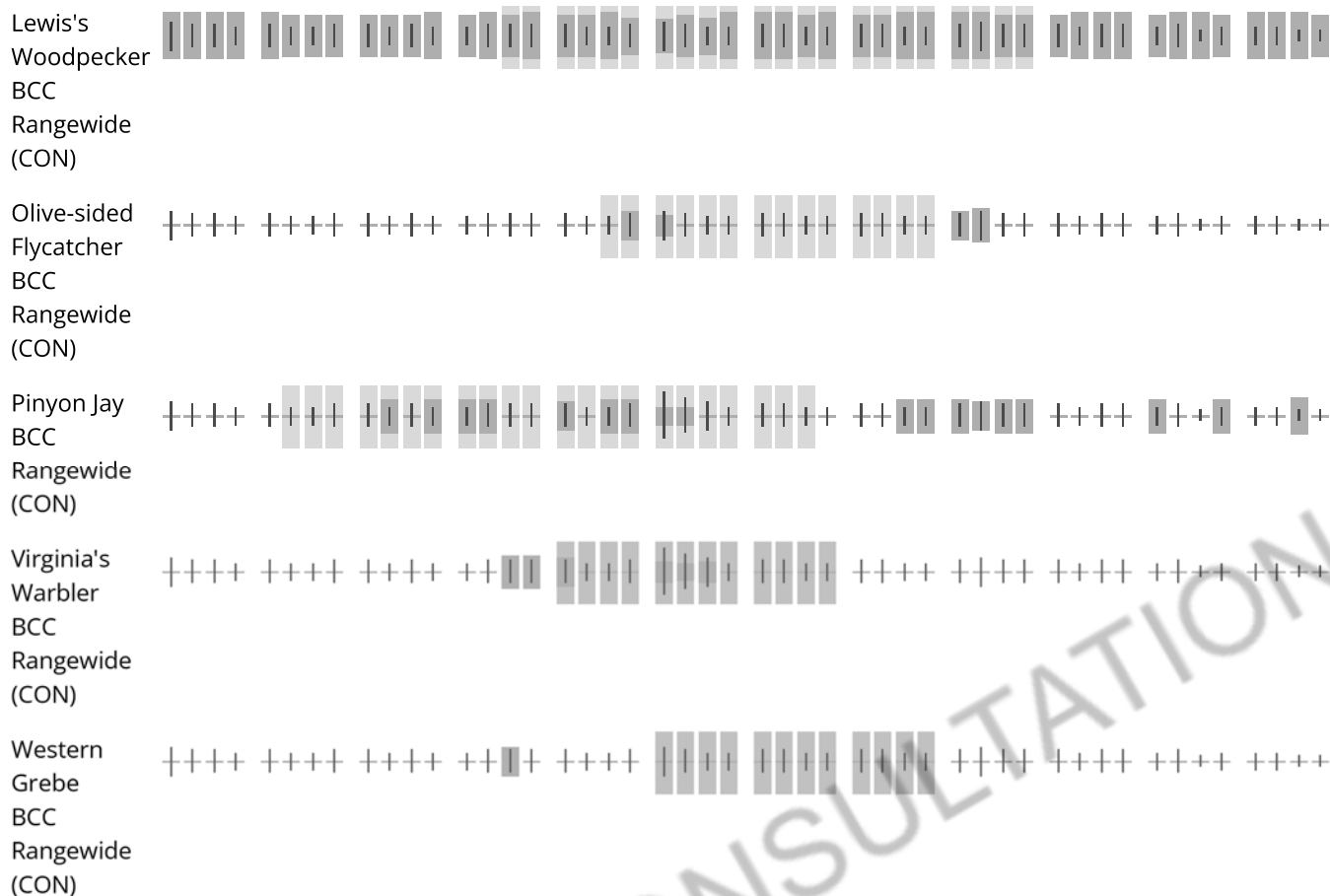
### No Data (—)

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.





### 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](#) 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 list of migratory birds that potentially occur 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 [Rapid Avian Information Locator \(RAIL\) 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 or migrating in my 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 query your location using the [RAIL Tool](#) and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. 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 (NWI)

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](#).

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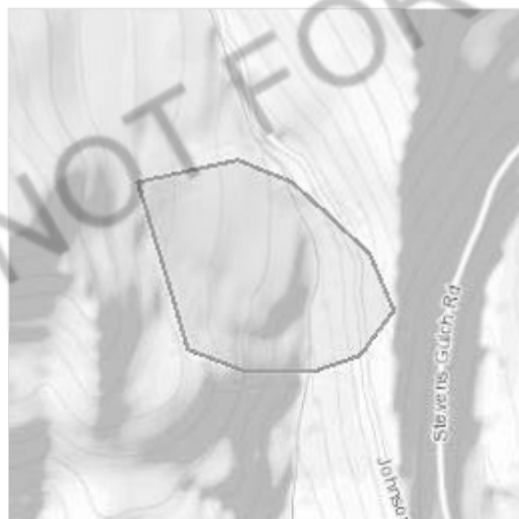
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## Location

Delta County, Colorado



## Local office

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☎ (970) 628-7180

🏠 (970) 245-6933

445 West Gunnison Avenue, Suite 240  
Grand Junction, CO 81501-5711

NOT FOR CONSULTATION



# Endangered species

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  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
<b>Canada Lynx</b> <i>Lynx canadensis</i> There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/3652">https://ecos.fws.gov/ecp/species/3652</a>	Threatened
<b>Gray Wolf</b> <i>Canis lupus</i> This species only needs to be considered if the following condition applies: <ul style="list-style-type: none"><li>• Lone, dispersing gray wolves may be present throughout the state of Colorado. If your activity includes a predator management program, please consider this species in your environmental review.</li></ul> There is <b>final</b> critical habitat for this species. <a href="https://ecos.fws.gov/ecp/species/4488">https://ecos.fws.gov/ecp/species/4488</a>	Endangered

## Birds

NAME	STATUS
<b>Mexican Spotted Owl</b> <i>Strix occidentalis lucida</i> Wherever found There is <b>final</b> critical habitat for this species. Your location does not overlap the critical habitat. <a href="https://ecos.fws.gov/ecp/species/8196">https://ecos.fws.gov/ecp/species/8196</a>	Threatened

## Fishes

NAME	STATUS
------	--------

**Bonytail** *Gila elegans*

Endangered

Wherever found

This species only needs to be considered if the following condition applies:

- Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range.

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/1377>

**Colorado Pikeminnow** *Ptychocheilus lucius*

Endangered

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/3531>

**Humpback Chub** *Gila cypha*

Threatened

Wherever found

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/3930>

**Razorback Sucker** *Xyrauchen texanus*

Endangered

Wherever found

This species only needs to be considered if the following condition applies:

- Water depletions in the upper Colorado River basin adversely affect this species and its critical habitat. Effects of water depletions must be considered even outside of occupied range.

There is **final** critical habitat for this species. Your location does not overlap the critical habitat.

<https://ecos.fws.gov/ecp/species/530>

## Insects

NAME

STATUS

**Monarch Butterfly** *Danaus plexippus*

Candidate

Wherever found

No critical habitat has been designated for this species.

<https://ecos.fws.gov/ecp/species/9743>

Silverspot *Speyeria nokomis nokomis*

Proposed Threatened

Wherever found

There is **proposed** critical habitat for this species.

<https://ecos.fws.gov/ecp/species/2813>

## 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 <https://www.fws.gov/program/migratory-birds/species>
- Measures for avoiding and minimizing impacts to birds <https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds>
- Nationwide conservation measures for birds <https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.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
<b>Bald Eagle</b> <i>Haliaeetus leucocephalus</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.	Breeds Dec 1 to Aug 31
<b>Black Swift</b> <i>Cypseloides niger</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/8878">https://ecos.fws.gov/ecp/species/8878</a>	Breeds Jun 15 to Sep 10
<b>Cassin's Finch</b> <i>Carpodacus cassinii</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/9462">https://ecos.fws.gov/ecp/species/9462</a>	Breeds May 15 to Jul 15
<b>Evening Grosbeak</b> <i>Coccothraustes vespertinus</i> This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10
<b>Lewis's Woodpecker</b> <i>Melanerpes lewis</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/9408">https://ecos.fws.gov/ecp/species/9408</a>	Breeds Apr 20 to Sep 30
<b>Olive-sided Flycatcher</b> <i>Contopus cooperi</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/3914">https://ecos.fws.gov/ecp/species/3914</a>	Breeds May 20 to Aug 31

**Pinyon Jay** *Gymnorhinus cyanocephalus*

Breeds Feb 15 to Jul 15

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

<https://ecos.fws.gov/ecp/species/9420>

**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>

**Western Grebe** *aechmophorus occidentalis*

Breeds Jun 1 to Aug 31

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

<https://ecos.fws.gov/ecp/species/6743>

## 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  $0.05/0.25 = 0.2$ .

- 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 (|)

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.

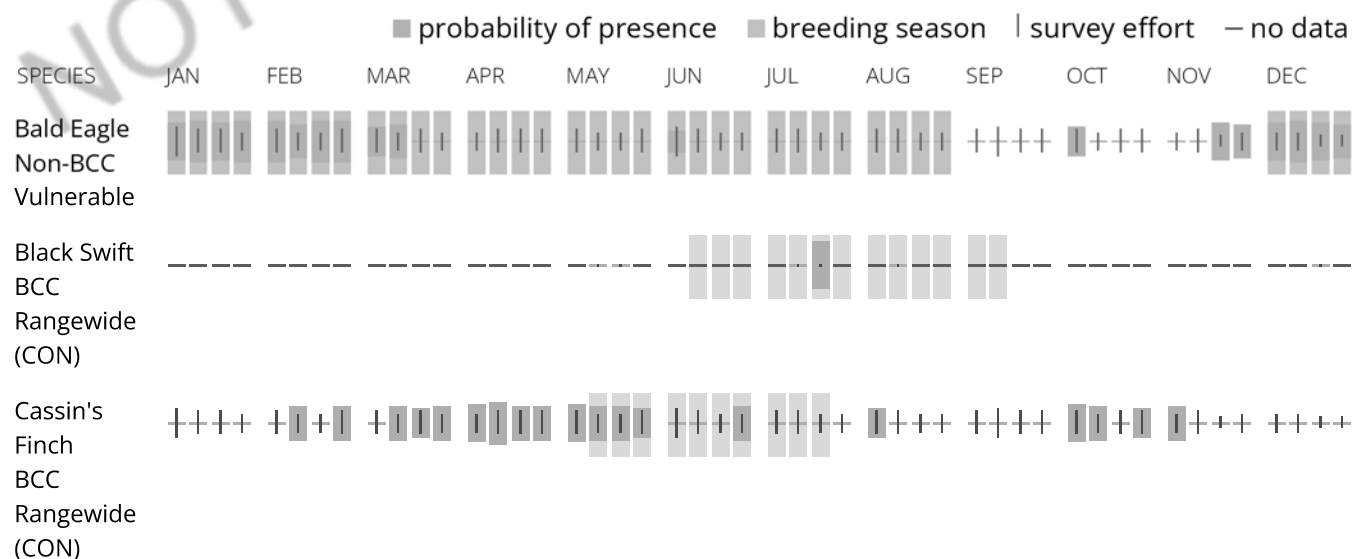
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

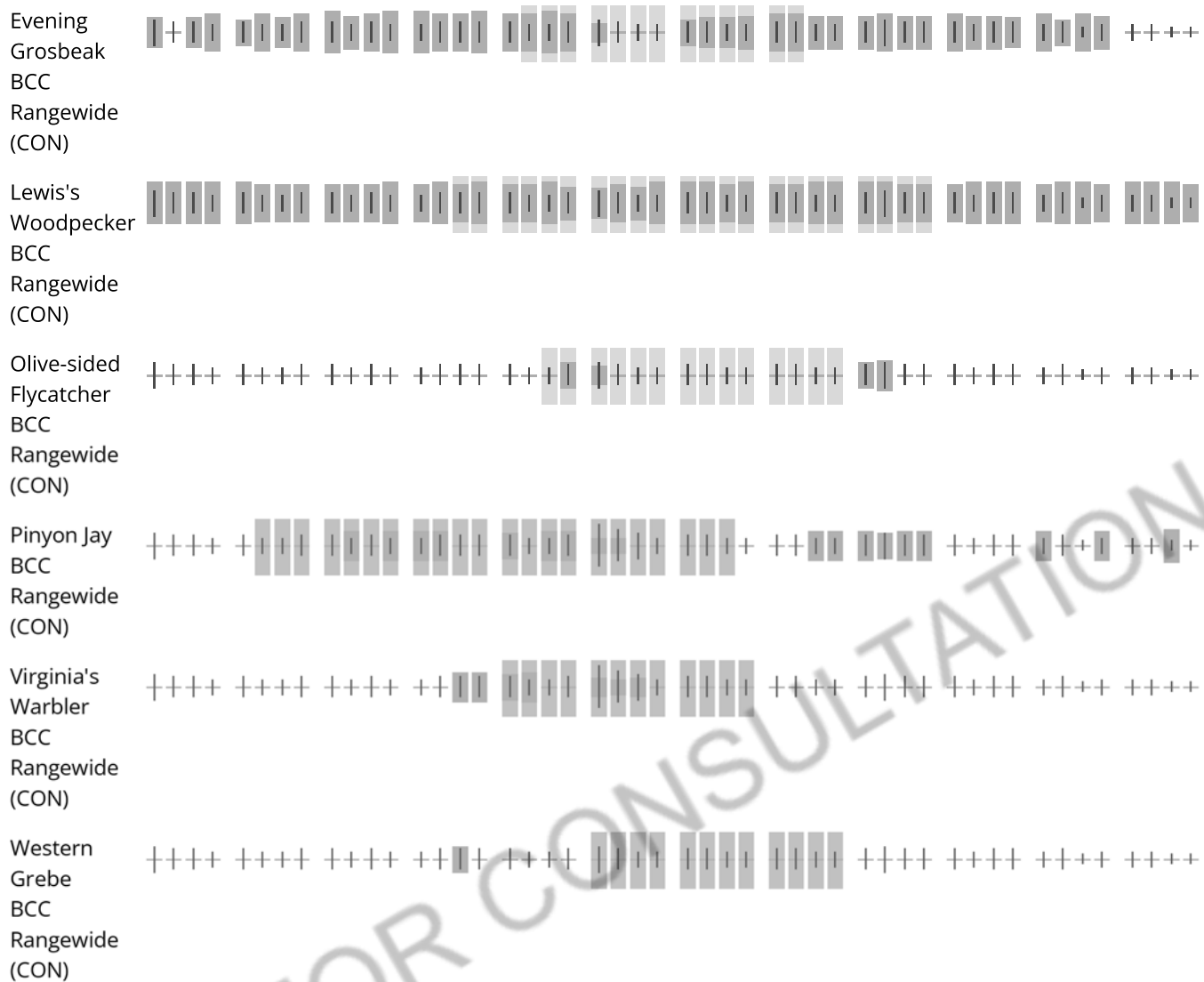
### No Data (—)

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.





**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](#) 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 list of migratory birds that potentially occur 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 Rapid Avian Information Locator (RAIL) 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 or migrating in my 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 query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. 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 (NWI)

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](#).

### Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the [NWI map](#) to view 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 CONSUMPTION

**APPLICATION FOR PERMIT FOR SURFACE OR UNDERGROUND MINING ACTIVITIES B  
MINIMUM REQUIREMENTS FOR OPERATION AND RECLAMATION PLANS.**

6. The underground conveyor along with the access to the conveyor for overflow material was removed from the shop and warehouse bench in 2001.
7. The 2,000 ton surge silo was partially reclaimed in 2001 and completed in 2007.
8. The downhill conveyor and bents (both elevated and on grade) from the Office Bench were removed along with transfer tower #1 in 2001.
9. The mine offices/bathhouse, fueling station, conveyor system and bulk rockdust system were removed from the Office and Portal Bench during 2001 and 2002.
10. The ventilation fan and all of its support facilities were removed as the result of a mine fire in 1986.
11. The water tanks were removed during 2002.
12. Partial removal of the asphalt from the haul road was removed in 2009.
13. The four bin wall ponds, timber storage area pond, and the west ridge pond were reclaimed during 2017.

**Backfilling and Grading**

1. The two mine portals were backfilled in accordance with Volume 6A - Final Abandonment Tab, Figure 2.05-6.
2. As the result of a mine fire in 1986, the ventilation shaft was sealed.
3. Although the mine permit describes "rock tunnels", they were never constructed and therefore references to these structures and their subsequent reclamation elsewhere in the permit should be ignored.
4. The East Mine was backfilled, graded and revegetated in accordance with the approved plan during 2008 and 2009.

Timber Storage Area

The ROM storage pile was reduced from approximately 38,000 cubic yards of stored ROM coal to approximately 17,000 cubic yards of ROM coal storage. To dispose of the remaining ROM coal, the bench located immediately north of the West Ridge coal mine waste disposal area was excavated below the level of the coal mine waste. The remaining ROM coal stored at the timber storage area was placed in this location during the fourth quarter of 2007 and first quarter of 2008.

The Timber Storage area was backfilled, graded and revegetated in accordance with the approved plan during 2008.

**APPLICATION FOR PERMIT FOR SURFACE OR UNDERGROUND MINING ACTIVITIES B  
MINIMUM REQUIREMENTS FOR OPERATION AND RECLAMATION PLANS.**Unit Train Loadout and Highway Stockpile

The Highway Stockpile was temporarily stabilized during 2002.

Reclamation work was performed from September 2006 through November 2006 at the unit train loadout. The truck dump, silos, loadout and associated structures and conveyors were dismantled and removed from the site. Concrete foundations were removed to at least the level of existing grade. Concrete from the silos and other structures was crushed and stockpiled on site. This crushed concrete has subsequently been utilized by the Operator.

The Operator's annual reclamation reports provide additional details regarding the dates reclamation was completed.

## 2.05.4 Reclamation Plan.

### (2) (d) (Cont-d)

surface considering drainage, erosion and flood plain, shall be selected for its placement. After placement in the stockpile, the stockpile will be revegetated according to the Revegetation Plan in Section 2.05.4(2)(e). Stockpiled topsoil and other materials shall not be moved until required for redistribution on a disturbed area. See Maps 8-1, 6A-2A through G, Map 8-6, 8-7 and the Orchard Valley West Mine Portal Topsoil Placement and Sediment Control drawing in the Soils Appendix, Volume 9 for the present locations of topsoil storage areas.

#### Final Redistribution of Topsoil

##### West Mine

There were three topsoil stockpiles at the west mine. One was located at the west mine fan level. A second was located north of the west mine portal. Both topsoil stockpiles are shown on Map No. 8-7. The third pile/storage area was the topsoil that plated the outslopes of the west mine fill embankment. It is estimated that 32" of topsoil were replaced at the west mine fan level. It is estimated the remaining portion of the regraded west mine was plated with six to nine inches of topsoil salvaged from second and third stockpiles.

Topsoil from near the shaft will be used to plate the areas that will be disturbed during removal of Ponds W-1, W-2 and the removal of the East Roatcap Creek culvert.

##### East Mine

The old waste disposal area near Ponds 1 and 2 was reclaimed during August 1983. There is no record of the depth of topsoil placed on the pile. It is noted that only the top of the pile received topsoil. In the spring of 1985, spontaneous combustion was detected. Topsoil and cover material were excavated and the hot spot was removed. The area was apparently reclaimed again during the summer of 1988.

The new waste disposal area was plated with 8 to 9" of topsoil during contemporaneous reclamation activities.

Topsoil was removed and contemporaneously replaced during construction of the Orchard Valley Mine water pipeline.

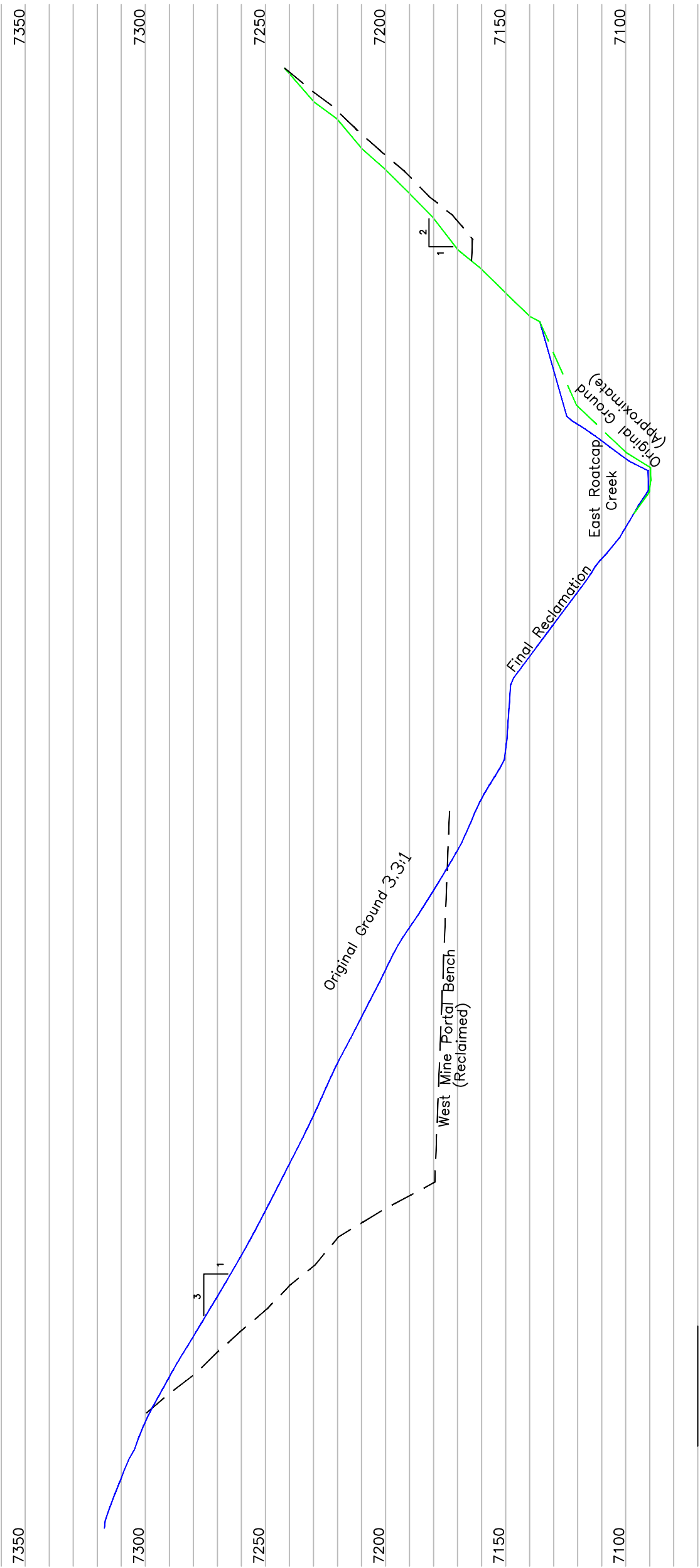
Bowie No. 1 Mine								
Drill Hole List and Status								
Hole Number	Section	Township	Range	Date Drilled	Depth	Permit	Comment	Sealed Status
DH-52							Not Drilled	
DH-53							Not Drilled	
DH-54	11	13S	92W	10/27/1981	2073.5	Bowie-1	Sealed 1982	Sealed 1982
DH-55	10	13S	92W	11/18/1981	2035	Bowie-1	Sealed 1982	Sealed 1982
DH-56	15	13S	92W	11/17/1981	1169.5	Bowie-1	Sealed 1982	Sealed 1982
DH-57	7	13S	91W	9/19/1981	1694	Bowie-2	Sealed 1982	Sealed 1982
DH-58	18	13S	91W	11/22/1981	1963	Bowie-2	Monitoring Well	Sealed 2015
DH-59	14	13S	92W	1981	1401.5	Bowie-1	Sealed 1982	Sealed 1982
DH-60	14	13S	92W	1982	1085	Bowie-2	Monitoring Well	
DH-61	7	13S	91W	1982	2132	Bowie-2	Sealed 1982	Sealed 1982
DH-62	7	13S	91W	1982	1912	Bowie-2	Sealed 1982	Sealed 1982
DH-63	11	13S	92W	1982	1380	Bowie-1	Sealed 1982	Sealed 1982
DH-64	11	13S	92W	1982	1760	Bowie-1	Sealed 1982	Sealed 1982
DH-65	15	13S	92W	1982	1650	Bowie-1	Monitoring Well	
DH-66	15	13S	92W	1982	1528	Bowie-1	Sealed 1982	Sealed 1982
DH-67	15	13S	92W	1982	925	Bowie-1	Sealed 1982	Sealed 1982
DH-68	15	13S	92W	1982	1470	Bowie-1	Monitoring Well	
DH-69	7	13S	91W	1982	1970	Bowie-2	Monitoring Well	Sealed 2015
DH-70	17	13S	91W	1982	695	Bowie-1	Monitoring Well	
DH-71	18	13S	91W	1982	1097	Bowie-2	Sealed 1982	Sealed 1982
DH-72	8	13S	91W	1982	1000	Bowie-2	Sealed 1982	Sealed 1982
DH-73	7	13S	91W	1982	1638	Bowie-2	Sealed 1982	Sealed 1982
DH-74							Not Drilled	
DH-75							Not Drilled	
DH-76	14	13S	92W	1986		Bowie-1	Open	
GR-77-7	14	13S	92W	Unknown	509	Bowie-1	Monitoring Well	
DH-78	23	13S	92W	1986	360	Bowie-1	Not Found	
DH-78-2	23	13S	92W	1986	100	Bowie-1	Not Found	
DH-79	23	13S	92W	1986	343	Bowie-1	Not Found	
DH-80	23	13S	92W	1986	401	Bowie-1	Not Found	
DH-81	23	13S	92W	1986	463	Bowie-1	?	
DH-82	23	13S	92W	1986	433	Bowie-1	Intact	
DH-83	23	13S	92W	1986	382	Bowie-1	Intact	
DH-84	23	13S	92W	1986	302	Bowie-1	Not Found	
DH-85	23	13S	92W	1986	362	Bowie-1	Not Found	
DH-86	23	13S	92W	1986	300	Bowie-1	Not Found	
DH-87	23	13S	92W	1986	360	Bowie-1	Reclaimed	
DH-88							Not Drilled	
DH-89							Not Drilled	
DH-90	23	13S	92W	1986	523	Bowie-1	Reclaimed	
DH-91	23	13S	92W	1986	360	Bowie-1	Reclaimed	
DH-92	23	13S	92W	1986	543	Bowie-1	Not Found	
DH-93	23	13S	92W	1986	381	Bowie-1	Not Found	
BRL1-GMW-01	23	13S	92W	2001	770	Bowie-1	Open	
BV-1	13	13S	92W	2008		Bowie-1	?	
BV-2	24	13S	92W	2008		Bowie-1	Reclaimed	
2011-1	11	13S	92W	2011		Bowie-1	Reclaimed	Sealed
2011-2	12	13S	92W	2011		Bowie-2	Reclaimed	Sealed
2011-3							Not Drilled	

DH-XX Found On Map

DH-XX Not Found On Map

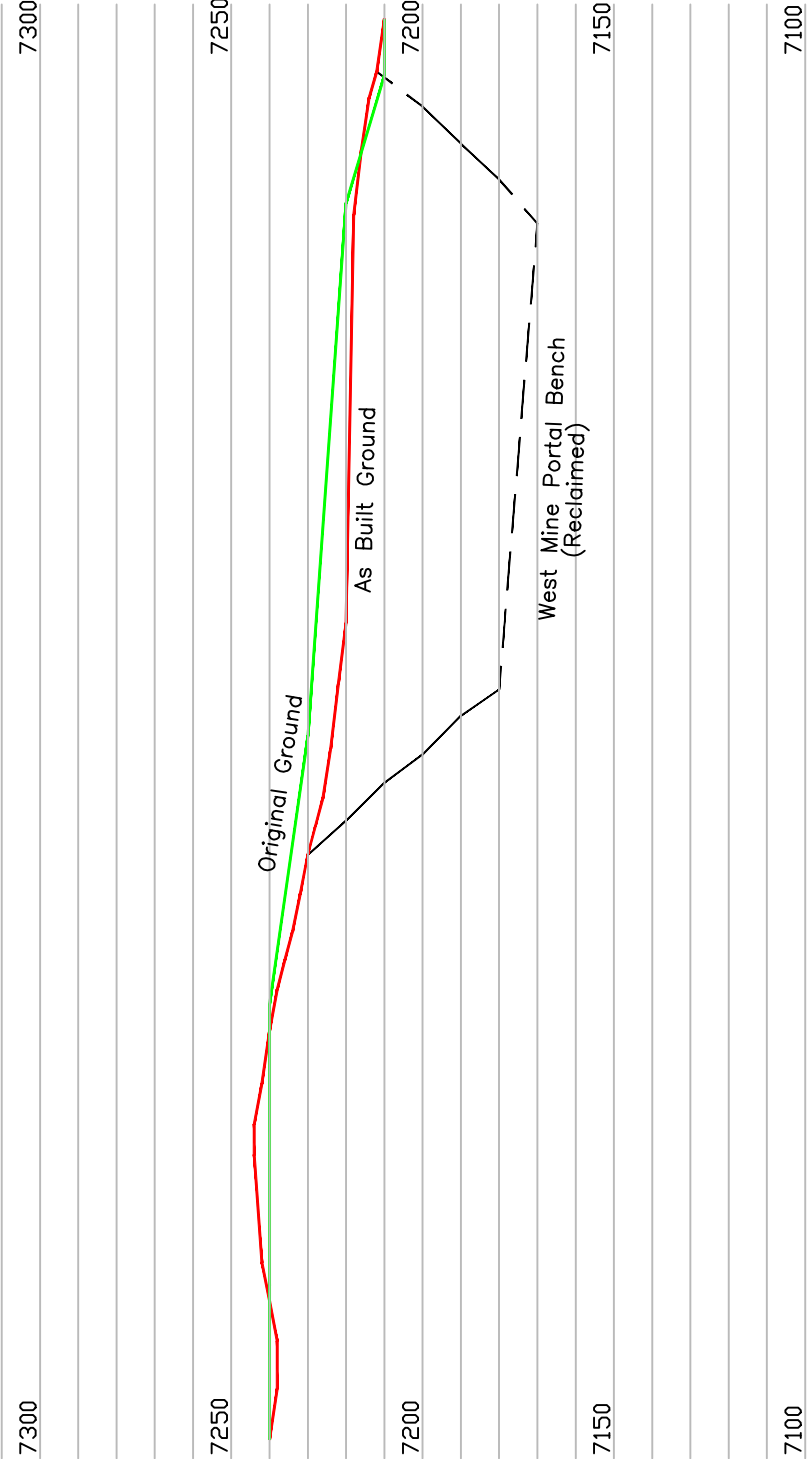


West Mine Portal Bench Reclamation



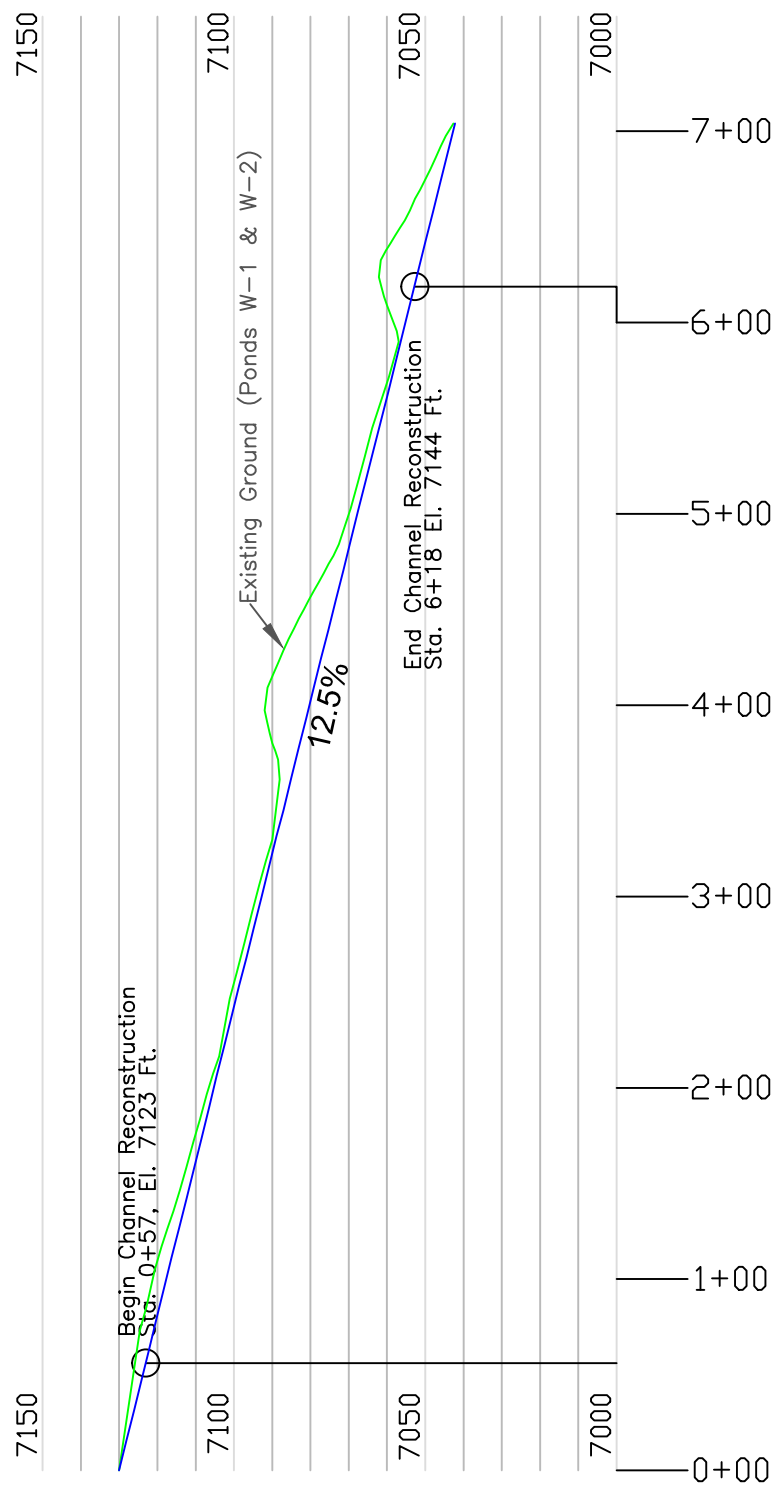
Cross Section A - A'

HSCALE: 1" = 100'  
VSCALE: 1" = 50'



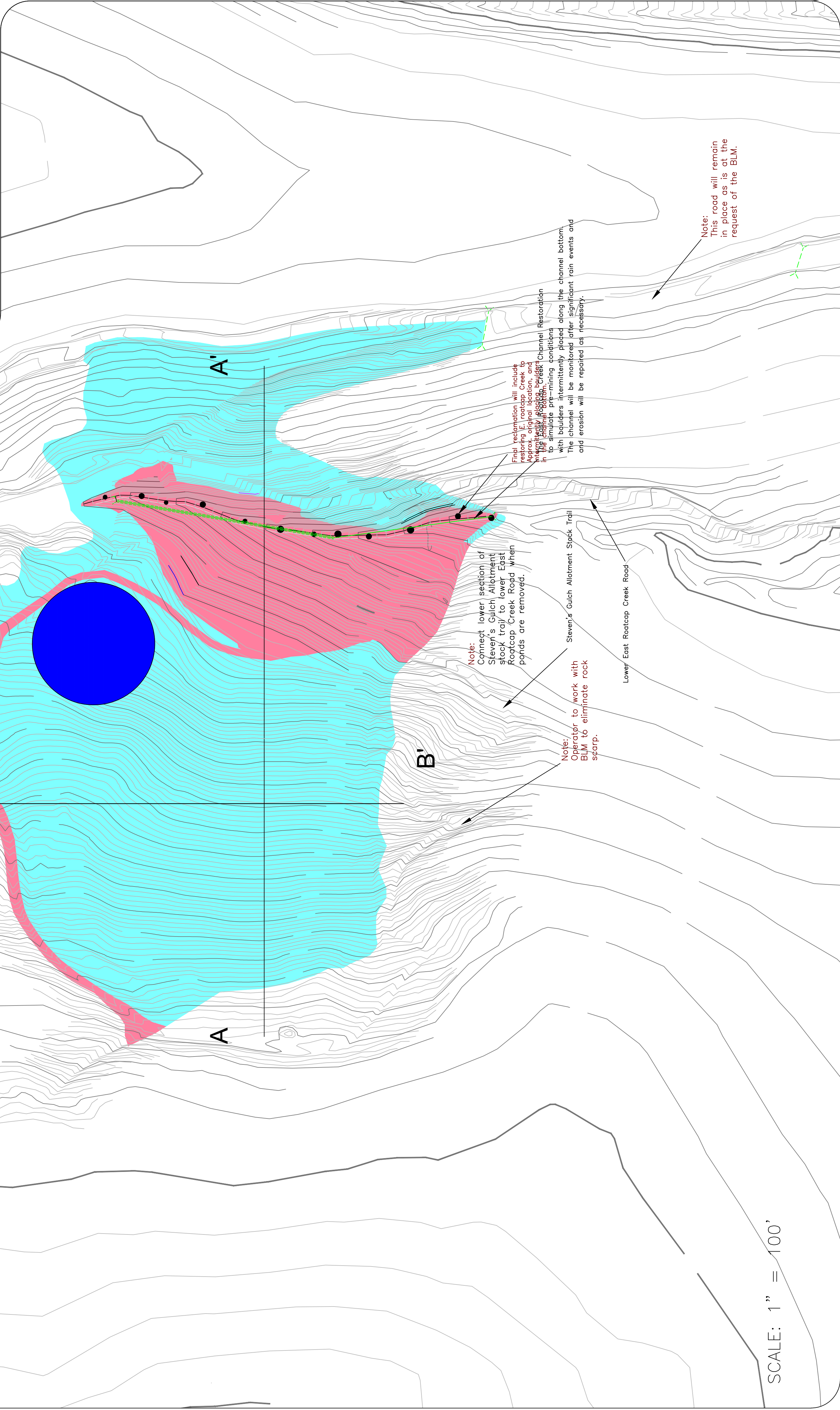
Cross Section B - B'

HSCALE: 1" = 100'  
VSCALE: 1" = 50'



E. Roatcap Creek Channel Profile

HSCALE: 1" = 100'  
VSCALE: 1" = 50'



SCALE: 1" = 100'

PROJECT:	BOWIE NO. 1 MINE		
TITLE:	POST-MINING CONTOUR MAP WEST MINE Reclamation Progress thru 2002		
DWG. NAME:	Map 8A-19	DWG. I.D. No.	C - 81 - 038
SCALE:	As Noted		

PREPARED FOR:	BOWIE RESOURCES, LTD. BOWIE NO. 1 MINE P.O. BOX 483 PAONIA, COLORADO 81428		
PREPARED BY:	J. E. STOVER & ASSOCIATES 2788 Compass Dr., Suite 101 Grand Jct., CO 81506		

DESIGNED:	D.A.J.	06/12/01
DRAWN:		
CHECKED:		

ENGINEER'S CERTIFICATION
I hereby certify that this drawing was done by me or under my direct supervision and that all of the information presented on this drawing is true and correct to the best of my knowledge and belief.
Tammerin K Stover-Bishop Date
Colorado P.E. 43402

REVISIONS	9. RN-08 Adequacy Response #1	T.K.B.	02/20/23
8. TR-64 Adequacy Response #3	T.K.B.	04/11/19	
7. TR-64 Adequacy Response #2	T.K.B.	03/14/19	
6. TR-64 Adequacy Response #1	T.K.B.	11/28/18	
5. TR-64 Revised area to be re-disturbed for final reclamation	T.K.B.	09/18/18	
4. Revised Per Adequacy #3 Concerns	J.E.S.	01/20/04	
No. DESCRIPTION:	BY	DATE	
1			
REFERENCES			